LANGUAGE CHALLENGES IN ENGLISH MEDIUM HIGHER EDUCATION AND TRANSLINGUAL ASSESSMENT AS AN ALTERNATIVE TOOL

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DECLARATION OF ORIGINALITY

I, Talip Gülle, certify that

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ABSTRACT

Language Challenges in English Medium Higher Education and

Translingual Assessment as an Alternative Tool

This thesis involves three studies conducted in a private university in Türkiye to observe students' language use in content exams which do not impose language constraints, to understand factors influencing their language use, and to investigate the impact of providing textual input in the first language (L1) on students' written production in their second language (L2). The studies combine quantitative and qualitative data, including the development, implementation, and scoring of assessment tasks, and student interviews. The findings revealed that students encountered challenges in L2 comprehension and production in lessons and exams. The participants engaged in both monolingual and translingual practices in the content exams given as part of the current thesis. Their language use was associated with relative proficiency in the L2, encoding-retrieval match, and compartmentalization of languages. Additionally, students performed better in the L2 writing task when both input texts were in the L2 compared to when one of the texts was in the L1. Overall, the findings show that translanguaging is a common practice both inside and outside the classroom and that offering flexibility in terms of language use in content exams may serve at least as a temporary accommodation which allows students to express their content knowledge more fully, particularly in time-constrained exams. However, this should not lead to decreased provision of L2 input, as input contributes to students' L2 proficiency and may ultimately lead to a level where students are able to, and choose to, express their content knowledge in the L2 without considerable language-related hindrance.

ÖZET

İngilizce Öğretim Veren Yükseköğretim Kurumlarında Dil Gereksinimleri ve Alternatif Bir Değerlendirme Aracı Olarak Dil Alaşımı Yaklaşımı

Bu tez, Türkiye'de özel bir üniversitede öğrencilerin dil kısıtlaması olmayan alan dersi sınavlarındaki dil kullanımlarını, dil kullanımlarını etkileyen faktörleri ve ana dilde kaynak metin sunmanın öğrencilerin ikinci dilleri olan İngilizcedeki yazılarının niteliği üzerine etkilerini araştırmak için yürütülen üç çalışmayı içermektedir. Çalışmalar, sınavların geliştirilmesi, uygulanması ve puanlanması ve öğrenci görüşmeleri dahil olmak üzere nicel ve nitel verileri içermektedir. Bulgular, öğrencilerin İngilizce anlama ve üretmede zorluklarla karşılaştıklarını ve bunun derslerindeki sınavlarda da yaşandığını ortaya çıkarmıştır. Tez kapsamında verilen sınavlarda hem tek bir dili kullananlar hem de iki dilin alaşımını kullananlar olmuştur. Dil kullanımlarının, İngilizcedeki yeterlilik, alan bilgisinin hangi dil kullanılarak öğrenildiği ve dillerin ayrıştırılması ile ilişkili olduğu gözlenmiştir. Ek olarak, kaynak metinler ikinci dilde olduğunda öğrenciler, metinlerden birinin ana dillerinde olduğu duruma kıyasla daha iyi performans göstermişlerdir. Bulgular, dil alaşımının hem sınıf içinde hem de sınıf dışında yaygın bir pratik olduğunu göstermekte ve özellikle zaman kısıtlaması olan alan dersi sınavlarında dil kullanımı açısından esneklik sunmanın, öğrencilerin alan bilgilerini tam olarak ifade etmelerine olanak tanıdığına işaret etmektedir. Ancak bu, ikinci dilde girdinin azaltılmasına yol açmamalıdır, çünkü ikinci dile maruz kalmak o dildeki yeterliliğe katkıda bulunacaktır ve nihayetinde öğrencilerin alan bilgilerini ikinci dille ilgili önemli bir engel yaşamadan ifade edebildikleri bir düzeye ulaşmalarına yardımcı olacaktır.

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DEDICATION

To all those who persevere in the face of injustice and adversity.

This thesis was written during times when I myself experienced the weight of obstacles, but I was fortunate enough to have the unwavering support and encouragement of my loved ones. May this work serve as a reminder that "life goes on" and "this too shall pass".

And to my dear brother Burak, who knows how to find joy and meaning in life. I am grateful to have you as my best friend.

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ABBREVIATIONS

CEFR: Common European Framework of Reference

CLIL: Content and Language Integrated Learning

E-E: English-English (the task in which the source texts are both in English)

E-T: English-Turkish (the task in which one source text is in English, and the other in Turkish)

EAP: English for Academic Purposes

ESP: English for Specific Purposes

EFL: English as a Foreign Language

ELF: English as a Lingua Franca

ELL: English Language Learner

ELT: English Language Teaching

EMI: English Medium Instruction

EPP: English Preparatory Program

ESP: English for Specific Purposes

ETS: Educational Testing Service

FLED: Department of Foreign Language Education

GPA: Grade Point Average

GPU: Globe Private University

GSE: Pearson's Global Scale of English

HE: Higher Education

HEI: Higher Education Institution

HP: High-Proficiency

IP: Interview Participant

IQ: Interview Question

L1: First Language

L2: Second Language

LP: Low-Proficiency

RQ: Research Question

TAP: Transfer Appropriate Processing

WTC: Willingness to Communicate

CHAPTER 1

INTRODUCTION

1.1 Background of the study

This section provides background information that sets the stage for the three studies conducted for the current thesis. The aims of the studies are briefly introduced in the following paragraph for readers to more easily see how the background information feeds into the studies.

The studies, conducted in the English Preparatory Program (EPP) and English medium instruction (EMI) programs of a private (foundation) university in İstanbul, Türkiye, investigated (a) students' language use in content exams that allowed for the use of their whole linguistic repertoire in their responses, rather than constraining them to use English only, and the relationship between proficiency and their language use in those exams; (b) students' perceived challenges in their EMI programs and the factors that may influence their language use in the content exams given; and (c) EPP students' performance in exams where the two input texts are provided in one language, i.e., English, versus in two languages, i.e., Turkish and English (one text in each language). In other words, this thesis revolves around bi/multilingual university students' experiences in EMI and their engagement in multilingual/translingual practices.

Below are two subsections: a personal background and a research background. I pondered a lot over which one to present first, and ultimately decided to begin with the personal one. The experiences recounted in the personal background section may invoke similar memories in readers and help form shared

conceptualizations that render the theoretical and research-based points presented in the research background section more relatable.

1.1.1 Personal background

"Despite the many books on bilingualism whose covers feature two heads …, bilinguals do only have one." (Cook, 2016, p. 7)

The dialect of Turkish that is spoken in my village in Erzurum is different from the so-called "standard" Istanbul dialect, which is the one used and encouraged in schools and in written Turkish. I received my high-school and university education away from my hometown, in Artvin and Istanbul, respectively. Although daily life in Artvin is also filled with sounds, morphemes, words, etc. of various dialects, I did not try to learn or use them, likely due to their vernacular status. Long story short, over the years I have become acculturated to the Istanbul dialect. Yet, I should also note that when I first meet people, they ask me where I am from as they do not immediately perceive me as a native speaker of Turkish (but some say that this may also have to do with the potential effect of English, my second language [L2]). As I have not used the dialect spoken in my village for many years now, I can confidently say that I have experienced dialect attrition (although given the lack of data, I cannot prove it). Particularly in the initial years of my undergraduate studies, whenever I visited my village, I experienced conflicts in my identity: If I tried to use my native dialect, I was unable to do so fluently and naturally, and using the Istanbul dialect made me feel like an outsider and I was worried that people would think that I was purposely using it to signal my education status. I learned in my university linguistics classes that no language is linguistically superior to another, that they are

equal, but unfortunately in the socio-political realities of administrative regulations, some languages, and dialects, are more equal than others.

During my university studies, my friends and I used our languages (Turkish and English) in a way that was similar to how my father used his dialects in an interview he gave to a news agency. Just as he used features from two dialects, we used features from two languages in the same stretch of conversation. The practice of using features (mostly lexical items) from other languages (most often, this language is English) while speaking in Turkish is sometimes labelled "plaza language" because it is associated with educated white-collar workers who work in plazas, i.e., modern workspaces in large, commercial complexes (Ün, 2019). On our campus, this linguistic practice was rather common. To refer back to the quote presented in the beginning of this section, while engaging in this language practice, I am not using two separate and homogeneous languages, but the one and only linguistic repertoire, i.e., idiolect, in my one and only head.

Upon this backdrop, I present below more specific experiences that I had as a student and teacher which have been instrumental in my decision to conduct the studies in this thesis.

When I started my EMI undergraduate program, the first year was quite a challenge. The first class I attended was Linguistics 101. After the class, I was looking to introduce myself to at least a few of the students who were taking the same class, and I had a question in my mind that I was dying to find an answer to, to see if there was anything wrong with me: "Did you understand anything at all that the instructor said?" I approached another student and introduced myself. And before I had the chance to ask my question, he asked the exact same question to me. The reason for this lack of understanding on our part had a lot to do with language, I

think, because we had the same issue particularly in classes in which the instructor spoke fast and/or with an accent that we were not yet familiar with. This happened even though we were English Language Teaching (ELT) students and had passed a really challenging English proficiency test.

In my undergraduate years, we had a few courses which we took together with students from other departments. In these courses, some students would complain that the presence of students from the Department of Foreign Language Education (FLED) was not fair, that is, it put them at a disadvantage, because being more proficient users of English, FLED students did better not only in terms of participation but also in exams. In one of these classes, after a presentation by FLED students, the instructor praised them and said that students from this department usually conducted great presentations.

I took a literature course offered by the Department of Western Languages and Literatures. It was open only to students from other departments, that is, students enrolled in Western Languages and Literatures were not allowed to take this course. After the first exam was graded, the instructor approached me and stated that my writing was very good, and asked how this was so. When I told her that I was a FLED student, she just said, “Okay, I see”. While it was a challenge for my classmates from other departments to understand the short stories we read as part of this course or to perform well in the exams, I found the class relatively easy and got the highest scores.

Right before an exam in an elective course which was offered to students from various departments in the Faculty of Education, the instructor told us that we could answer the questions in either Turkish or English. I remember using English because it felt like the obvious choice. It came only naturally to do so. However, as

we were discussing our answers with my classmates after the exam, I realized that many of them used Turkish. What led us to choose different languages was not a question I asked then – it was just a preference to which I did not attach much significance.

I have encountered one particular question many times in the EMI classes I participated in as a student: "Türkçe sorsam olur mu?" (which translates as "Can I ask my question in Turkish?"). There were many students who thought, rightly or wrongly, that they would not be able to express their question in English.

While I was doing my M.A., a senior student from the Philosophy department told me that he had difficulty understanding a book he was supposed to read as part of one of his classes and asked me for help. I remember that the sentences and grammatical structures used by the author were rather complex. The content was difficult for me and probably would be so for any person not sufficiently familiar with philosophy. It took the two of us to understand the contents of the book: I decoded the language but failed to make sense of it most of the time, and he decoded the meaning by relying on my translation. I would say "Okay, it says this and that, but it does not make any sense to me", and he would say "Okay, I see now. That is what is meant here."

In an exam I was proctoring as a research assistant, a question stem involved the phrase "by making reference to the paragraph". The question presented a paragraph from a research article, and the students were supposed to identify which section of the research article this paragraph was taken from and justify their decision by referring to (parts of) the paragraph. One student raised their hand and asked me how they were supposed to give the reference (i.e., citation) of the paragraph. Obviously, they misunderstood the phrase "making reference to". In this

context, since the test-takers were students at the ELT program, knowledge of the word “reference” is expected of them, because for them language knowledge is at the same time content/subject matter knowledge. However, what this episode implies is very important: if a student who has studied English in high school, passed a proficiency test, and was educated to become an English teacher can have problems understanding an exam question, the scale of the issue may be daunting in other EMI programs.

At a workshop, I was walking around the stations where successful projects were being introduced to participants. At one station, the teacher formed a sentence like, “Bu çalışmadaki focus, affedersiniz, projenin odağı küresel ısınmaydı.” (“The focus in this project was global warming.”). Then, I asked if she was an English teacher. She said “Yes”, and explained, “Sometimes I cannot remember the Turkish word.” Although bilinguals, such as the teacher in this episode, may sometimes feel that they need to apologize for inserting words from another language, due to such speech being seen in a negative light for reasons such as national language policies or being viewed as a show-off, it is indeed only a natural language practice.

A colleague, Deniz (pseudonym), who had been working as an L2-English teacher for over 20 years at the time the following conversation took place, wrote me on WhatsApp asking for help with a sentence from an academic text in English.

> Deniz:
> Bir paragraftan cümle [A sentence from a paragraph]
> Bayaa akademik bir metin [A rather academic text]
> Çözemedim bir yerini [I couldn’t figure out one part]
> Indeed, the only reason brain states or functional states assume the relevant importance they do is through their putative correlation with mental states identified on other, experiential grounds.
> Highlight edilmiş yerde [In the highlighted section; “they do” was highlighted]
> …assume the relevant importance they do
> Kısmını oturtamadım bir türlü [I failed to understand this part]

Talip:
Terimleri iğrenç çevirecem ama şöyle [I will translate the terms terribly but here it goes]

Deniz:
Olsun [That's OK]
Orada they neye refer ediyor sence? [What do you think 'they' refers to there?]

Talip:
Hatta sanırım çevirmeyecem 😅 [Or I think I won't translate them at all 😅]
Brain statelerin üstlendikleri ilintili önemi üstlenmeleri deneyimsel düzeyde tespit edilen mental durumlar ile bağlantıları aracılığıyladır [That brain states assume the relevant importance they assume is through their correlation with mental states identified on experiential grounds]
..assume the relevant importance they do — bu do 'assume' yerine kullanılmış. They de 'brain states' yerine. [this 'do' is used in place of 'assume'. And 'they' in place of 'brain states']

I asked Deniz for permission to use this part of our conversation in my thesis, and they agreed, for which I am grateful, because I believe that this conversation can function to set the stage for many of the arguments presented in this thesis:

i. Obviously, there are two named languages at play here, Turkish and English, and Deniz has difficulty understanding part of a sentence in their L2-English despite being a highly proficient user of it.
ii. The sentence comes from, in Deniz's words, "a rather academic text", and therefore is more complicated in terms of both linguistic and cognitive requirements in comparison to less- or non-academic texts.
iii. Both Deniz and I use items from two named languages within the same utterance, which from an external point of view can be named "code-mixing" as the two codes (i.e., English and Turkish) are mixed. However, while recognizing that there are two named languages involved, Deniz reported to me that using phrases like "highlight edilmiş" and "refer ediyor" is different from translating, as they only come naturally during speech production. In such cases, Deniz does not feel like using two different languages as they use

"the mixed versions" more commonly than the Turkish equivalents ("highlight edilmiş" instead of "vurgulanmış", and "refer ediyor" instead of "atıfta bulunuyor"). As one of the interlocutors, this is the same for me: using words, phrases, and sentences from two named languages in the same stretch of conversation is something I do effortlessly and frequently when interacting with my colleagues. Our office is, in a sense, a translanguaging space, that is, features from different named languages are used fluidly and flexibly there.

iv. While trying to explain the meaning of the sentence and the grammatical form that was confusing for Deniz, I first attempted to translate the sentence into Turkish. However, I realized that there were some terms whose Turkish equivalents I was not sure about:

- Is "beyin durumu" the proper translation for "brain state" or is there another Turkish term for it?
- How do I translate the word "assume" in this sentence: "üstüne almak", "üstlenmek", or "yüklenmek", or something else?
- Should I say "varsayılan korelasyon" (putative correlation), or would it be okay to use the more frequent, but slightly less accurate translations, "bağlantı" (connection) and "ilişki" (relation) instead of "korelasyon"?

These thoughts passed through my mind for a few seconds, and then I said, "I think I won't translate them at all", but when writing the sentence I translated some ("bağlantı", "üstlenmek"), but not all of such terms ("brain state", "mental" – although "mental" is commonly used by Turkish speakers with Turkish pronunciation, it is not listed in the Turkish Language Association's dictionary, https://sozluk.gov.tr/). The fact that I am familiar with some of the

terms in English but do not know their Turkish equivalents is because I have received my undergraduate and graduate education in EMI programs, and read extensively in English, but only rarely in Turkish, about my field of study.

v. Despite being a highly proficient user of English (and an English language teacher for over 20 years), Deniz still encounters complex sentences and grammatical forms that confuse them. This, coupled with the fact that academic texts tend to be linguistically and cognitively more demanding, implies that users with relatively lower levels of proficiency may have such problems more frequently in academic contexts. I can only speculate about whether an educated native speaker with a similar educational background would be similarly challenged by the phrase "assume the relevant importance they do", but it is less likely they would. This means that even highly proficient L2 users may need language support.

To summarize, using their languages flexibly and in combination is a common practice for bilinguals when the interlocutors share the semiotic resources to keep the interaction going without communication breakdowns. Additionally, language users may fail to understand (written or spoken) text in their L2 due to language-related, rather than content-related, issues, particularly when the language of the text includes complex, more advanced features. Lastly, bilinguals may have access to lexical items that refer to a concept in one, but not both, of their languages.

Before moving on to the next section, which presents the research background, a distinction is in order. Bi/multilinguals' (indeed, any language user's) language repertoire is seen as one whole in the current thesis. Each language user selects features from their idiolect as appropriate to the communicative context to

express meaning. In that sense, the word "language" can be used as a verb, and to language is to use selected features from all available linguistic resources. As I am writing the current sentence, I am languaging. When I write, "I ♥ you", I am languaging. When I say, "Tez yazmak bayağı challenging" ("Writing a thesis is rather challenging"), I am languaging. When writing on WhatsApp, emojis are part of one's semiotic repertoire. The word "challenging" is part of my linguistic repertoire. When I use it in daily conversation, it does not feel like I am consciously switching to a totally different code; rather, I am using one linguistic item that is as readily, or more readily, available to me as the word "zorlayıcı", which is a potential Turkish translation equivalent for the word "challenging". On the other hand, when we take an external view, clearly the word "challenging" is associated with English. From a socio-political and practical perspective, two languages are at play in the sentence "Tez yazmak bayağı challenging". Therefore, in this thesis, when "language" is used in the plural, or the words first language (L1) and L2 are used, or when references are made to English, Turkish or Arabic, for example, it means that a user-external, socio-political perspective is taken. In other words, the word "language" is sometimes used as a verb and sometimes a noun. It is recognized that while from a cognitive-linguistic perspective, language users have one integrated linguistic repertoire, this repertoire may involve different named languages, or dialects, or registers, but these (i.e., named languages, dialects, or registers) are socio-politically, rather than linguistically, differentiated. To illustrate further, in my village, the word "lazut" is used to refer to corn. In the Istanbul dialect, the corresponding word is "mısır". Both "lazut" and "mısır" are entries in the Turkish Language Association's online dictionary. The sentence "Lazut yer misin?" ("Would you like to eat corn?") would be incomprehensible to many, or most, L1 users of

Turkish; still, the whole sentence is in Turkish, after all, the word “lazut” is listed as a Turkish word. Therefore, there is no ‘code-switching’ in this sentence; there is only one code, i.e., one language. In my village, the word “lobiye” refers to beans. In the Istanbul dialect, the corresponding word is “fasulye”. However, unlike “lazut”, “lobiye” is not listed in the Turkish Language Association’s online dictionary. Then, one could say that “lobiye” is not a Turkish word. It follows that the sentence “Lobiye yer misin?” involves code-switching, because there are words from two different codes. “Lazut yer misin?” and “Lobiye yer misin?” are similarly unintelligible to many users of Turkish, but they are equally intelligible to people in my village. From a linguistic perspective, I am using my one and only language repertoire in both sentences, but from a socio-political perspective, one sentence involves different languages, but the other does not. As more about this distinction is presented in the various sections of the thesis, this argument will not be further elaborated on here; but hopefully, the distinction between the two ways of looking at the same phenomenon have been made clear.

1.1.2 Research background

Research has shown that monolinguals and bilinguals differ in both their linguistic knowledge and practices, and certain cognitive skills (e.g., Bialystok, 2009; Bialystok, 2010; Grosjean, 1989). Linguistic practices can be embodied and performed in various forms, from totally monolingual to translingual, based on several factors such as the setting and the participants (De Angelis, 2021; García & Wei, 2014). The separation of the two languages of the bilingual person in a one-language-only fashion is, in various contexts, an inauthentic practice given that both

languages are active in the brain even when one language is being used (Kroll, Dussias, Bogulski, & Kroff, 2012; Marian, Spivey, & Hirsch, 2003).

When different named languages are used in the same stretch of speech or text, from an outsider perspective, speakers are shuttling between their two languages, as "[t]he two named languages of the bilingual exist only in the outsider's view" (Otheguy, García, & Reid, 2015, p. 281). This practice has been labeled as "code-switching" or "code-mixing" depending on whether different languages are used across or within sentences, respectively, but definitions may vary (see Kim, 2006). This perspective treats a bilingual person's linguistic repertoire as being composed of separate and homogeneous codes, which are switched between or mixed (García & Lin, 2016). On the other hand, more recent approaches, including the one that composes the bulk of the present thesis, i.e., "translanguaging", views the linguistic repertoire of a bi/multilingual person as one integrated system (e.g., Bonacina-Pugh, da Costa Cabral, & Huang, 2021). As such, this linguistic behavior is viewed as a substantiation of the "emergent nature of languaging" (Steffensen & Kramsch, 2017, p. 28). As Otheguy, García, and Reid (2015, pp. 282) emphasize "the notion of code switching still constitutes a theoretical endorsement of the idea that what the bilingual manipulates, however masterfully, are two separate linguistic systems", while the translanguaging approach does not treat the linguistic knowledge and practices of bilinguals as being composed of two separate homogeneous codes.

This new perspective has fueled research in bilingual educational settings (Mazak & Herbas-Donoso, 2015), L2 classrooms (Davila, 2020), Content and Language Integrated Learning (CLIL) classrooms (Nikula & Moore, 2019), and EMI classrooms (Sahan & Rose, 2021). Indeed, translanguaging has become a widely researched phenomenon, and increasingly more studies adopting the translanguaging

perspective are being carried out in diverse settings. What has so far been studied very little, relatively, is the potential implications of translanguaging for content assessment. A limited number of studies have investigated multilingual, or translingual, assessment (see Cenoz & Gorter, 2021). Given that research has shown exam performance of bilingual students to suffer when tested in their less proficient language (Gablasova, 2014; Otto & Estrada, 2019), multilingual assessment may prove an area worth putting more research effort into. Indeed, one promising finding from recent research is that when bilingual students are allowed to employ their full linguistic repertoire, their exam performance improves (Levin & Shohamy, 2008; Schissel, Leung, López-Gopar, & Davis, 2018; Van der Walt & Kidd, 2013). Still, there is a paucity of studies investigating translingual practices in assessment.

There is another group of students whose number is ever increasing: students speaking English as an L2 and receiving EMI in universities around the world. The number of EMI universities and programs has increased considerably in recent decades (Dearden, 2015). Aiming to become a part of the internationalization in higher education, more universities are offering courses in English (Macaro, Curle, Pun, An, & Dearden, 2018). Policies in these higher education institutions (HEIs) are diverse in terms of language requirements (Sahan et al., 2021; Özdemir-Yılmazer, 2022). In Türkiye, for example, universities employ in-house proficiency exams to assess whether students are eligible to take EMI classes, yet these tests may not always be standardized (Sahan et al., 2021). This raises questions about how successful their students will be in content courses that are conducted in English. As Kamaşak, Sahan, and Rose's (2021) study at an EMI university in Türkiye revealed, students who meet the language requirements via the institution's in-house proficiency exam were more challenged in their EMI programs than those who

submitted TOEFL or IELTS scores. This means that these students may need language support in their EMI programs (Kirkpatrick, 2014). Additionally, given the affordances of translanguaging in learning, teaching, and assessment, it may also prove useful as an (at least temporary) accommodation strategy in content assessments in EMI.

1.2 Rationale for the study

Even though several factors may impact upon student success in EMI courses, such as motivation or time spent on studying, several studies show that students may have more difficulties in the learning of content in the L2 and their academic outcomes may therefore be lower, thus pointing to language as an important factor (Byun et al., 2011; Sert, 2008). This poses challenges for EMI universities/programs, and calls the language of instruction policy into question.

The contribution of immersion and CLIL instruction to language learning has been corroborated by several studies (Dalton-Puffer, 2011; Lasagabaster, 2011), and EMI is perceived to offer similar benefits (Rose, Curle, Aizawa, & Thompson, 2020). However, research has also shown that L2-English students are faced with language-related challenges in EMI (Pulcini & Campagne, 2015), which may compromise content learning (e.g., Arkın & Osam, 2015; Evans & Morrison, 2011; Manan, Channa, & Haidar, 2022). This happens even when EMI institutions require language certification from incoming students. It has been investigated whether there exists a proficiency level after which students' EMI performance is not compromised due to language-related challenges. While some studies identified the CEFR B2 as the threshold level (Carlsen, 2018; Harsch, Ushioda, & Ladroue, 2017), others found

that even above the B2 level, challenges persist (Aizawa, Rose, Thompson, & Curle, 2020; Yüksel et al., 2021)

Research has also revealed that assessing students in their L2 raises questions about fairness (Ball & Lindsay, 2013) given that students may struggle more with assessments in their L2 compared to those in their L1 (Gablasova, 2014; Lo, Fung & Qiu, 2021; Tatzl, 2011). This may indeed be a valid concern in several EMI settings, including in Türkiye. First, students may have different levels of L2-English proficiency (Kamaşak, Sahan, & Rose, 2021). Second, open-ended questions are common in EMI programs (Sahan & Şahan, 2022) and written production may be demanding even for highly proficient students (Aizawa & Rose, 2019). Third, the scale of the issue may be more substantial in certain EMI settings than others. While some studies have shown student performances in EMI and non-EMI programs to be comparable (e.g., Defouz & Camacho, 2016; Costa & Mariotti, 2017), others revealed that students' proficiency may be an instrumental factor in terms of academic outcomes (Hernandez-Nanclares & Jimenez-Munoz, 2017; Tatzl, 2011). L2 students' exam performance has been shown to be compromised when assessed in their less proficient language (Attar, Blom, & Le Pichon, 2022; Otto & Estrada, 2019). In Turkish EMI universities, students were reported to have failed due to limited language proficiency, even though instructors tried to ask simple questions (Macaro, Akincioglu & Dearden, 2016).

Given the separation between languages in educational settings, an approach to alleviate L2-related challenges may be to allow students to respond in the L1. However, research has also shown that if students are tested in a language different from the one in which they were taught, they may face costs due to the need to switch languages (Marian & Fausey, 2006; Volmer, Grabner, & Saalbach, 2018),

especially in situations where they are under time pressure (Hahn, Saalbach, & Grabner, 2019). Additionally, having received instruction in the L2, students may not know discipline-specific content in the L1.

Another option is integrating translanguaging in assessment. Prilutskaya's (2021) review of studies on pedagogical translanguaging found that it was more frequently researched in primary/middle and tertiary education, particularly in North America and Europe, which is attributed to the popularity of translanguaging in bilingual or dual language classrooms in the United States and the increase in EMI universities worldwide. Research has found that translanguaging practices occur in EMI universities in Türkiye, as well. Both students and instructors use the L1 for various purposes, and this helps understand and process new content and create a deeper learning experience (Sahan & Rose, 2021). Prilutskaya's (2021) review reveals that translanguaging in assessment has emerged as an important research topic. Arguments have been made that students should be given the opportunity to translanguage in assessments to give a fuller representation of their content knowledge (e.g., García & Wei, 2014; Otheguy et al., 2015). The few research studies that have been done on translanguaging in assessment practices in EMI university settings have provided initial insights into its potential benefits (e.g., Schissel et al., 2018; van der Walt & Kidd, 2013). Researchers have suggested that multilingual and translingual practices in assessment may be beneficial for L2-English students who may otherwise be at a disadvantage in content assessments (Cots, 2013; Shohamy, 2012). Additionally, studies in different EMI settings have shown that despite not being institutionally promoted, the use of L1 in assessments is allowed in content assessments at least by some instructors (e.g., Costa & Coleman, 2013; Karakaş & Bayyurt, 2019; Li & Wu, 2018; Reilly, 2021).

Despite these promising developments, there seems to be a paucity of research on assessment in EMI contexts (Li & Wu, 2021). Lasagabaster (2022) highlights the lack of research on assessment practices in EMI universities, and suggests that there are many unresolved questions, including the use of translanguaging, the feasibility of multilingual practices when students have different L1s, instructors' views on unconventional forms of assessment, and international students' perspectives.

One intriguing question is whether it is possible to harvest the many benefits of EMI while at the same time not causing academic outcomes of students with relatively low levels of L2 proficiency to suffer because of language-related problems. In EMI universities, there is by default a bi/multilingual environment and most, if not all, students are bi/multilingual. One specific question that is worth posing, then, is "How would students perform linguistically in content assessments if they were allowed to use their whole linguistic repertoire – both in terms of the input provided to them and in terms of their language production?" As Gevers (2018) points out, students may not aspire to translanguage, and instead choose to respond in one of their languages. What language might this be? It could be their L1, but it is not the language of instruction, which means they may not be able to fully express their content knowledge in the L1. It could be their L2, but it may present linguistic challenges that may hinder their expression of their knowledge. The current thesis searches for responses to these questions, and analyzes students' language use and performance in exams that incorporate multiple languages.

1.3 Aims and research questions

Research has pointed to the benefits of translanguaging in various educational settings, including English as a foreign language (EFL), CLIL, and EMI. While there have been suggestions for multilingual assessment practices, particularly in educational settings where emergent bilinguals, immigrants, and minority students are taught through English, the same has recently been expanded to EMI university settings. However, research on multilingual assessment or translanguaging in assessment is still in its infancy. When I first decided to examine translanguaging in CLIL and EMI assessments, I was venturing into the unknown. On the one hand, this was exciting as it could provide valuable insights in terms of assessing L2 students in CLIL and EMI contexts. On the other hand, I was unsure how to situate this research in the literature. Little did I know that the following years would witness an exponential interest in both EMI and multilingual/ translingual assessment.

This thesis has multiple aims. By allowing students to draw upon their whole language repertoire in content assessments, it aims to reveal (a) whether translanguaging in such assessments would be taken up or resisted by students in CLIL and EMI courses, (b) how students with different levels of proficiency would perform linguistically in such assessments, thus exploring the role of proficiency in language behavior, (c) if students' language use varies, what leads them to respond in the way they do, thus exploring potential functions of translanguaging in assessment, (d) what challenges students face in their EMI courses and how their experiences are related to their language use in content assessments. It also aims to discover (e) how the provision of input texts in the L1 in an L2 writing task, or lack thereof, would affect students' task performance, thus providing insights into whether translanguaging input in language tests may afford benefits in enhancing

students' written production. To these ends, the current thesis addresses the following research questions (RQ):

> RQ1. Do learners engage in monolingual or translingual practices when they are given the opportunity to use their linguistic resources without constraints?
>
> RQ2. Does the level of proficiency affect learner behavior in terms of monolingual and translingual practices?
>
> RQ3. What functions does translanguaging serve in assessment?
>
> RQ4. What difficulties do students think they face while studying in English, their second language?
>
> RQ5. How does learner performance compare in a writing test when the input is given (a) only in the L2 or (b) in the L1 and L2?

1.4 Organization of the thesis

This thesis is divided into four main sections. Chapter 2 presents relevant literature, including theoretical and practical studies. Chapter 3 presents a general introduction on the three studies conducted for the current thesis and on the university where the studies were conducted. The research design, participants, data collection methods, analysis, results, and discussion of Study 1, Study 2, and Study 3 are presented in Chapters 4, 5, and 6, respectively. The final chapter, the conclusion, provides a summary of the thesis, its implications and limitations, and potential future research in the field.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical concepts and literature related to the current thesis. First, translanguaging, and its relevance to and potential implications for pedagogy and assessment are presented. Next comes a review of studies in EMI. The issues addressed include challenges associated with EMI, the relationship between proficiency and EMI success, assessment in EMI, and multilingualism in EMI. Since the current thesis involves students' written productions that include their L1, research on the use of L1 in L2 writing is reviewed next. Lastly, three related theories of memory access and their implications for assessment are presented.

2.2 Translanguaging

2.2.1 Definitions of translanguaging

In this section, a brief history and current understandings of translanguaging are presented. The focus is on translanguaging as one of the approaches that challenge the monolingual ideology, which sees monolingualism as "the default for human communication" (Ortega, 2014, p. 32) by recognizing the fluidity of language practices (particularly of bi/multilinguals), appreciating the agency of language users, and positioning linguistic practices within their social context.

While bilingual education has grown in the twenty-first century, our understanding regarding the interaction between the languages of bi/multilinguals is only limited (Velasco & García, 2014), and bilingual programs may still treat bilinguals as "two monolinguals in one" (Grosjean, 1989; Lasagabaster, 2015a). It

was in 1985 that Grosjean introduced this position, which he called the holistic view of bilingualism, which was later famously summarized as, “The bilingual is not two monolinguals in one person” in the title of his 1989 paper. Grosjean (1985) pointed out that bilinguals were a specific type of speaker-hearer, and that just because they differed from monolinguals in their linguistic performance does not imply that they are not competent language users. In similar lines, Lopez, Turkan, and Guzman-Orth (2017a) argue that multilinguals are expected to attain native-like competence in each of their languages in a monolingual view, but native-like attainment in all aspects of a language is an exception rather than the norm for bi/multilinguals. Indeed, hypotheses have been put forward which claim nativelike attainment to be impossible when L2 acquisition starts at later ages than childhood, e.g., Representational Deficit Hypotheses and Critical Period Hypotheses (see Birdsong, 2004; Lardiere, 2013). The native speaker-oriented approach has received criticism in that “language learners, especially those so-called non-native English speakers, might not merely internalize native speakerist discourses and the imposed label of non-native English speakers, but rather … reconstitute what counts as authentic and valuable language competence.” (Choi, 2016, p. 73). In other words, the goal in bilingualism or L2 learning is not necessarily native-like attainment. For this reason, it has been suggested that communicative strategies should be prioritized over the native-like mastery of a language, allowing all available resources from multiple languages to be put into use in a manner appropriate to the requirements of the communicative context (Lafford, 2007).

Upon the recognition that bi/multilinguals are different from monolinguals in various aspects of their linguistic performance, and are competent users whose language use blurs the structuralist lines between languages, several neologisms have

been introduced to conceptualize the linguistic knowledge and behavior of bi/multilinguals. These include flexible bilingualism (Creese & Blackledge, 2010), heteroglossia (Bailey, 2007, 2012), code meshing (Canagarajah, 2011a; Michael-Luna & Canagarajah, 2007), translingual practice (Canagarajah, 2013), metrolingualism (Otsuji & Pennycook, 2010), postmonolingualism (Yıldız, 2012), and translanguaging (García, 2009). In their introductory chapter to the book Crossing Divides: Exploring Translingual Writing Pedagogies and Programs, Horner and Tetreault (2017) summarize the common orientations among these approaches, which all challenge the monolingual ideology. They state that these orientations:

i. do not view the presence of two or more languages as a deviation, but rather accept it as the norm, in communicative situations where this is practiced,
ii. point to the arbitrariness of the boundaries that separate languages and hence to the fluidity of linguistic performance,
iii. point out that the mixing and switching between languages is a normal component of language use,
iv. do not view such practices, that is, mixing and switching between languages, as failure, incompetence, or a threat, thus appreciating the agency of language users,
v. posit that identities of language users are also fluid, and
vi. position linguistic practices within the social context where they constantly emerge, rather than measuring these practices against discrete universals (pp. 4-5).

This section focuses on translanguaging, but it should be noted, as Horner and Tetreault (2017) also posit, that the approaches mentioned above (e.g.,

postmonolingualism, flexible bilingualism, translingualism) hold a similar view in how they approach language and bi/multilingual practices and users.

The coinage of the term “translanguaging” is traced back to studies in the Welsch context (Mazak, 2017). Lewis, Jones, and Baker (2012a, 2012b) review the origin and development of translanguaging. They state that in the Welsch context, translanguaging was borne out of a reaction to the different levels of prestige afforded to English and Welsch, and that the Welsch word “trawsieithu”, coined by Williams and Whittall, was translated into English as “translanguaging” by Williams and Baker. The transition from the initial understanding of bilingualism as disadvantageous (being associated with mental confusion and lower levels of intelligence) to a perspective that saw bilingualism as advantageous and cognitively rewarding gave rise to translanguaging as a strategy to be employed at the classroom level. Lewis et al. (2012a) further explain how translanguaging was originally understood. They state that it was viewed as a cognitive process involving both languages of a bilingual speaker that can have important educational functions. In terms of its educational functions, translanguaging focused on the use of both languages (Williams, 2003, as cited in Lewis et al., 2012a) and was seen to be more appropriate for children with a sufficiently high level of competence in both of their languages rather than at the initial stages of the acquisition of an L2 (Williams, 2002, as cited in Lewis et al., 2012a).

Put briefly, translanguaging emerged as a pedagogical strategy. Baker (2001) presents a detailed account of (pedagogical) translanguaging, in which “the input and output are deliberately in a different language, and this is systematically varied” (p. 281). Translanguaging as a teaching strategy, as was employed by Williams, is argued to offer four potential benefits by Baker (2001). First, since it requires

processing in both languages, it may contribute to a deeper grasp of the content. Second, it requires learners to use both their stronger and weaker language, thereby allowing them to improve their academic language skills in both languages involved. Third, particularly in the case of minority language speakers, parents can support their children's learning as their language is incorporated in the school system. And fourth, as English-learners at different levels of proficiency and L1-English speakers can work together through the planned use of both languages in the classroom, learners can develop their L2 ability along with content knowledge. Clearly, these potential benefits of translanguaging can be harvested to the extent that the context allows for the strategic implementation of translanguaging as a teaching tool.

Evidently, translanguaging was conceptualized by these early researchers as a pedagogical strategy in bilingual classrooms. While translanguaging in that sense was popularized internationally by Baker (2001), it was the theorizing by Ofelia García (2009) in particular that expanded the understanding of translanguaging beyond a teaching strategy to one that encompasses social, cognitive, and discursive aspects of language. Central to translanguaging as a theory of language is the concept of "languaging". Wei (2016) defines languaging as "the process of using language to gain knowledge, to make sense, to articulate one's thought and to communicate about using language" (p. 1224). This more general understanding of translanguaging is also reflected in a subsequent edition of Baker's book Foundations of Bilingual Education and Bilingualism (2011), in which translanguaging is defined as "the process of making meaning, shaping experiences, gaining understanding and knowledge through the use of two languages" (p. 288).

Building upon the argument that the understanding of languages as distinct entities can be traced to states' desire to consolidate power through the idea of "one

language-one state", García (2009) argues that languages belong to speakers, not to states or politically delineated geographical spaces. Those who use two named languages "language bilingually" (p. 118) or translanguage. In this respect, translanguaging is a way of thinking about bilingualism that focuses on the observable practices of bilingual individuals, rather than solely on the languages themselves (García, 2009). For García (2009), translanguaging refers to "*multiple discursive practices* in which bilinguals engage in order to *make sense of their bilingual worlds*" (p. 45, original emphasis) – which has become a commonly-cited definition of translanguaging.

Velasco and García (2014) point out that having a complex linguistic repertoire at their disposal, bilinguals are able to use their resources as appropriate to the sociocultural context, in general, and to the communicative task, in particular. In this regard, they point out that rather than being composed of two (or more) separate languages, bi/multilinguals' language system is "one linguistic repertoire with features that have been socially assigned to constructions that are considered 'languages,' including academic ones" (Velasco & García, 2014, p. 8). Similarly, García and Wei (2014) argue that translanguaging does not refer to "a synthesis of different language practices or to a hybrid mixture" but to "one new whole" (p. 21) that bilinguals draw upon to engage in discursive practices that fit the communicative situation they are involved in. Other researchers may refer to hybridity in translanguaging, but from a different perspective: as Jonsson (2017) points out, while the term hybridity, which suggests the existence of pure languages, is problematic, when seen as creating a "third space" it may be useful for analyzing the processes of translanguaging.

For a clear conceptualization of translanguaging, the concept of idiolect, i.e., a person's unique and personal language repertoire, is also central. Otheguy et al. (2015) present an interesting analogy to explain translanguaging, which they connect to individuals' idiolects. They argue that just as national cuisines are differentiated based on their cultural and regional associations, rather than the specific ingredients or flavors they contain, languages are not solely linguistic entities, but also cultural and political ones, and the boundaries between them are determined by factors outside of language itself. Idiolects emerge out of individuals' interactions with other language users. While bilinguals' idiolects may include lexical and structural features associated with multiple named languages, those of monolinguals include lexical and structural features that may vary within a single language depending on factors such as region, social class, or style. Whenever a person produces language, they are languaging, and when their languaging includes features associated with different varieties (e.g., so-called dialects, named languages, registers), they are translanguaging (Otheguy et al., 2015). On these grounds, Otheguy et al. (2015) state that "monolinguals are almost always and everywhere allowed to translanguage, whereas bilinguals are only allowed to translanguage in a limited number of protected settings." (p. 295).

To summarize the arguments presented so far, in its more recent conceptualization, translanguaging is a transformative approach that challenges the separation of languages as homogeneous, compartmentalized codes and the viewing of bilingual practices through a monolingual lens. It is based on the language practices of bilingual people and is seen as a way of making sense of the bilingual world. Language users are argued to have one integrated linguistic repertoire, which

may be realized in practice through the selection of linguistic features associated with different named languages, which in turn creates a third hybrid space.

In essence, translanguaging is part of the multilingual turn, which, rather than viewing languages as separate constructs, focuses on individuals' practices with language, which draw on different named languages, registers, or codes that have been accumulated by the speaker's individual history of languaging. Translanguaging does not view the linguistic resources of multilinguals as consisting of two or more autonomous, discrete, separate systems, but as a unified repertoire, which multilinguals can select from and draw upon (García & Wei, 2014). Canagarajah (2015) eloquently outlines translingualism against the monolingual orientation:

> in translingualism diversity is the norm, with speakers bringing different semiotic resources to the same interaction. In order for communication to succeed despite this diversity, interlocutors adopt situated negotiation strategies. In this sense, the monolingual orientation is turned upside down, shifting the emphasis from sharedness to diversity, grammar to practices, and cognition to embodiment. (p. 420)

While the conceptualization presented so far revolves around language itself, the scope of translanguaging has recently been expanded to other semiotic resources. Hawkins (2020) and Baynham (2020) argue that translanguaging research has expanded to include the study of non-linguistic and multi-modal resources in addition to the linguistic resources of multilingual speakers. Hawkins, defining translanguaging as "the ways in which interlocutors flexibly and fluidly leverage their linguistic resources in communication" (p. 24), also adds that non-linguistic and multi-modal resources occupy an important place in the agenda of translanguaging research. In similar lines, Baynham (2020) points out that while formerly translanguaging studies revolved around the linguistic resources of multilingual

speakers, it has morphed into a broader conceptualization by also involving other semiotic resources such as visuals and gestures.

In brief, as Goodman, Kerimkulova, and Montgomery (2021) suggest, translanguaging can refer to (1) a teaching approach in which students and teachers utilize all the languages or language varieties they are familiar with to facilitate understanding and communication of subject matter, or (2) the flexible use of various semiotic resources, which may include smooth transitions between language varieties during communication.

It follows that if bilinguals are deprived of the opportunity to put their language resources to full use, they may be disadvantaged, not being able to display their true (language) abilities (García & Wei, 2014). Not giving bilinguals the opportunity to take advantage of their whole repertoire may place them at a clear disadvantage in educational settings, as well, particularly in assessments that involve their ability to do things with language (Otheguy et al., 2015) – an argument which will be elaborated on in the sections to follow.

2.2.2 Translanguaging vs code-switching

Considering that there has been a line of research that investigates "code-switching" and "code-mixing" both in and outside of school environments, some may argue that translanguaging is just another term for this well-researched phenomenon. In an interview with Ofelia García, Francois Grosjean (2016) asks, "What are the benefits of replacing [code-switching and borrowing] with 'translanguaging' when the behavior is clearly the same?", to which García replies that there is an epistemological difference in that "[t]ranslanguaging is more than going across languages; it is going beyond named languages and taking the internal view of the

speaker’s language use.” Despite this, even when the term translanguaging is used, the interpretation may still remain within the code-switching perspective, as is pointed out by García (2019), who states that “As the concept of translanguaging has been taken up in the scholarly literature, many have interpreted it as simply the use of the students’ native or first language in instruction. Others, as ‘mixing’ or ‘switching’ between codes.” (p. 372). For example, Gallagher and Colohan (2017) define it as the “strategic and judicious use of the L1 during lessons in language learning contexts.” (p. 487).

García and Lin (2017) comment on the distinction between code-switching and translanguaging, arguing that translanguaging is a lot more useful than code-switching as a theory for bilingual education. Whereas code-switching builds upon a monoglossic view of language, defining bilinguals as individuals with two separate linguistic systems, translanguaging views the language behavior of bilinguals as being dependent on one integrated linguistic system. They argue, therefore, that translanguaging is a more heteroglossic and dynamic approach to bilingualism. Translanguaging goes beyond code-mixing in that it does not refer “simply to a shift or a shuttle between two languages, but to the speakers’ construction and use of original and complex interrelated discursive practices that cannot be easily assigned to one or another traditional definition of a language” (García & Wei, 2014, p. 22).

Similarly, according to Otheguy et al. (2015), translanguaging involves using all of a person’s language repertoire without being restricted by the socially and politically designated boundaries of named languages. Wei (2016, p. 7) emphasizes that translanguaging is not a “fancy post-modern term” to replace code-switching. As Wei (2016) asserts, the suffix “trans” in translanguaging refers to practices that go beyond the limitations of constructed language systems and structures, allowing for

diverse and multiple ways of creating meaning; given that "language as code is a sociopolitical construct that has little to do with the languaging of speakers, an activity that is personal, momentary, and that is newly constructed in every single interaction." (García, 2019, p. 371). Jonsson (2017) also points out that translanguaging is not just a new term to replace code-switching, and lists the advantages to be gained from a translanguaging perspective. These include the following:

i. In translanguaging, the focus is shifted from languages or codes to individuals' discursive practices.
ii. Translanguaging is built upon a more fluid understanding of language that recognizes language practices of multilinguals as a whole rather than viewing languages as bound entities.
iii. In translanguaging, bilingual or multilingual practices are not studied from a monolingual perspective.
iv. Translanguaging recognizes the role of multilingual practices not only in terms of communication but also in constructing knowledge and understanding.
v. Translanguaging represents an epistemological change in linguistics that involves a reconsideration of concepts such as language and bilingualism (pp. 42-43).

Apart from the epistemological and theoretical difference between code-switching and translanguaging, another main difference lies in how the language behavior expressed by these two concepts is perceived and the attitudes towards it. As Chalhoub-Deville (2019) state, "Code switching, long discussed in SLA, views crossing language boundaries in communication negatively. Translanguaging, on the

other hand, upholds a favorable outlook on the [multilingual] repertoire and on language mixing.” (p. 2).

To summarize, translanguaging is distinguished from code-switching by its fluid and dynamic understanding of language and its recognition of the role of multilingual practices in constructing meaning. Translanguaging involves using all of a person’s language repertoire without being restricted by the boundaries of named languages and focuses on individuals’ discursive practices rather than languages or codes.

2.2.3 Translanguaging pedagogy

As was introduced under the section titled “Definitions of translanguaging”, one way of seeing translanguaging is as a teaching strategy in which students and teachers utilize all their language resources to facilitate understanding and communication of content (Goodman et al., 2021).

The facilitative effects of translanguaging as a teaching strategy have been observed in bilingual classrooms. For example, Lin (2013) investigates plurilingualism among seventh grade students and their teachers and argues that giving the students the opportunity to express their ideas and opinions by employing all of their available resources, which include not only different languages but also other semiotic resources such as drawings, helps them to exercise agency and use their plurilingual and multimodal resources. Thanks to this freedom, the students were found to show a strong desire to practice their knowledge by writing, sharing, and discussing freely. Lin (2013) emphasizes the importance of considering the plurilingual nature of classroom interactions and the linguistic abilities of both learners and teachers in bilingual school environments, and thus moving away from a

monolithic approach towards a plurilinguistic and translingual one. Within this new theorization, plurilingualism is not seen as a hindrance to language or content learning, but rather as a valuable resource to be utilized.

While translanguaging originally emerged in bilingual educational settings, this idea has been expanded to other language teaching contexts as well. Commenting on L2 teaching, Simpson (2020) suggests that the traditional belief that the use of multilingual resources is a hindrance to learning, which Simpson argues to be prevalent in educational settings and particularly in language teaching approaches like Communicative Language Teaching, can be challenged by adopting a translanguaging perspective. This involves recognizing speakers' whole communicative repertoire and allowing them to draw on all of this repertoire, rather than limiting them to just one language in which they may not be as proficient. Simpson (2020) argues that this can help speakers to negotiate and expand their social identities.

In addition to recognizing and expanding identities of multilingual learners, (pedagogical) translanguaging can help improve students' academic outcomes. For example, Kirkpatrick (2014) discusses the English-only policy in language classrooms by presenting two different scenarios in which students are given an essay writing task. In the first scenario, students are allowed to use their L1 during the planning process, including writing a first draft in their L1. In the second scenario, the use of the L1 is completely prohibited. According to Kirkpatrick, the first scenario leads to better and more cognitively deep essays. Therefore, he advocates for allowing and encouraging the use of the L1 in the L2 learning process. This is in line with Cummins' (2005, as cited in Gort, 2012) suggestion that "students' L1 is a powerful resource for learning and bilingual instructional strategies

can usefully complement monolingual strategies to promote more cognitively engaged learning.” (p. 49). Within these lines, Canagarajah (2005) refers to a reconsideration of pedagogical practices in ELT by referring to various shifts in pedagogy, which are shown in Table 1.

Table 1. Shifts in Pedagogical Practices in ELT

FROM	TO
• target language	• repertoire
• text and language as homogeneous	• text and language as hybrid
• joining a community	• shuttling between communities
• focus on rules and conventions	• focus on strategies
• correctness	• negotiation
• language and discourse as static	• language and discourse as changing
• language as context-bound	• language as context-transforming
• mastery of grammar rules	• metalinguistic awareness
• text and language as transparent and instrumental	• text and language as representational
• L1 or C1 as problem	• L1 or C1 as resource

Source: Canagarajah (2005, p. xxv)

Although Canagarajah (2005) presents these as shifts in the ELT pedagogy, they in general represent a shift in the understanding of language and multilingualism. In that sense, his arguments are relevant to EMI, as well. Canagarajah (2005) refers to the fluid nature of languages, cultures, and identities in postmodern society, in which mobility of individuals has become more widespread than ever and developing technologies such as Internet communication have not only expanded ways of communication but created new forms of expression. The increasing fluidity of people and the expansion of ways of communication and forms of expression are also manifested in classrooms around the world as students with different languages and cultures come into contact with each other in classrooms. Canagarajah’s (2005) argument that “Following this general deterritorialization of cultures and de-centering of identities, we now acknowledge the difficulty in defining people and

communities in exclusive ways" (p. xxiii) also holds true for schools with an international student body, whose language practices are also characterized by fluidity.

In this regard, Hornberger (2005) specifically refers to EMI settings. Hornberger (2005) states that whether in bilingual education or EMI, instructional strategies can be employed to explicitly teach transfer across languages, instead of sticking to monolingual ideologies. She argues that through these strategies, "bi/multilinguals' learning is maximized when they are allowed and enabled to draw upon all their existing language skills (in two+ languages), rather than being constrained and inhibited from doing so by monolingual instructional assumptions and practices." (p. 607).

The incorporation of bi/multilinguals' whole language repertoire into the learning process has been shown to offer benefits in EMI contexts. Adamson and Fujimoto-Adamson (2021) examined translanguaging in EMI in Japanese higher education. They found that instructors considered drawing upon students' whole linguistic repertoire as beneficial in terms of both content and language learning. Reading texts in the L1 and writing reports in English, and using the Japanese script in some teaching activities were viewed to be contributory in making content accessible to students with lower proficiency in English. As a matter of fact, even when translanguaging is not incorporated into classroom teaching, it is still a part of students' lives. For example, Yüksel et al. (2021) found that when studying for their EMI classes, students watched YouTube videos in Turkish alongside English ones, and took advantage of translation software. This provides another example of how bilingual students take advantage of their languages to comprehend content.

Researchers have also argued that contributions of translanguaging to learning cannot be constrained within specific educational settings. Paulsrud, Rosén, Straszer, and Wedin (2017) state that translanguaging pedagogy involves the linguistic practices of all students and all teachers, thereby presenting it as a pedagogical practice that is available not only in bilingual instructional contexts but also in monolingual ones, too. Drawing attention to the interconnectedness between learning and languaging, they argue that in translanguaging pedagogy, "all students' whole linguistic repertoires are invited, included, recognized and accepted in the learning act beyond a division into multilingual and monolingual students" (p. 28). Given the inclusion of non-linguistic and multi-modal resources, as well as variations within named languages, in the more recent definitions of translanguaging, monolingual students too can go beyond constraints imposed by conventional distinctions. However, in educational settings, while monolinguals are able to use most of their idiolects, bilinguals are usually only allowed to use a portion of their language resources. From this perspective, translanguaging is probably still relatively more empowering for bilinguals than monolinguals in educational contexts.

García and Wei (2014) point out that the adoption of translanguaging in pedagogy would allow for the use of all semiotic resources that are available to the participating students even in contexts where the official policy may be to implement a one-language policy where other languages are disallowed in the classroom, and this would in practice mean the cessation of monolingual education. García and Wei (2014) state that "having students use all their language practices would be beneficial for learning, for deep cognitive engagement and for development and expansion of new language practices, including standard ones used for academic purposes" (p. 71). One concern in this respect might be that translanguaging pedagogies cannot be

taken up by monolingual teachers. However, García and Wei (2014) argue that even monolingual teachers can engage in translanguaging pedagogy. They give the example of schools of the International Network for Public High Schools in New York City, where a linguistically diverse group of students are educated with the use of translanguaging pedagogies by all teachers by means, for example, of grouping students with the same home language together so that they can make sense of the lesson by using any discursive practices that they see fit for meaning making. Having students translate key terms by using online dictionaries or Google Translate is given as another example.

However, it should also be acknowledged that while (pedagogical) translanguaging may have many advantages to offer, this does not readily imply that it can and should be put into practice without an evaluation of, for example, context and student needs. One of the researchers who recognize this is Ruecker (2014), who points to the necessity to incorporate students' perspectives into the curricular and practical decisions made within school systems about the implementation of translingual practices. The argument is that if students choose to engage in translingual practices, they should be allowed and taught to do that; yet, if they want to learn monolingual practices, this too should be respected and approached accordingly. Ruecker (2014) emphasizes that the presence of various and dominant factors that urge students to write within standard English, such as educational and language policies at schools, societal expectations, or standardized testing practices, should also be acknowledged. This indicates that multilingual practices can be encouraged or challenged on account of local and global forces impacting on learners' needs and expectations, and of theoretical and educational approaches that best suit learners' interests. Another researcher who shares this perspective is

Matsuda (2014), who proposes that if the teacher is a monolingual speaker of the standard variety of English, asking students to engage in translanguaging would not work out well, since in such a case the audience, i.e., the teacher, does not share the resources that are brought to the writing task by the students. Similarly, Canagarajah (2011b) draws attention to the interactional dimensions of translanguaging, stating that it is important how other participants of the interaction respond to translanguaging. He adds that if researchers restrict their subjects to multilingual speakers only, to the exclusion of monolinguals, it could produce a limited understanding of translanguaging as there are also contexts of interaction where both multilingual and monolingual speakers are involved and only one named language is used.

2.2.4 Translanguaging and assessment

This section revolves around the relevance and inclusion of multiple languages and translanguaging in both language assessment and content assessment. First, arguments for, and research into, translanguaging in language assessment is presented. This is followed by content assessment in K-12 settings and university settings. In the last part of the section, relevant arguments for, and potential caveats of, multilingual assessment presented by De Angelis (2021) in the book Multilingual Testing and Assessment are briefly summarized.

2.2.4.1 Translanguaging in language assessment

One line of research questions the monolingual approach taken in language assessments. Shohamy (2011) refers to two different approaches to multilingualism. In one of these, the languages that make up the linguistic repertoire of the

multilingual speaker are viewed as separate, closed, and homogeneous systems. In this approach, these distinct systems are taught separately within the same setting. In a school offering bilingual education, for example, languages are treated separately such that learners are required to stick to one or the other language within the same classroom. The second approach, on the other hand, "deconstructs the notion of a language as a finite construct, viewing it as an abstract notion that is used as a means for negotiating and creating meanings" (p. 419). Shohamy (2011) points out that whereas this second perspective is being discussed in the language education field, when it comes to (language) assessment, it has not really been taken up. The assessment field, as a result, continues to operate within a definition of language as a homogeneous, closed, and native-oriented construct. Most language tests still practice within a framework in which language is viewed as "monolingual, monolithic, static, standard, and 'native like' with very few deviations from the official norms with defined and set boundaries", whereas the current definitions of language have characterized it with a dynamic, diverse, fluid, and emergent nature (Shohamy, 2013, p. 19). With their construct definition taking a narrow view of language, multilingualism is also approached from a monolithic perspective, in which the simultaneous use of different languages by multilinguals is ignored in favor of a separate analysis of languages (Shohamy, 2013). Otheguy et al. (2015), in a similar vein, challenge the validity of tests that isolate the languages of bi/multilinguals and assess them in one of their languages, which is more often than not their L2. They point out that in assessments whose objective is to accurately determine the linguistic abilities of students, "it doesn't make sense to ask them to perform using only some of their linguistic repertoire" (p. 300). In support of such a position, Jessner (2017) argues that if a multilingual person is to be treated as a

language user in their own right, just as was proposed by Grosjean (1985, 1989), then there is a need to place more emphasis on empirical studies examining multilingualism in relation to language testing, and possibly come up with a more appropriate construct for testing multilingual speakers.

An example of the incorporation of translanguaging in a language test task comes from Dendrinos (2013). According to Dendrinos (2013), international proficiency tests are typically monolingual in nature due to the difficulties and expenses of catering to the needs of multilingual test-takers in different cultural contexts. Dendrinos (2013) discusses the Greek National Certificate of Language Proficiency to exemplify a more socially just test, and introduces the test as follows: It is commonly known with its Greek acronym KPG. The KPG test aligns with the approach that the focus in language learning is not on achieving native-like fluency in one or more languages, but rather on building a diverse linguistic repertoire that encompasses all language skills. There is an attempt within the KPG to embrace a multilingual paradigm rather than sticking to a monolingual one. With this point of view, the KPG incorporates both intralinguistic and interlinguistic mediation tasks in the writing and speaking components of the test starting from the B1 level. Although Dendrinos (2013) provides details as to both tasks, here I will report only on interlinguistic mediation, as it is immediately relevant to my discussion. Dendrinos (2013) describes interlinguistic mediation as being composed of two languages within the test, that is, Greek and English. In such tasks, test-takers are required to extract information from a text presented in one language (Greek) and relay it in the target language (English) within a communicative event. As can be understood from this definition, this kind of linguistic mediation is a form of translanguaging. One example task is one in which test-takers read a text taken from a Greek magazine that

presents practical tips about how to take care of a pet, and are then expected to write an e-mail in English to a friend who has recently adopted a pet but does not know how to look after it. Dendrinos writes, “Glocal proficiency testing is more likely to use translanguaging, parallel use of two or more languages, as well as linguistic and cultural mediation tasks, whereas it seems not at all cost-effective to have bi- or mutli-lingual performance tested in international commercial exam batteries.” (p. 51). In other words, translanguaging in tests may be chosen to be embraced based on the context and test purpose.

2.2.4.2 Translanguaging in content assessment

The arguments presented in the previous section are concerned primarily with language testing. Other researchers have focused on the relation between content assessment and language. García (2009), for example, states that assessment can be implemented through a translanguaging mode, which could give a more precise representation of students’ knowledge by eliminating language as a confounding variable that may influence student scores in content assessment. She gives examples of how students may be assessed in a translanguaging mode, such as asking questions in one language and getting answers in another, or having students do their written assignment in one language and present it orally in another.

García and Wei (2014), similarly, argue that the policy of using only one language in standardized tests tends to put bilingual speakers at a disadvantage, particularly when they are at a low level of proficiency as their language abilities in the test language would not be sufficient for them to accurately express their knowledge. In content assessments, where the main concern is assessing how much of the content students have mastered, any misrepresentation of student knowledge

due to limited language abilities would raise validity questions regarding the interpretations based on the test. García and Wei (2014) give an example of how bilingual students are sometimes given more liberty in terms of language: Learners are given the exam in two languages and asked to answer the questions in one language. However, they suggest that this practice too is “a reflection of a monoglossic view of bilingualism as parallel monolingualisms” (p. 133). They briefly explain how translanguaged-mode assessments could be carried out. In such assessments, questions could be presented in many languages and students would be given the opportunity to use their whole language repertoire in ways that would best allow them to exhibit the full range of their knowledge and understanding on the questions posed. They also point out, however, that these tests have not been developed and they are currently “not accepted either by the policy makers who commission the development of tests nor by many teachers who have been taught to assess knowledge in accordance with artificial bounds of social norms and language.” (p. 135).

2.2.4.2.1 Translanguaging in assessment in K-12 settings

The cost of using monolingual tests in terms of validity in the form of construct-underrepresentation has been shown by empirical studies. In this section, studies conducted with emerging bilinguals in K-12 settings are presented, followed by a section on those conducted in university settings.

Levin and Shohamy (2008) examined the academic achievement of immigrant students in Israel. They studied over 2700 students at three grades, namely, fifth, nineth, and eleventh grades, and compared the academic performance of those from the former USSR and those from Ethiopia with native-born students.

They focused on Mathematics and Hebrew. They found that the amount of time necessary for immigrants to achieve at the same rate as natives varied, but overall it took 9-10 years for the students from the former USSR, while those from Ethiopia were not able to reach similar academic achievement to the natives in the first generation. What is important to note here is that this was the case when the immigrant students were given the tests in Hebrew, which is a language that they were in the process of acquiring. Shohamy (2013) notes that immigrants are able to obtain substantially higher scores – specifically, up to 8 years – if they are allowed to respond in a bilingual version of the test. For this reason, Shohamy (2013) advocates for the employment of bi/multilingual tests so that students' true abilities can be assessed in more realistic, accurate, and just ways.

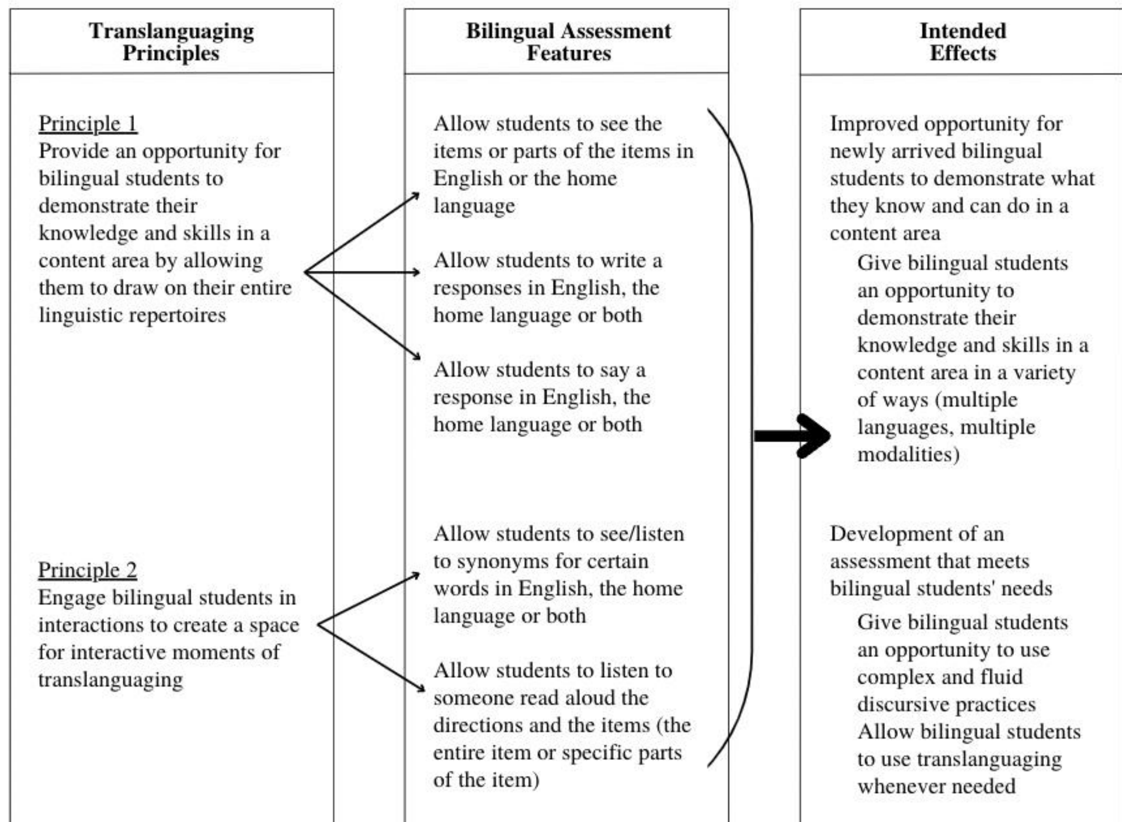
In another study, Shomamy (2011) describes her observations in Arab schools in Israel. Her account shows that different languages are employed within the same classroom for varying purposes. For example, students may read a passage in English, write a summary of it in Hebrew, and engage in the discussion of the topic in Arabic. In such a context, she argues, it would not be realistic to expect these languages to be kept separate and homogeneous. What happens in such classrooms is a practice, then, of interlingual mediation, or translanguaging. Shomamy (2011) points to the need for tests in which "mixing languages is a legitimate act that does not result in penalties but rather is an effective means of expressing and communicating ideas that cannot be transmitted in one language" (p. 427). On these grounds, Shomamy points to the need for research that examines at a deeper level how meaning is constructed by bi/multilinguals, particularly in academic contexts.

Gandara and Randall (2019) reiterate the argument that monolingual assessments neglect the challenges that emerging bilinguals and multilinguals in

general face in their classrooms, and refer to the use of such assessments with these groups as “a flawed and inappropriate practice at best” (p. 64). Gandara and Randall (2019) carried out a study that involved translingual assessment, in which they allowed primary school students in a multilingual context to use all their languages in a mathematics exam. The administration of the exam was flexible in the sense that parts of the instructions were delivered in linguistically different ways: in French, in Lingala, and both. The results showed that the students used words from both languages when answering the questions, using their linguistic repertoire in a flexible manner. The authors argue that the translingual form of the assessment was appropriate to the school context where the study was conducted. They also point out that translanguaging in assessment goes beyond linguistic accommodations to allowing individuals to self-regulate their linguistic resources flexibly and dynamically in accordance with individual preferences.

Another study that implemented multilingual assessment is De Backer, Baele, Van Avermaet, and Slembrouck’s (2019) study, in which three testing conditions were compared: a monolingual test in Dutch, which was the language of instruction, a bilingual version which included translations in the L1 along with Dutch, and the bilingual version with the addition of audio support in both languages. The study was conducted in schools in Belgium with 752 fifth-grade students, 35 of whom were also interviewed afterwards. Most students were found to take advantage of bilingual accommodations. Students’ preferences as to the use of accommodations were found to be influenced by several factors, which included students’ perceptions of their language proficiency and the content and difficulty of questions. The authors suggest that students should be offered the opportunity to use their whole linguistic repertoire when they feel the need to do so.

Lopez et al. (2017a) advocate for a holistic view of multilingual competence, within the context of immigrant students who have newly arrived in the United States and are schooled in bilingual or English medium schools but may not have developed sufficient language skills for the academic content of their classes. They point, therefore, to the importance of having language standards that consider the practices of multilingual speakers, including shuttling between languages. Lopez, Turkan, and Guzman-Orth (2017b) argue that translanguaging has an important role to play in initial content assessments because it may allow emergent bilinguals to perform to their full potential in terms of skills and knowledge. They suggest that if teachers employ translanguaging in their classrooms, this may allow for a deeper understanding by bi/multilingual learners as well as for improvement in both oral and written communication abilities. Such a practice would enable bi/multilingual learners to shuttle between their languages for educational purposes and take advantage of all the linguistic resources at their disposal. This would help to reinforce and to exploit bi/multilinguals' daily outside-of-school practice of purposely selecting from their linguistic repertoire to meet their communicative needs. Lopez et al. (2017b) propose a theory of action for the use of translanguaging in initial content assessments (see Figure 1). Their principles include (a) allowing bilingual students to make use of their whole linguistic repertoire rather than resorting to only one of their languages, (b) creating a context for the deployment of translingual practices. These are expected to give bilingual students the opportunity to show their knowledge and skills without the restrictions imposed by having to answer using, as Ofelia García (2017) states in a YouTube video, "less than half of their language repertoire".



Source: Lopez et al. (2017b, p. 5)

Figure 1. Theory of action for allowing the use of translanguaging in initial content assessments

Lopez et al. (2017b) add that even though it may also be incorporated into large-scale tests in the future, they feel that at the current state of affairs translanguaging will probably be more useful in low-stakes classroom content assessment.

2.2.4.2.2 Translanguaging in assessment in university settings

Lopez et al.’s (2017b) suggestion to incorporate translanguaging into low-stakes assessments has since been realized in university settings as well. A study, conducted by Schissel et al. (2018), for example, compared learners’ performance in two different tasks – one allowing for translanguaging while the other was completely in the students’ L2. This study was conducted in a university setting with pre-service English teachers, unlike the studies reviewed above, which focused on emerging

bilinguals at lower grades, mostly in primary school. The study specifically addressed the question of how pre-service English language teachers would perform in a multilingual assessment relative to a monolingual one. The participants were 40 pre-service English teachers in their fifth and seventh semesters in Oaxaca, Mexico. They were given two tasks, which asked them to give advice and recommendations using English. In the first task, the participants read two texts in English and one in Spanish, and were required to relay the information from these tasks in writing, i.e., an e-mail. In the second task, all three texts were in English, and the participants were asked to write a letter using information from the source texts. Thus, while the first task necessitated the use of bilingual skills, the second task was a monolingual one, limited to English only. Schissel et al. (2018) found that the pre-service English teachers' performance was better in the bilingual task than in the monolingual one, indicating that allowing students to use a larger part of their linguistic repertoire would improve their task performance.

Chalhoub-Deville (2019) praises Schissel et al. (2018) study and proposes a way forward in multilingual assessment. In her discussion of the integration of multilingual constructs, other languages, and translanguaging into testing operations, which is argued to improve the testing of both content knowledge and language use, Chalhoub-Deville (2019) refers to two types of innovations: sustaining innovations, which help improve existing practices but do not foresee fundamental changes, and disruptive innovations, which have to do with changes to construct representation. In that sense, an integrated multilingual construct is a disruptive innovation that involves reformulating the construct to also include plurilinguistic communication and translanguaging. Chalhoub-Deville (2019) points out that in addition to the disruptive innovation of providing access to information in more than one language,

a way forward may be to “embrace integrated ML [multilingualism] in all aspects of design and development, including student responses and rating scales.” (p. 7).

The provision of support in the L1 has also been shown to increase bilingual students’ performance in a reading comprehension test in a bilingual program. Van der Walt and Kidd (2013) describe different models of bilingual education used in Stellenbosch University, where lectures are given in English or Afrikaans, or through a dual medium, in which both languages are used. In dual medium classes, materials in both languages are used, switches between the two languages are prevalent, and assessments are given in both languages with students having the option to respond in either language. The authors argue that the presence of two or more languages is widespread in higher education, and in that sense the linguistic situation in Stellenbosch University is not unique. Their investigation into whether the provision of a summary text in their L1 would enhance the performance of Afrikaans home language speakers on a reading comprehension test in English showed that their exam performance was superior when provided with a summary in their home language, although it still lagged behind that of L1 users of English. For Van der Walt and Kidd (2013), one implication of the existence of multilingualism in universities is that lecturers need to consider language proficiency of the learners not only when teaching but also when assessing learning. However, they also add that “[t]he incorporation of overtly bi/multilingual tests in academic environments seems a long way off” (p. 30).

Allowing bilingual students to use their whole linguistic repertoire in essay tasks has produced positive results, too. Luckett and Hurst-Harosh (2021) studied the essays students wrote on their language backgrounds as part of the coursework of an introductory B.A. course in the Humanities Faculty at the University of Cape Town.

In this course, students were encouraged to use languages other than English in their essays, and had the option to translanguage using different languages, dialects, or registers. In the thirteen essays that Luckett and Hurst-Harosh (2021) analyzed, two or more languages were used together, and they observed that having the opportunity to draw upon different languages produced more emotional involvement, which was argued to be conducive to learning.

Studies in different EMI settings indicate that, even if not formally promoted, translanguaging in assessment may be a fact of some EMI classrooms. Costa and Coleman's (2013) survey of EMI programs in Italian higher education (HE) shows that the language of assessments was not always English: while 56% of the universities reported using English in exams, there were also programs where Italian only or both Italian and English were used. However, the study does not provide additional information about how exactly the exams were administered, e.g., what the use of both Italian and English entails. Li and Wu (2018) conducted a survey with forty university instructors who taught EMI classes at Chinese tertiary-level institutions. A large majority of the teachers, 90%, reported using simple English in assessments in order to accommodate students' challenges with English. Other accommodation strategies such as scaffolding or the use of the L1 were not as commonly employed, but a third of the participating teachers reported allowing students to use their L1 to respond in assessments when students found it too challenging to complete the task in English. Instructor flexibility in terms of allowing the use of the L1 was reported in a prestigious EMI university in Türkiye, as well (Karakaş & Bayyurt, 2019). In terms of student preferences, Li's (2018) study at a bilingual Early Child Education program in a university in China found that only 11% of the participants wanted to have the exam items in English and be required to

answer in English, whereas a large percentage of them, 72%, preferred to be given the option to respond in either English or Chinese.

Translanguaging has also found its way into a high-stakes language test. Baker and Hope's (2019) work on the development of a language test for university professors involves the deployment of translanguaging not only in task instructions and test-taker responses but also in the audio recordings and written input texts. The motivation behind the development of this test has to do with the misalignment between monolingual tests and the university context (in which the test is to be used), where professors use their whole linguistic repertoires to complete tasks; in other words, it is driven by "an under-representation of the construct of interest" (Baker & Hope, 2019, p. 419). The researchers argue that this design is better representative of language use within the university, where translanguaging is a common practice. In the listening section, the introduction of a guest speaker and the departmental meeting subsections are delivered in a translanguaged format, and in the reading section, test-takers are asked to read a tranlanguaged report on department/program evaluation. Test-takers are also invited to respond in French, English, or a mix of the two. In an administration of the test, the participating professors were observed to translanguage in their written responses. The results showed that out of 14 participants, 9 translanguaged within single responses, while 12 translanguaged between responses. Baker and Hope (2019) did not find a relation between proficiency and the use of translanguaging, as language ability did not seem to affect the decision to translanguage or not to translanguage. The authors argue that the participating professors may have passed the threshold level of proficiency required for effective translanguaging, if such a level exists.

Before moving on to De Angelis' book-length treatment of multilingual assessment, I would also like to refer to a university setting where the use of multiple languages in assessment was suggested in the official documents. In 2007, Pompeu Fabra University implemented their Plan for Action for Multilingualism, which aimed to promote multilingualism among students and instructors in all aspects of communication and coursework. This plan included allowing students to use any of the three official languages, i.e., Catalan, Spanish, and English, for both oral and written expression in exams, coursework, and participation in class. The report explains that thanks to this multilingual approach, students who are proficient in the language of instruction and those who only have a passive knowledge of the language have a level playing field, as all students have the right to participate in class and complete exams or coursework in the language that they feel most comfortable with.

In the book, Multilingual Testing and Assessment, De Angelis (2021) states that students who are not sufficiently competent in the language of testing may fail to understand the test items, which in turn prevents them from answering the items. While lack of comprehension is a potential problem, the same can be said for production. Students may be able to produce better responses when provided with the option to draw upon other languages than the language of testing. De Angelis points out that if language mixing is penalized, for example when a student cannot remember a word in the language of testing and instead uses a word from their other language(s), this may send the message that their language resources are not valued and may mean penalizing a student for lack of language knowledge although they have acquired the targeted content knowledge. De Angelis (2021) argues that just like holistic perspectives of language take into account the co-existence of languages

within the multilingual speaker's mind, holistic approaches to assessment call for the integration of multiple languages into assessment and hence the appreciation of language diversity in testing. However, she also warns that a holistic approach which focuses exclusively on the mixed use of multiple languages is not truly holistic given that speakers also engage in monolingual practices in certain communicative situations.

De Angelis (2021, p. 24) distinguishes between two types of multilingual tests: multilingual-by-translation tests and multilingual-by-design tests. As the name suggests, the former involve the provision of translated versions of the test items in other languages, but such tests still remain essentially monolingual. The latter, multilingual-by-design tests, can integrate different languages into the test setting by providing instructions in multiple languages and/or accepting answers in multiple languages. De Angelis (2021) points out that while allowing for the expression of knowledge in more than one language improves fairness, it is at the same time difficult to implement and may be impractical in certain settings. Decisions that have to be made in multilingual-by-design tests include, but are not limited to, the extent to which language-mixing is to be allowed, and if there are international students from various language backgrounds and the instructor is only competent in the home language of majority students, how the rating will be conducted (De Angelis, 2021).

To conclude, several studies have shown the benefits of using multilingual assessment in academic settings, such as in reading comprehension tests and essay assignments. The presence of multilingualism in HEIs requires lecturers to consider the language proficiency of learners when teaching and assessing learning. Allowing students to use their linguistic repertoire has been found to enhance learning and test performance. Surveys in EMI settings have also shown that translanguaging in

assessments may be a fact of some classrooms, although the use of the L1 is not always formally promoted. However, this is a complex process that needs to be carefully planned. This complexity is expressed by De Angelis (2021), who notes the difficulties and practical considerations involved in implementing multilingual-by-design tests, while arguing for a holistic approach to assessment that values language diversity and integrates multiple languages into the testing process.

2.3 English medium instruction

2.3.1 Definitions of EMI

A frequently-cited definition of EMI is that by Dearden (2015):

> The use of the English language to teach academic subjects in countries or jurisdictions where the first language (L1) of the majority of the population is not English. (p. 4)

Macaro et al. (2016) define EMI as "the teaching of academic subjects through the medium of English in non-Anglophone countries." (p. 51). Pecorari and Malmström (2018, p. 499) identify four characteristics of EMI settings based on several definitions of EMI in the literature:

i. English is the language used for instructional purposes.
ii. English is not itself the subject being taught.
iii. Language development is not a primary intended outcome.
iv. For most participants in the setting, English is an L2.

Pecorari and Malmström (2018) also provide an evaluation of each of these four characteristics, given that although they may sound obvious and unquestionable, upon closer introspection, various complications arise. With regard to the use of English for instructional purposes, they refer to various program types where the language of instruction may not be solely English, such as bilingual programs, or

programs with a certain percentage of courses in English. They also draw attention to the well-documented phenomenon of code-switching/ code-meshing/ translanguaging within EMI classrooms. Based on these, they point out that EMI may also be described as "a setting in which English is intended to be used for some or all of a defined set of instructional purposes, but may or may not be" (p. 500).

Jenkins (2020) disagrees with the confinement of what is meant by EMI to settings where English is not the mother tongue, and argues that the presence of large numbers of international students in otherwise English-L1 settings makes them EMI settings as well. Given the large number of languages spoken, the multilingualism of users of English as a lingua franca (ELF) and the translanguaging practices engaged, Jenkins proposes the term "Translanguaging as Medium of Instruction" to replace the name "EMI", which in turn would lead to the acceptance of the use of other languages than English as a normal practice (p. 66). In a similar vein, Shohamy (2012) states that the use of other languages as medium of instruction refers to "situations in which academic content, in a number of subjects (e.g., humanities, science), is being taught via languages which are not the native languages of the students but rather via the languages they seek to acquire." (p. 196). These definitions do not constrain EMI to non-Anglophone settings.

2.3.2 The spread of EMI

The use of English internationally in diverse areas from business to tourism to broadcasting has been increasing. As Coleman (2006) points out, "once a medium obtains a dominant market share, it becomes less and less practical to opt for another medium, and the dominance is thus enhanced", a process which he names "the Microsoft effect" (p. 4). Education is not exempt from the widespread use of English,

such that more and more educational institutions are offering courses or all programs in English, particularly in HE (Dearden, 2015). HEIs increasingly seek to extend their reach, both in terms of their international student body and faculty as well as their programs and research agendas (Hesford, Singleton, & García, 2009; Horner & Tetreault, 2017). As a result, EMI has become more common in HEIs in countries where English is an L2 (Doiz, Lasagabaster, & Sierra, 2011; Rose & McKinley, 2018; Wächter & Maiworm, 2008). For example, Pun and Curle (2021) note that in countries where English is not the primary language, there has been an increasing trend of using English as the language of instruction in academic subjects with the goal of enhancing both content knowledge and proficiency in English – an argument which hints at the dual objective of EMI programs.

Additionally, the extent of academic research into EMI all over the world indicates the prominence of English in HEIs. The countries where the outcomes, challenges, and linguistic and pedagogical implications of EMI have been researched include Denmark (Jensen & Thøgersen, 2011), United Arab Emirates (Moore-Jones, 2015), Germany (Erling & Hilgendorf, 2006), Korea (Im & Kim, 2015; Joe & Lee, 2013), Taiwan (Huang & Singh, 2014), Italy (Costa & Coleman, 2013), the Netherlands (Wilkinson, 2013), and China (Hu & Lei, 2014), to name a few. This seems to support Brumfit's (2004) earlier argument that "for the first time in recorded history all the known world has a shared second language of advanced education" (p. 166).

An unprecedented spread of EMI has been taking place in Türkiye, as well. According to the information provided by Study in Türkiye (n.d.), a website managed by the Council of Higher Education in Türkiye, as of January 2023, there were 1512 full-EMI, and 408 partial-EMI (30% English) B.A. programs; 1140 full-

EMI and 97 partial-EMI M.A. programs; and 578 full-EMI and 57 partial-EMI Ph.D. programs in Turkish HEIs. Given that the number of EMI M.A. programs in Türkiye was reported as 173 in 2015 (British Council & TEPAV, 2015), the extent of the increase becomes clearer – although it should also be recognized that, as declared in the British Council and TEPAV report, this number was based on the programs registered on the Masters Worldwide website, whose data must be less complete than that of the Study in Türkiye website (which probably did not exist in 2015). The exponential growth of EMI programs is also revealed by Yüksel, Altay, and Curle (2022), who report the number of EMI programs in 1999 and 2019 as 345 and 1452, respectively.

In Europe, the expansion of tertiary-level EMI programs is partly attributed to the Bologna process (Costa, 2012; Smit & Dafouz, 2012). The Bologna process was established with the purpose of increasing cooperation across HEIs in Europe, enhancing their competitiveness, while at the same time encouraging cohesion through the creation of compatible policies and structures (European Commission, n.d.). With increasing student mobility, universities wishing to attract international students have turned to EMI programs. Wächter and Maiworm (2008), for example, found that the most prevalent reasons for offering EMI programs in Europe included attracting international students, preparing domestic students for international markets, and promoting the profile of the institution to stand out among competing institutions.

Indeed, many universities advertise themselves as international, mainly in Europe but also in other parts of the world (Jenkins, 2011), and generally an essential component of this international character is EMI. Doiz et al.'s (2011) argument that "[t]he introduction of teaching in English has added to the attractiveness of many

European universities” (p. 347) is a case in point. The academic lingua franca status of English is corroborated by Jenkins’ (2014) observation that non-native speakers using English on university campuses probably outnumber native speaker students in universities around the world. As the increasing use of English is both a consequence of and contributor to internationalization, Pilkinton-Pihko (2011) asserts that educational institutions feel the pressure to offer courses or whole programs in English.

In addition to the internationalization process, Dearden (2015) argues that the introduction of EMI in many countries is driven by policy makers’ aim to achieve financial gains and prestige. Dearden (2015) warns, however, that the deployment of EMI may not be informed by careful consideration and planning into its implementation. Similarly, Macaro et al. (2016) argue that the rapid implementation of EMI in HEIs without adequate preparation neglects the need to prove its effectiveness as a new teaching approach for English-language education and puts students at risk of not comprehending the material being presented to them. These perspectives provide further support for Shohamy’s earlier argument in 2012 that the main drivers behind the spread of EMI have more to do with ideological and financial interests than the enhanced acquisition of academic knowledge, and that students with lower levels of English proficiency may be disadvantaged and discriminated against in EMI contexts.

To reiterate, while the number of EMI programs has been increasing globally, its effectiveness as a way to enhance language and content learning is yet to be established by further research. As Chin and Li (2021) suggest, the increasing use of English in HEIs around the world has transformed English from being “an ‘object’ of instruction in English classes to a ‘medium’ of instruction in subject content classes”

(p.1). Among the several perceived benefits that provide grounds for the decision by an increasing number of HEIs to offer EMI programs, one that is commonly seen as a byproduct is increasing L2-English proficiency among domestic and international students – and this is so despite the fact that developing L2 skills is not seen as an objective in definitions of EMI (Galloway, Numajiri, & Rees, 2020). Indeed, common among both learners and practitioners is the "expectation that English language proficiency will develop in tandem with subject discipline knowledge" (Rose & Galloway, 2019, p. 195). However, not only has this expectation not been corroborated by research, given that relevant studies have produced contradictory findings, but also it carries the implication that these students actually need to develop their L2-English proficiency. As a matter of fact, this latter point – limited English proficiency – has been identified as a challenge that has repercussions for the successful attainment and expression of content/disciplinary knowledge by L2-English students in EMI programs (Galloway, Kriukow, & Numajiri, 2017; Galloway & Rose, 2021; Wang, Yu, & Shao, 2018). How L2-English students perform in EMI is, therefore, an important question, and the next section provides a detailed presentation of studies comparing academic outcomes in EMI and non-EMI programs.

2.3.3 Academic outcomes in EMI and non-EMI programs

Several studies have been conducted to compare the academic performance of students in EMI programs with those in non-EMI programs. One group of studies suggests that studying through an L2 does not necessarily compromise academic outcomes.

Dafouz, Camacho, and Urquia (2014) compared the academic performance of Spanish students enrolled in History, Accounting, and Finance courses in EMI vs non-EMI programs. Academic performance was operationalized as the grades students received from these courses based on their coursework, participation, and final exams. Their data showed that students' academic performance is not compromised when taught through their L2 in EMI programs, as students in EMI and non-EMI programs obtained comparable grades. Similarly, Dafouz and Camacho (2016) compared the academic performance of students enrolled in Financial Accounting classes in EMI and non-EMI programs within the same university. The researchers argue that the fact that both classes were taught by the same instructor, and used the same syllabus and same assessment formats made the two groups comparable. The students in the EMI program were required to have a minimum proficiency of B2 as certified by an independent exam, or the university's in-house proficiency test. The results did not show significant differences between the academic performances of the two groups. This study, too, implies that studying through the L2 does not necessarily cause students' course grades to suffer. Similar results were obtained in other countries as well. Costa and Mariotti (2017) compared the performance of EMI and Italian medium instruction students enrolled in Economics classes taught by the same teacher and assessed through identical exams. The proficiency level of the EMI groups was reported as at least C1. Achievement of learning outcomes was operationalized as final exam scores. The study did not find significant differences between the two groups in terms of exam scores, and the researchers suggested that the claim that content learning is compromised by EMI is not supported by their findings.

Del Campo, Cancer, Pascual-Ezama, and Urquía-Grande's (2015) study in Spain even pointed to better grades in EMI programs. Students enrolled in an EMI Business Administration program were compared with those enrolled in a Spanish-medium Business Administration program in the same university. The participants were pair-matched in terms of variables such as gender, age, the grade for university enrollment, and type of enrollment. The study found that overall, the EMI group had a better academic performance in terms of their course grades than the non-EMI group.

However, the fact that the students enrolled in EMI and non-EMI programs were not the same students in these studies raises questions about whether there could be other factors at play. In fact, other studies which followed a similar methodology have noted caveats that should be borne in mind when interpreting their results. For example, Zaif, Karapınar, and Yangın Eksi (2017) compared the academic outcomes of students enrolled in an EMI Accounting course and those in a Turkish medium course. The academic outcomes were operationalized as midterm, final, and overall course grades. The assessment results revealed no statistically significant difference between the performances of EMI and Turkish medium students. This finding may indicate that language of instruction does not cause any hindrance in terms of the achievement of learning outcomes; however, the researchers also point out that the students in the EMI program had obtained much higher scores in the university entrance exam.

Other researchers have pointed to proficiency as a factor. Hernandez-Nanclares and Jimenez-Munoz (2017), for example, conducted a two-year project in a Spanish university and compared the performance of students in EMI and Spanish medium programs who took the same exams. They found that academic results of the

two groups were comparable in terms of exam results and pass-fail rates. However, a comparison between the higher performance groups showed that Spanish medium instruction students outperformed EMI students, which is attributed to the linguistic requirements of the classes, which were at the C1 level. This level was argued to be unattainable for students with low levels of English proficiency at entry into the program even though they obtained considerable linguistic gains over the course of their eight-month EMI program (Hernandez-Nanclares & Jimenez-Munoz, 2017). This means that comparison of average scores on exams may be concealing differences between sub-groups of students. Another study which emphasizes proficiency as a factor is Lin and He (2019). Lin and He compared the academic performance of students in a bilingual tertiary program and those in an L1 program, and investigated the impact of English proficiency on academic performance. The study showed that students in bilingual and L1 courses showed similar academic performance, but it also revealed that language proficiency affected academic performance in that higher proficiency learners obtained better academic results than lower proficiency learners.

Airey's (2015) study indicated that despite differences in language performance, from a disciplinary perspective, students in EMI vs L1 medium courses may perform similarly. The comparison of students who were taking one physics course taught in English and another in Swedish showed that all students were less fluent in giving English disciplinary descriptions. Some students failed to give descriptions only in English and switched to Swedish. While this was taken by Airey (2015) to show that disciplinary English may be problematic for students, irrespective of language, students' descriptions of disciplinary concepts were rated similarly.

Several other studies, on the other hand, showed that EMI may put students at a disadvantage in terms of content learning relative to instruction in the L1. Evans and Morrison's (2011) study in the Chinese context, for example, found that the participants faced substantial challenges particularly in the first term of their EMI program in terms of listening to lectures, partly due to their unfamiliarity with technical vocabulary, and they also seemed reluctant to speak in their classes. The challenges the participants faced were found to be substantially overcome around the time they were halfway through their university education, as they were now accustomed to the way lectures were conducted as well as to the discipline-specific language. However, most participants raised the idea that classes would be more engaging in Cantonese and their understanding was initially hampered by the use of English.

Hellekjær's (2010) study at Norwegian and German HEIs analyzed lecture comprehension in English vs the students' L1. The study found that, although Norwegian students are known for being highly competent in English, they too faced challenges with lecture comprehension in English, which was attributed partly to unclear pronunciation, unknown vocabulary, difficulty with understanding lecturers' thought processes and with notetaking.

Neville-Barton and Barton (2005) studied senior secondary students and third year undergraduate students learning mathematics in five different institutions. The study involved giving parallel mathematic tests to students in Mandarin and English and comparing their performance in these tests. The results indicated that in different institutions there was a difference of around 12 to 15% between students' performance in tests delivered in L2-English vs L1-Mandarin, with better performance in the latter.

In the Turkish context, Sert (2008) compared the effectiveness of three different approaches according to student and lecturer views: (1) EMI, (2) English-aided instruction, which involves using English materials and exams while delivering content in Turkish, and (3) Turkish medium instruction, which also involves L2-English language courses. The approaches were compared in terms of the extent to which they contributed to language and content learning. The study was conducted in the Faculties of Economics and Administrative Sciences of three universities and involved 527 students and 87 lecturers. Questionnaire and interview results showed that none of the three approaches was viewed as adequate in terms of achieving the dual purpose of language and content teaching/learning. EMI was seen to be ineffective in terms of teaching academic content due to problems such as failing to ensure a clear understanding of content, but to be the most effective of the three approaches in terms of the contribution to English language skills.

In their review paper that examined 83 studies in HE, Macaro et al. (2018) state that "[t]here is a dearth of research, using objective tests rather than self-report, on the impact of EMI on improving students' English proficiency. There is also a dearth of research on the impact of EMI on content learning." (p. 64). Macaro et al. (2018) found that in many countries there was a concern as to students' inadequate proficiency that could be costly in terms of their learning through English. This was reported to be the case in countries as diverse as Türkiye, Spain, France, Korea, Taiwan, and even Sweden (where English is believed to be spoken well by the general population). The belief that students' level of proficiency was not adequate to allow them to acquire content without the confounding effects of language was found to be shared by both lecturers and students themselves. The same review also includes studies that investigated content learning in EMI and concludes that while

there are studies that show a better performance by students when content is delivered in their L1, the limited number of studies and limitations in their designs make it difficult to arrive at a robust conclusion in terms of student learning in EMI versus L1-medium instruction. Based on the review of earlier studies, Macaro et al. (2018) conclude that “any cost-benefit evaluation of EMI is inconclusive at best and impossible at worst.” (p. 64).

Still, several studies have revealed challenges experienced in EMI. The next section presents these challenges.

2.3.4 Challenges in EMI

This section presents challenges that are encountered in EMI programs, focusing in particular on language-related challenges. As a matter of fact, as was also introduced in the section “Definitions of EMI”, “a widely purported benefit of EMI is that it kills two birds with one stone; in other words, students simultaneously acquire both English and content knowledge” (Rose et al., 2020, p. 2150). Some studies show that EMI is believed to increase L2-English proficiency. For example, Byun et al. (2011) points to overall satisfaction with EMI and improvement in students’ language proficiency as positive outcomes. Similarly, Pecorari and Malmström (2018) suggest that while the main purpose of EMI is not to teach English as an L2, students in EMI settings are provided with language support in the form of additional courses, which in turn helps students develop their L2-English. In terms of language skills, documents from several universities were found to indicate that EMI is expected to contribute to language development. However, Pecorari and Malmström (2018) also state that the idea that EMI will improve language skills for students due to exposure has not yet been backed up by sufficient research.

While EMI is believed to serve the purposes of content and language learning, many other studies have pointed to challenges in EMI. Chin and Li (2021) state that tertiary education is considerably more demanding in comparison to earlier levels of education in terms of both cognitive and linguistic requirements, given the level of processing required and the need to acquire discipline-specific competencies. Similarly, Dearden’s (2015) research for British Council in 55 countries has revealed diverse problems in many countries: inadequate educational infrastructure, shortage of teachers proficient in the language, no qualified criteria for students to maintain at least minimum language proficiency for EMI, few pedagogical guides and little or no place for EMI in initial teacher education. The report also shows that public opinion for EMI is not particularly favorable. Similarly, Byun et al. (2011) list students/instructors’ lack of sufficient language proficiency, shortage of linguistically and pedagogically qualified instructors, and lack of a support system for instructors as challenges in EMI. Several other studies too indicate instructors and students’ inadequate L2 proficiency as an important issue in the implementation of EMI (e.g., Costa & Coleman, 2013; Erling & Hilgendorf, 2006; Kerestecioğlu & Bayyurt, 2018; Moore-Jones, 2015).

In brief, studies in EMI settings have revealed that L2-English students face various challenges, among which language-related challenges are documented frequently. While lecturers’ English proficiency has also emerged as an issue, more frequently it is insufficient English proficiency among students that seems to cause concerns. Although students are provided with language support in various forms, including preparatory English education and English for academic purposes (EAP)/English for specific purposes (ESP) classes, insufficient proficiency seems to

continue to challenge students' content learning. The next section presents studies on language-related challenges in EMI.

2.3.4.1 Language-related challenges in EMI

The phrase "language-related" may be understood to include the effect of the spread of EMI on other languages. Indeed, there is a line of research investigating that issue in particular. For example, Li's (2012) study at a university in Hong Kong indicates that the spread of English is viewed in a negative light by many people due to English being seen as a threat to local languages. English has even been referred to as a "lingua frankensteinia" or pandemic" (Phillipson, 2009a; Phillipson, 2009b). Wilkinson (2013) also refers to domain loss in the L1 as one of the critical consequences of EMI, but states that while it is a national concern, it is unlikely to be a significant concern for individual institutions or students. The language-related challenges discussed below do not involve discussions of domain loss, but rather focus on the role that learners' and teachers' English proficiency plays in the successful implementation of EMI.

L2-English students in EMI HE programs are usually required to have a certain level of English proficiency before they can begin their programs, and that constitutes an essential difference between them and most language minority or immigrant students in mainstream classrooms receiving education in their L2. However, this does not necessarily mean that they are not confronted with language-related challenges in their academic studies. In fact, research has shown quite the contrary. The main findings that emerge from studies on the effect of limited language competence on EMI include the following: difficulty in understanding lectures and content learning, difficulty communicating and expressing ideas in

English, and difficulty with academic literacy skills such as essay writing. Students' limited language proficiency can also cause challenges for instructors, in terms of varying levels of proficiency among students and the bias caused by limited language proficiency in content assessments.

Pulcini and Campagna (2015) refer to insufficient command of English as "a major stumbling block" (p. 72) that hinders the successful implementation of EMI and make the following argument:

> implementing English-only programmes in contexts where neither lecturers nor students possess a near-native proficiency in English, EMI may result in low-quality teaching and learning, where lessons are watered-down, simplified presentations of highly complex, academic contents, and students' memorisation of terminology and set phrases without capability of elaborating on contents with an adequate linguistic richness and complexity. (p. 73)

Given its importance in terms of success of EMI programs, L2 proficiency has received a substantial amount of research interest. Challenges related to L2 proficiency in EMI programs have been shown in various contexts, such as Austria (Tatzl, 2011), Germany (Gürtler & Kronewald, 2015), Italy (Costa & Coleman, 2013), Spain (Lasagabaster, 2015b), Sudan (Alhassan, Ali, & Ali, 2021), Sweden (Söderlundh, 2012), and Türkiye (Kamaşak, Rose, & Sahan, 2021; Yıldız, Soruç, & Griffiths, 2017; Yüksel et al.,2021), among others.

Some studies used surveys and questionnaires to investigate the perspectives and attitudes of students and instructors. Costa and Coleman (2013) conducted a survey in Italy and found that while the EMI experience was generally rated positively, limited English competence among instructors and students was seen as a significant challenge in implementing EMI. Gürtler and Kronewald (2015) conducted surveys with instructors in Germany and found that the instructors identified students' insufficient command of English, increasing workload, and bias

due to language proficiency in assessments as the main difficulties with EMI. Tatzl (2011) investigated the perspectives of lecturers and students at a university in Austria and found that lecturers reported that teaching became more challenging due to varying levels of English proficiency among students, while students reported challenges with vocabulary and technical terms. Lasagabaster's (2015b) study at the University of the Basque Country, a bilingual university in Spain, found that instructors were concerned about the effects of insufficient English competence among students. Kamaşak, Sahan, and Rose (2021) conducted a questionnaire study with around 500 students in an EMI university in Türkiye. They found that while students in general stated not having significant language-related challenges, difficulty was experienced especially with productive skills. Yüksel et al. (2021) reported similar findings in that students reported being most challenged in terms of speaking and writing skills. Ekoç's (2020) questionnaire study with undergraduate and graduate students in EMI programs at a university in Türkiye revealed that more than half of the students attributed problems with EMI courses to inadequate English proficiency of lecturers and students. Kamaşak, Rose and Sahan's (2021) study at a foundation (private) university in Türkiye revealed that even students with high levels of proficiency perceived EMI to be challenging.

Comprehension challenges have been reported in several studies. Aizawa and Rose (2019) found that although all students experienced difficulties irrespective of their English proficiency, higher proficiency students had challenges with academic literacy, such as essay writing skills, whereas lower proficiency students had more language-related challenges such as understanding instructors and comprehending certain grammatical structures, among others. Comprehension problems were also observed by Chang (2010), who found that a large percentage of Taiwanese students

in an EMI program (around 40%) reported a comprehension level of only 50-74% and half of them stated that subject learning was not enhanced in EMI. While around 36% attributed their challenges to the inherent difficulty of the subjects, 64% of them felt that their limited L2-English proficiency contributed to the learning challenges they faced. Insufficient vocabulary skills have been detected as one of the contributing factors to comprehension problems. Yıldız et al.'s (2017) study at three EMI universities in Türkiye revealed that students had difficulty understanding content due to unfamiliar terminology. The students also reported that the English preparatory program was not sufficient in preparing them for their EMI courses.

There is evidence to suggest that limited proficiency in English can have negative impacts on students' ability to communicate ideas effectively and thus perform well academically, as well. Söderlundh (2012) observed that some Business Studies students at a Swedish university struggled to communicate in English, which may have affected their ability to effectively convey their ideas. Arkın and Osam (2015) found similar issues at a Turkish university, where limited English proficiency was reported to lead to lower test performance due to difficulty expressing ideas in written English. Alhassan et al. (2021) also found that Sudanese students enrolled in EMI business M.A. programs experienced challenges related to language, including difficulty with speaking and writing in English. These challenges were found to have a negative impact on their academic performance.

According to Kirkpatrick (2014), a language policy that enforces the use of a language in which individuals may have relatively low levels of proficiency may put students at a serious disadvantage. He notes that although students at the university level are often assumed to have sufficient English proficiency after meeting certain requirements or receiving pre-course language support, they may still require

ongoing language support throughout their studies. With a lack of support, various consequences may arise. Galloway et al. (2017) summarize the effects of limited command of English on student performance as follows:

- detrimental effects on subject learning and understanding lessons and lectures
- longer time to complete the course
- chance of dropping out
- problems communicating disciplinary content
- asking/answering fewer questions
- code-switching
- resistance to EMI. (p. 6)

It should be noted that there is also research that has arrived at different results. In relation to the language proficiency of learners and teachers, Wächter and Maiworm (2008) argue that language issues in EMI may not be as serious an issue as has been maintained by skeptics. In the surveys completed by institutional coordinators and program directors of HEIs around Europe, it was found that only a small percentage reported problems related to language proficiency of domestic students (4-8%) and of international students (13-21%). It should be noted here that insufficient L2 proficiency of domestic students was found to be a more common issue in Türkiye (21%) in comparison to the European average (4-8%). This large study, which involved 851 institutions and 852 programs, presents a general picture of the EMI programs around Europe; yet, since the surveys did not involve students and teachers themselves, it does only provide a partial perspective – that of program directors and coordinators – based on the self-report of the participants.

2.3.4.2 EMI instructors' views regarding their role

Although EMI instructors may be seen to occupy a position where they can address language-related challenges of L2-English students, several studies have shown that instructors often view language teaching as not one of their responsibilities and focus mainly on teaching content.

In the Italian HE context, Costa (2012) found in a study involving three universities that although instructors were actually observed to be involved in the teaching of linguistic forms to some extent, they stated that their interests lay in teaching content only and they did not see language teaching as an aspect of their practices. Airey (2012), interviewing ten physics lecturers from four universities in Sweden, found that they did not view language teaching to fall under their responsibility, and reported not feeling comfortable correcting their students' English. In Spain, Otto and Estrada (2019) found that EMI lecturers saw themselves as primarily responsible for the teaching of content, and thus felt that language-related issues were not supposed to be on their agenda. Wilkinson (2013) points out that EMI subject lecturers at a Dutch university rarely viewed improving learners' proficiency in English as a responsibility. Dimova (2020) found in an EMI university in Denmark that since lecturers believed that students' proficiency in English developed over time, they attached more significance to academic and disciplinary knowledge construction. In the Turkish EMI university context, Duran, Kurhila, and Sert (2022) observed that teachers were more oriented towards the content, but not the language features, of student talk. In a study of two Spanish EMI universities, Doiz, Lasagabaster, and Pavón (2019) discovered that EMI lecturers generally do not place emphasis on the formal aspects of their students' language use, nor do they penalize language errors in written or oral assessments unless the errors are

considered basic. The reasons why they avoid penalizing language errors include their belief that (a) teaching English falls outside their responsibility, (b) they are not trained to teach English, and (c) focusing on language may discourage prospective students who doubt their proficiency from taking their classes. Doiz and Lasagabaster (2020) note that EMI may be less effective than CLIL in improving L2 competence, possibly because content teachers do not see themselves as language teachers and prioritize content over language. For this reason, they suggest that in an ideal condition, EMI teachers should have expertise in both language instruction and content instruction, and recommend further research on the integration of language and content in EMI. In this regard, Altınmakas and Bayyurt's (2019) suggestion that faculty members should not solely rely on language teachers or blame preparatory schools for students' writing weaknesses, but should actively help students improve their writing is an important call.

2.3.4.3 Strategies to overcome language-related challenges in EMI

Based on the studies reviewed in the previous sections, it must be clear at this point that EMI can present linguistic challenges for both students and instructors. Several studies provide examples of these challenges and strategies that have been used to mitigate them. Strategies to address linguistic challenges in EMI include collaboration between language and non-language specialists, language support for students and instructors, simplification of content, content redundancy (i.e., including more repetition and paraphrases) and switching to the L1 or using materials in the L1.

Barrios, López-Gutiérrez, and Lechuga (2016) investigated the challenges that were faced by students and instructors at a B.A. program in Primary Education.

The students noted that the instructors' English proficiency was not high, that instructors used Spanish in classes that were supposed to be taught in English, and that the program, which was partially taught in English, did not contribute significantly to their L2-English proficiency. Similarly, the participant teachers pointed to the importance of developing their own L2-English skills, the challenge of conducting classes with students with varying levels of L2 proficiency, and the students' weaknesses in terms of engaging in demanding oral and written tasks in the L2. The researchers report an innovative project that contributed to the mitigation of these challenges and improvement of the effectiveness of the program. This project included more collaboration between language and non-language specialists and language support for students and instructors. This study, therefore, points to the benefits of ongoing language support in order to alleviate the linguistic challenges that may be faced by both students and instructors in EMI programs.

Pulcini and Campagna (2015) report the findings from a small-scale survey in the Italian EMI HE context. Lecturers reported that inadequate command of English among students emerged as a cause of challenge to enhancing subject knowledge of their students. Lecturers tried to address this challenge partly by simplifying content and adapting their content delivery.

Arkın and Osam (2015) found in a Turkish EMI university that students may develop a limited understanding of, or may even misunderstand, content due to insufficient proficiency. The strategies used by the instructors to facilitate students' understanding included reducing the speed of their content delivery and using self-repetitions (in similar words or via paraphrasing), which resulted in the allocation of more time for the delivery of the same content in EMI classes in comparison to Turkish-medium classes.

Hu, Li, and Lei (2014) conducted interviews with students and instructors from parallel EMI and Chinese medium instruction programs at a university in China. They found limited English proficiency among both students and instructors, who reported encountering problems such as explaining terminology and discussing discipline-specific content. The strategies that instructors used to overcome language challenges involved simplifying content and switching to Chinese, while strategies used by students included requesting Chinese explanations of difficult terminology, using textbooks and materials in Chinese, and translating content into Chinese.

General suggestions to address language-related challenges in EMI also come from Hu (2019). Hu reviewed studies conducted in EMI contexts and derived three main suggestions from them: (1) EMI policy should be established based on empirical evidence rather than assumptions as to its advantages, (2) both students and instructors should have a sufficient level of English proficiency, as otherwise both content and language learning will be negatively affected, and (3) students should be provided with language instruction to make sure that they have attained adequate proficiency for EMI – although research has yet to discover what level that might be.

2.3.5 The interaction between (academic) language proficiency and success in EMI

Institutional practices vary in terms of language requirements and language support in EMI. Different models of L2 requirements/support in EMI are described by Macaro (2018, 2022) as follows:

- The pre-institutional selection model, which requires language proficiency certification to be accepted into the program. Those who fail to meet the minimum language requirements are denied access to the program.

- The preparatory year model, which involves offering intensive English language courses to students before they are able to begin their EMI programs.
- The institutional concurrent support model, which does not necessarily require a predetermined language proficiency but involves providing support classes in the form of English for EAP or ESP alongside the EMI curriculum.
- The multilingual model, which involves offering courses in the L1 and in English, or courses may involve a considerable amount of English as well as some L1.

Although variations exist between institutions, many EMI programs require incoming students to meet a minimum level of English proficiency. Often, students have the option to either certify their language proficiency through international tests or to take the institution's in-house proficiency test. Several studies investigated the relevance of international tests to EMI settings and the predictive power of international and in-house English proficiency tests in terms of academic success in EMI programs.

2.3.5.1 Predictive power of proficiency tests

Li (2017) and Li (2018) found that English proficiency is a significant predictor of academic performance as measured by final exam scores. Both statistical analyses and student interviews showed that low academic performance was associated with low levels of English proficiency. While the EMI program was found to contribute to the learners' English language skills, limited proficiency still emerged as a significant factor influencing the effective acquisition of content knowledge. Similarly, Martirosyan, Hwang, and Wanjohi (2015), investigating the relationship

between perceived language proficiency and grade point average (GPA) among 54 international students enrolled in a university in the United States, found that the two were related in that students with better language proficiency tended to have higher GPAs. The authors, therefore, suggest that although there may be other factors that impact academic performance, language proficiency is instrumental. Given the relationship between language proficiency and academic outcomes, one important question for EMI programs is how different tests may help ensure that students arrive at EMI programs with sufficient English proficiency.

To gain insight into how useful international tests of English are as a requirement in non-Anglophone contexts, Dimova (2020) investigated the relevance of these tests in the University of Copenhagen, and found that given the importance attached to English language skills for content mastery and academic success in EMI programs, international tests of English may be used as a screening tool that can establish equality among students from different lingua-cultural backgrounds. Given that the TOEFL and IELTS are commonly accepted proficiency tests, several studies have focused on the predictive power of these tests.

Cho and Bridgeman (2012) investigated the relationship between TOEFL IBT scores and academic outcomes in the form of GPA. The results they obtained from 2594 university students showed that TOEFL IBT scores explained a small amount of variance (3%) of GPA, and predictive validity of the TOEFL IBT was not strong. However, using expectancy graphs, they also showed that students with high TOEFL IBT scores tended to be in the top 25% GPA group, and were considerably less likely to be in the bottom 25% GPA group. This study indicates that while language proficiency per se may not predict academic success, a high level of proficiency seems to put students at an advantage in terms of academic outcomes.

Similarly, Light, Xu, and Mossop (1987) analyzed the relationship between the TOEFL scores and the GPAs of international students in a university in the United States, and found a significant correlation between the two, albeit with a small effect size. The fact that higher correlation scores were obtained in humanities/fine arts/social sciences than in science/math/business implies that the role of language proficiency may vary depending on the academic field. Additionally, Light, Xu, and Mossop (1987) also point out that as some students with relatively lower levels of proficiency were able to obtain higher GPAs, other factors apart from language may be effective in academic performance, and criteria other than GPA may be important indicators of academic success. That GPA may not provide an accurate representation of academic outcomes is implied in Ekoç's (2020) study with students in EMI programs at a university in Türkiye, too, as students reported that they only memorized content and forgot it after assessments.

Yen and Kuzma (2009), intrigued by the observation that language skills seemed to create problems with Chinese students' learning despite the requirement of a minimum IELTS score of 6.0 to enter the programs, analyzed the correlation between IELTS scores and GPAs of Chinese international students at a UK university and found a significant relationship between these two variables. IELTS scores were found to have a significant correlation with GPA in the first and second semesters, but for the second semester the correlation was weaker. This finding implies that students may have developed their language skills, but also that there may be other factors at play that impact students' academic performance as they spend more time in the EMI program. The predictive validity of the IELTS in terms of academic success was also investigated by Schoepp (2018), with the participation of 953 undergraduate EMI students at a university in the United Arab Emirates. The

study found that IELTS scores were a significant predictor of academic success and that the group with higher IELTS scores obtained significantly higher GPAs than the lower proficiency group. The researchers suggest that for lower proficiency learners, a bilingual method rather than EMI may be a more viable teaching option.

Apart from international tests of English proficiency, such as the TOEFL and IELTS, EMI universities may also hold their own in-house tests. For example, Bo, Fu, and Lim (2022) analyzed the proficiency scores in the in-house language test and GPAs of 514 first-year undergraduate students in a public university in Singapore. They found a significant correlation between GPA and proficiency scores, which explained 6% of variance in GPAs. The effect of proficiency in academic performance was found to be higher in social sciences than in business/science and technology, corroborating the finding by Light et al. (1987).

It might also be argued that ESP tests may provide more useful information for EMI programs than general L2-English proficiency tests. A study by Xie and Curle (2022) investigated whether Business English proficiency scores predicted academic success in EMI in a study conducted with 100 second-year Business Management students. The results showed that there was a statistically significant relationship between proficiency scores and end-of-year content test scores.

Many EMI programs in Türkiye set minimum L2 requirements from different tests, including international tests and in-house tests. While accepting scores from different tests may be practical, it is usually not clear how score equivalence between different tests is established. For example, Kamaşak, Sahan, and Rose's (2021) study at an EMI university in Türkiye revealed that students who submit in-house proficiency test results had more difficulty in their EMI programs than those with TOEFL or IELTS scores. Similarly, Tweedie and Chu (2019) compared the

performance of three groups of first-year engineering students, as defined by their course completion and GPAs. The groups were categorized based on the English proficiency exam through which they were accepted into their programs: IELTS, TOEFL, and successful completion of an EAP program. The results revealed significant group differences, with students accepted via TOEFL and IELTS scores completing more courses and having higher GPAs in three of the ten courses compared. This study points to the difficulty of ensuring equivalence between different measures of language proficiency. While EMI programs may decide on minimum scores based on score alignment with the CEFR, as Deygers, Van Gorp, and Demeester (2018) argue, the alignment of two different language tests to the same CEFR level does not necessarily mean that the tests are comparable in terms of content or construct.

To summarize, English proficiency at entry into EMI programs seems to predict academic outcomes, although the variance explained by them may not always be substantial. Additionally, students accepted into an EMI program through different proficiency tests may actually have different sets of L2 competences, and students with higher proficiency tend to obtain better academic outcomes. There are obviously other factors as well that determine academic success, but given the contribution of language proficiency, it is important to understand what minimum language requirement would ensure that failure in EMI is not attributable to insufficient proficiency – if such a level can be delineated.

2.3.5.2 Is there a proficiency threshold level for success in EMI?

Variations exist between institutions in terms of minimum proficiency score requirements. Sahan et al. (2021) studied EMI in 104 universities in 52 countries.

While most institutions were found to require students to take an in-house exam or submit a score from a recognized international English language test, score requirements varied substantially. Language score requirements on the IELTS ranged between 4.5 and 7.0, while those on the TOEFL iBT ranged between 56 and 100. When the minimum score requirements were mapped onto the CEFR, B1 and B2 emerged as the most commonly required levels. Given such variations, it could be expected that students' EMI experience will also vary. To ensure that students benefit from EMI, it is important to understand what level of language proficiency is needed. While the relationship between English language proficiency and success in EMI programs has been investigated by several studies, the issue of whether there exists a threshold of English language proficiency after which learning is not hindered due to language-related challenges has hitherto received little research attention. Harsch (2018) argues that since language proficiency is a complex construct, it is impossible to establish a threshold in terms of student language proficiency required for success in EMI programs and very difficult to obtain comparable results from different tests; yet, there are research studies, albeit few in number, that address this question.

The idea that there may be a threshold level of proficiency is supported by Trenkic and Warmington (2019), who found that the difference in language and literacy skills between L1-Chinese and L1-English students in UK HE is reflected in academic outcomes. The finding that language and literacy skills were not significant predictors of academic outcomes for the native group, but that they were for the L2-English group, was taken to imply that there is a threshold level of language proficiency after which learners are not disadvantaged in terms of achieving academic outcomes due to language.

Deygers, Zeidler, Vilcu, and Carlsen (2018) examined language requirements for university entrance in twenty-six European countries. They found that universities were generally autonomous in establishing language requirements, but their decisions did not seem to be based on well-informed analyses of their needs. While Deygers et al. (2018) pointed to the lack of a uniform policy, they report that the CEFR B2 level was the most common minimum requirement. Still, the participating institutions were doubtful about the B2 level being sufficient for success in EMI programs. On the other hand, B2 was determined as a sufficient level by Harsch et al. (2017). They studied the relationship between TOEFL iBT scores and academic success of students in a UK university, and found the minimum test score requirement of B2 to be appropriate as a threshold level of postgraduate studies. Similarly, the minimum proficiency required to prevent failure due to language hindrance was suggested to be B2 by Carlsen (2018), which implies that students at the B2 or higher levels can manage their studies without experiencing language-related challenges. However, since the study was based on the participants' self-reported scores and self-assessment of their academic success, the results should be approached with caution.

Other studies showed that B2 may not ensure that students will not be linguistically challenged in EMI. In their study of seven universities in Türkiye, Yüksel et al. (2021) found that EMI engineering students at the CEFR C1 level reported significantly less difficulty in comparison to lower proficiency levels, and in the case of social sciences students, the impact of linguistic challenges decreased significantly with each one-CEFR-level increase, e.g., from B2 to C1. This study implies that even after the B2 level, challenges may persist, but to a lesser degree. Similar results are reported by Aizawa et al. (2020) in the Japanese EMI context.

Their study at a business management program of a Japanese university showed that while there is an obvious correlation between L2 proficiency and challenges (i.e., increasing language proficiency results in less difficulty with learning), it is difficult to identify a discernible level of proficiency after which challenges are greatly reduced. Even learners at the B2/C1 levels reported that they experienced language-related challenges while learning content in their EMI programs (Aizawa et al., 2020). The authors suggest that EMI lecturers take into account the language-related challenges experienced by L2-English students in EMI programs and make accommodations accordingly.

In brief, while some studies identified the B2 level as a threshold after which language proficiency does not negatively influence academic outcomes, others pointed to challenges even above B2.

The next section focuses on content assessment in EMI, in general, and how language of assessment may impact performance in content exams, in particular.

2.3.6 Assessment in EMI

As is presented in previous sections, the challenges experienced by students and instructors in EMI programs have received substantial attention, particularly in recent years, in response to the growing numbers of such programs, but also likely because of the limited planning and deliberation that go into the design of EMI programs, which in several cases are initiated hastily in an attempt to be a part of the internationalization process and to receive higher numbers of international students. Many of these studies have focused on learning and teaching in EMI programs. Assessment in EMI programs, on the other hand, remains an area in which more research focus is needed. As Xiao and Cheung (2021) suggest, assessment practices

have implications for both students' learning processes and learning outcomes, and thus they are as significant as other components of learning and teaching.

Research has investigated the types of questions used by teachers in EMI contexts. Hu and Li (2017) examined the relationship between language of instruction and the syntactic and cognitive complexity of teacher questions and student answers in two universities in China. The languages of instruction in the courses were categorized as English medium, Chinese medium, and English-Chinese medium. The results indicated that lower-order questions with similar syntactic complexities were used frequently by teachers irrespective of the language of instruction. However, there were differences in terms of student responses in that responses in Chinese were found to have more cognitive complexity, and students were more likely to remain silent in response to questions in English medium interactions. A similar study was conducted by Hu and Duan (2019). They studied the cognitive and linguistic complexity of questions and responses in twenty EMI courses in a university in China. The study found that the cognitive and linguistic complexity of teacher questions and student responses was low. That is, questions tended to be lower-order questions that only required responses with lower levels of cognitive complexity. The researchers concluded that the types of questions and responses in EMI classrooms did not seem to serve the dual purpose of EMI to enhance content and language learning. Also, Pun and Macaro (2019) found that there was a relationship between the use of the L2 in the classroom and the cognitive level of the questions asked by teachers, in that a higher amount of L2 use was associated with a greater use of lower-order questions.

Another significant issue regarding assessment in EMI is fairness. Ball and Lindsay's (2013) study with lecturers at the University of the Basque Country

showed that the lecturers were concerned about fairness in both summative and formative assessments. A large majority of the lecturers identified writing in English as very challenging for their students, and preparing exams as a difficulty for themselves. The authors concluded that because of issues related to the linguistic demands of assessments, the lecturers had doubts about the fairness of exams, particularly when questions required long written responses. The issue of fairness was also raised by Macaro et al. (2016) in the Turkish EMI context. They conducted case studies with instructors from EMI HEIs in Türkiye. The instructors pointed out that some students were challenged in understanding exam questions – despite the fact that they tried to ask simple questions – and failed the exams as a result of not having sufficient vocabulary knowledge. The instructors also reported translating key vocabulary in exam questions into Turkish, despite doubting the appropriateness of doing so.

Given that L2-English students may be disadvantaged in content assessment, researchers have pointed to potential uses of multilingual and translingual practices in assessment. Cots (2013) argues that the requirement for a single language in teaching and assessment in policy documents conveys the perception that using multiple languages for such purposes is unnatural. Shohamy (2012) states that fairness and validity become questionable when English is used in tests assessing second or third language speakers of English because their performance on such tests has been shown to be lower in comparison to bilingual tests or tests in their stronger language. That is why Shohamy suggests that bi/multilingual assessments be incorporated in EMI classes so that students with limited proficiency in the language of teaching are given the opportunity to show their true academic knowledge. Indeed, more research is needed to examine the viability of such options. In that regard,

Lasagabaster (2022) points to the paucity of research into assessment practices in EMI universities, and argues that there are many questions that have yet to be investigated, including the use of translanguaging, viability of multilingual practices in the presence of students from various L1 backgrounds, lecturer perspectives on nonstandard ways of assessment, and international students' views about the use of L1 by home students in exams.

2.3.6.1 Language of assessment and test performance

It is very difficult to disentangle language knowledge from content knowledge, given that (written and spoken) language is the most common medium through which knowledge is expressed. In other words, since language serves a mediating role in the expression of content knowledge, testing bilinguals in a language in which they may not best express what they know raises validity questions – as what the learner has produced may not totally and accurately represent what they actually know about the topic in question. Thus, the assessment of students' content knowledge and academic achievement in the L2 remains a controversial issue. This issue has been taken up to a greater degree with minority, immigrant and refugee students enrolled in mainstream classes, but the potential mediating role of proficiency and language of testing remains an under-researched issue in other EMI contexts (Lo et al., 2021). This section is devoted to studies that have investigated the relation between language of assessment and academic outcomes.

Studies of L2 students in mainstream classes have found that students who are not proficient in the language of the test may perform poorly. Brown (2005) found that English language learners (ELLs) failed to perform within the range of fully proficient speakers on a math test that required literacy skills. This was

attributed to the linguistic demands of the test, leading Brown to suggest that, unless it is ensured that ELLs have acquired grade-level academic English skills, tests requiring advanced literacy skills may disadvantage ELL students and risk labeling them as low performers. Attar et al. (2022) also looked at the effect of testing language on student performance, with thirty-two Syrian students in the Netherlands taking academic level appropriate tests (i.e., sixth, seventh, and eighth-grade verbal mathematical problems) in either Arabic or the school language. The students were found to perform better on the Arabic version of the test, pointing to a significant effect of the testing language on student outcomes in content assessment. Based on these results, the authors point out that bilingual students' true cognitive and academic abilities may be masked if they are tested using only the school language rather than their native language.

Similar results have been obtained in K-12 CLIL settings. Otto and Estrada (2019) conducted interviews with content teachers in high school CLIL programs. These teachers expressed a strong interest in and concern about assessment issues, and complained about a lack of clear guidelines. The authors noted that essay-type questions, which require students to demonstrate their content knowledge through language production, may be difficult for students with limited proficiency in the L2. The teachers involved in the study shared this concern and attempted to incorporate other types of questions that do not require L2 production to alleviate the impact of essay-type assessments on student performance. Lo and Fung (2018) investigated the cognitive and linguistic demands of around 5000 questions from junior and senior secondary school Science and Biology textbooks and a high-stakes public examination taken prior to tertiary education. They found that as the language demands increased, the performance of CLIL students decreased, which raises

concerns about the validity of examinations in the L2 for students with lower English proficiency, who may be disadvantaged in demonstrating their true subject knowledge, particularly in questions with high linguistic demands.

Studies that compared performance in assessments in L1 vs assessments in L2 have also provided evidence that L2 students may be challenged in assessments in the L2. Gablasova (2014) asked high school students in a CLIL setting to respond verbally to questions about two texts in either their L1-Slovak or L2-English. The responses of this group were compared to a control group who were given the texts and questions in Slovak only. The results indicated that the students' responses in the L2 were less accurate, less fluent, less formal, and less discipline-appropriate compared to the control group. Gablasova (2014) suggested that insufficient proficiency in the L2 may hinder the transfer of literacy skills from the L1 to the L2, causing difficulties for even advanced users to effectively communicate their content knowledge. Lo et al. (2021) compared the performance of students in L1-Chinese and L2-English versions of Biology papers in a high stakes university entrance examination that is given based on the language of instruction of secondary school. The results showed that an increase in linguistic demand was accompanied by a greater decrease in exam performance in the English version than the Chinese version, and that in both tests performance was significantly lower in questions requiring language production than those requiring comprehension only, such as multiple-choice questions. This was taken to imply that as the cognitive and linguistic demands of questions increase, the effect of language becomes more pronounced.

Language-related challenges in assessments have been observed in tertiary-level EMI settings, too. Tatzl (2011) investigated lecturer and student perspectives

on assessment practices in M.A. courses at a university in Austria. It was discovered that comprehension problems were common in exams as students had difficulty understanding questions. It was reported by lecturers that answering exam questions was a challenge that could be attributed to limited language skills, because even if students knew the answer, inability to express it in English emerged as a concern. In relation to specific challenges that were faced in terms of exams, comprehension of exam questions, time management, vocabulary and technical terminology, and expressing answers in English emerged as the most prominent issues.

2.3.6.2 Accommodations in assessments in the L2

Given that less-than-optimal proficiency in the L2 may impact students' exam performance, exam accommodations may help mitigate such effects in tasks that are intended to assess students' content knowledge. Abedi, Hofstetter, and Lord (2004) review experimental studies on assessment accommodations for ELLs, and discuss several accommodation strategies in terms of effectiveness, validity, feasibility, and differential impact, based on the findings that ELLs tend to score lower than native English speakers in subject assessments and linguistic complexity raises validity and reliability concerns in such assessments. The authors identify issues and challenges with different accommodations. They state that translations may not result in equivalent forms, and are difficult and time-consuming to develop. Additionally, if students have received content instruction in their L2-English, they may not be familiar with concepts and content-specific vocabulary in the L1, which raises validity questions. Providing extra time, allowing the use of published dictionaries, and including glossaries are some other accommodation strategies, but they may not always be feasible for different groups of students. For these reasons, Abedi et al.

(2004) suggest taking student characteristics into account, instead of a one-size-fits-all approach, in making test accommodations for students from different language backgrounds. This suggests that contextual factors and assessment purposes should be considered when accommodations are to be made in tests.

Another type of accommodation that is used in EMI contexts is simplifying language. Abedi and Lord (2001) investigated the effect of language on eighth grade students' math performance and what effect simplifying the language of questions would have on students' perceptions and performance. It was found that there was a significant difference between the exam performances of ELLs and proficient speakers, and that students not only tended to prefer linguistically simplified versions of the questions but also performed better in the simplified version, with low performing ELLs benefiting more from the modifications.

The use of students' L1 has also been suggested as an accommodation strategy. Van der Walt (2006) studied student preferences at Stellenbosch University, where the language policy involves three options: Afrikaans only, English only, and bilingual. An overwhelming majority, 88%, of students agreed that doing assignments and tests in their preferred study language was easier for them. Also, 64% reported that they translated study materials if they were not in their preferred study language. These findings indicate that students draw upon their L1 while studying for their courses, and prefer to take tests in their study language. Van der Walt (2006) identified limited proficiency as an issue that needs to be dealt with, and suggested that bilingual students may benefit from bilingual strategies that are informed by more research. Similar arguments were made in the United Arab Emirates context. Belhiah and Elhami (2015) investigated the effectiveness of EMI in the United Arab Emirates through questionnaires which involved questions about

assessment. While most students reported no issues with understanding exam instructions and responding to questions, when asked about their preferences as to the use of Arabic in examinations, around half of them were favorable towards the idea since responding in Arabic could provide advantages such as taking less time to answer and enhancing their ability to clearly express their knowledge. In addition, only 48% of the instructors reported that students could comprehend and answer exam questions in English. Similarly, more than half of the instructors were of the opinion that students would answer questions in Arabic more successfully than they would in English. One instructor also stated that some students failed in exams due to lack of comprehension or inability to express themselves fully.

However, the use of students' L1 is an accommodation strategy which requires careful consideration. While acknowledging that learners' L1 is used in content assessments in some CLIL courses with the justification that it allows for the communication of a deeper understanding, Coyle, Hood, and Marsh (2010) refer to several problems with this approach, e.g., having received content education in their L2, learners may not be familiar with content-specific vocabulary in their L1, it may be very difficult or impossible to implement in classrooms where students from various L1 backgrounds are present, and it may fail for pedagogical reasons, as a main objective in CLIL programs is to develop the language skills to function effectively in an L2.

Lastly, it should be recognized that these accommodations only become necessary when students seem to be disadvantaged because of lack of sufficient proficiency. The study by Tatzl and Messnarz (2013) is a case in point. They designed an experimental test involving physics and science problems in two versions, one in English and one in German, and administered them randomly to L1-

German L2-English students enrolled in an EMI program in the University of Applied Sciences, Graz. They found no statistically significant difference between the participants' performances in the two versions of the test, which implied that students' comprehension and solutions given to the problems were not debilitated by the language of the exam and that test accommodations were not necessary for them. As for students' English language proficiency, it is implied that they had a high proficiency. Tatzl and Messnarz (2013) note that their finding can also partly be attributed to the language support the students received in ESP classes within the program.

2.3.7 The presence of multilingual and translingual practices in EMI

Several researchers who have investigated the presence and function of multiple languages in EMI have used the term "code-switching" to refer to this phenomenon. Wei and Martin (2009) argue that if not for top-down policies associated with monolingual ideologies that prohibit the use of the L1, code switching instances could go unnoticed within classrooms just like they do in bilingual speech community contexts. Code-switching has been found to be rather common and to serve several functions in classroom settings. These include scaffolding, supporting comprehension, creating a comfortable setting, and maintaining discipline (Lasagabaster, 2013); explaining unknown lexical items or linguistic terms and building rapport with students (Tien & Li, 2013); translation and explaining grammar or vocabulary (Tian & Kunschak, 2014; Macaro, Tian, & Chu, 2020); explaining cognitively demanding content (Kim, Kweon, & Kim, 2017); providing feedback to student responses in the L1 (Macaro et al., 2020); contributing to students'

confidence (Tien & Li, 2013) and thereby improving the efficiency of instruction and enhancing student learning.

In Tian and Kunschak (2014), Kunschak refers to the different perspectives as regard to code-switching: it is still seen as a deficiency by some, whereas for others it can be "a demonstration of competent bilingualism" (p. 54). Kunschak emphasizes the importance of optimal and principled use of code-switching depending on student-related and course-related variables, such as proficiency and course objectives (e.g., L2-English courses vs content courses). Similarly, Kim et al. (2017) highlight the importance of L1 as an effective tool that may help improve the efficiency of instruction in various ways (e.g., clarification, rapport, and classroom management). In this regard, they point to the necessity of making sure that the development of students' content knowledge is not hampered by an insistence on the English-only policy where L1 may offer benefits. They state that the use of the L1 in a bilingual or multilingual setting should be considered a valid and useful teaching strategy, but it has not been recognized as such in Korean engineering schools, where the focus on English language development has led to a decrease in the learning of content and overall quality of education in these schools (Kim et al., 2017).

Recently, studies have used the term "translanguaging" rather than "code-switching" to refer to the use of features associated with different named languages within the same classroom. A number of studies have found that English-only language policies are resisted and translanguaging is present in EMI programs in various contexts, including Denmark (Dimova, 2020), Sweden (Söderlundh, 2012), Spain (Doiz et al., 2019) Japan (Aizawa & Rose, 2019), China (Galloway et al., 2017), Korea (Byun et al., 2011), Hong Kong (Pun & Macaro, 2019), the Ukraine (Tarnopolsky & Goodman, 2014), and Türkiye (Ekoç, 2020; Yıldız et al., 2017;

Yüksel et al., 2021). However, the extent to which L1 use is allowed may vary between instructors (Galloway et al., 2017). Interestingly, in Ekoç's (2020) study in an EMI university in Türkiye some students reported that lecturers used only Turkish in supposedly EMI courses.

Translanguaging has been found to serve various purposes. In a study conducted by Reilly (2021) in Malawi, it was found that translanguaging occurred in both the social and academic domains in universities, allowing for more effective learning and teaching as well as highlighting students' identity. Boun and Wright's (2021) study in Cambodia in the Master of Education degree program found that instructors used Khmer in addition to English for purposes such as ensuring understanding of the content and involving all students. A large majority of the students considered the use of Khmer to be helpful for their comprehension, which indicates favorable attitudes towards translanguaging, particularly given that several students expressed that they were unable to fully understand the English texts they read. Dalziel and Guarda's (2021) study at the University of Padova in Italy identified various functions of translanguaging practices, including ensuring comprehension (e.g., reading a text in English and discussing it in Italian), verbalizing content knowledge (e.g., explaining a term in Italian to develop a deeper understanding before reformulating it in English), and appealing for assistance (e.g., asking for the translation of a term), among others. Toth and Paulsrud's (2017) study in Sweden found that while school policies promoted the use of English only, both students and teachers engaged in language practices that reflected their acknowledgement of the facilitating role of Swedish. Toth and Paulsrud (2017) suggest that by encouraging students to use all their languages in learning content, students are afforded "the means to make use of all their linguistic resources in order

to facilitate both interaction and learning" (p. 216-217). In other words, students' use of their whole linguistic repertoire can allow them to access EMI content and facilitate participation in lessons.

Lin and He (2017) found that even when multilingual practices involve language resources not shared by all participants, including the teacher, "their willingness to learn from each other's linguistic/cultural resources has fostered a classroom atmosphere wherein both teacher and students are learning and expanding their multiple resources for communication" (p. 243). An example of this which they report is one episode in the lesson where a student uses the Urdu equivalent of a word to help explain it to their peers, showing that the use of multilingual practices can facilitate the collective construction of meaning. Lin and He (2017) state that if the student had been prevented from using the Urdu word by strict adherence to the monolingual ideology, the collective construction of meaning and the scaffolding function of this practice would have been interrupted.

Wang and Curdt-Christiansen (2019) carried out an ethnographic study in a Business and Management undergraduate program and identified several functions and advantages of translanguaging. Their study was based on classroom observations, semi-structured interviews, and analysis of documents. They found that translanguaging was evident in classes, with English and Chinese playing complementary and interchangeable roles. They categorize the translanguaging practices observed within the study into four categories: (1) bilingual label quest (the introduction of terminology and key concepts in one language and elicitation of the equivalent in the other language), (2) simultaneous code-mixing (shuttling between the two languages in conveying meaning), (3) cross-language recapping (delivering content in one language and then repeating or elaborating on it in the other), (4) dual-

language substantiation (using both languages to construct knowledge, e.g., explaining the concept in English and giving relevant examples from the Chinese context). Wang and Curdt-Christiansen (2019) also report that although they identified mistakes in the use of English in the assignments by students, course instructors did not correct them as they attached more importance to the expression of meaning instead of focusing on language errors. They draw attention to studies which indicate that the monolingual approach in EMI programs which adhere to an English-only policy may impede students' learning of content and to studies which have shown that EMI does not result in significant gains in terms of English proficiency. On these grounds, they argue that students' content learning and language skills may be facilitated with due recognition of translanguaging and bilingual programs (Wang & Curdt-Christiansen, 2019).

Siegel (2022) conducted online surveys with students from three different countries, namely Indonesia, Spain, and the United States, to investigate their linguistic preferences while taking notes. While around three quarters of the participants were found to prefer to take notes in English when listening to English, others engaged in some form of translanguaging, either by taking notes in their L1 or by using both English and the L1. Siegel (2022) suggests that while taking notes, students may be allowed to draw upon their L1 particularly at lower proficiency levels, to use both languages at intermediary levels, and to transition to the L2 at higher proficiency levels.

Muguruza, Cenoz, and Gorter (2020) investigated the languages used by the students and the teacher in an English medium Social Education course in a university in Spain, where three languages, i.e., Basque, Spanish, and English, were used. Some students expressed exhaustion due to having to put in extra effort to

understand the explanations of the teacher, who almost always stuck to the English-only policy, but were relieved thanks to their use of the L1 to complete tasks in class. The researchers argue that pedagogical translanguaging could mitigate the negative effects of insufficient proficiency, but they also point to the need for further research to confirm this.

Research has shown the presence of translanguaging practices in EMI programs in Türkiye, too. Sahan, Rose, and Macaro (2021) investigated universities in Türkiye in terms of the use of L1 and interactional approaches, by conducting classroom observations and lecturer interviews in seven universities. Their findings showed that the model of teaching in all universities could be described as bilingual. They suggest that in settings where all or most students have the same L1, the L1 may serve to increase participation and engagement. Sahan and Rose (2021) present a case study conducted in a Mechanical Engineering department of a state university in Türkiye. They found that both students and instructors draw on L1-Turkish to process content information, reaffirm cultural practices, and make sense of new content, creating “a space for deeper content learning” (p. 31). They argue that students and instructors translanguage to make meaning through the presentation and discussion of scientific content in both English and Turkish, which enables engagement with academic discourse in English while at the same time promoting knowledge construction in Turkish. Sahan and Rose (2021) suggest that restricting the enactment of the whole linguistic repertoire of teachers and students through an English-only policy may “erode students’ learning potential” (p. 33).

2.3.8 Time for the multilingual turn in EMI?

Doiz, Lasagabaster, and Sierra (2012) state that as the monolingual mindset has reigned in schools and universities, the separation between named languages has remained a common practice, but this needs to be replaced with the multilingual mindset, which allows for the integration of multilingual speakers' whole linguistic repertoire and translanguaging practices. Justification for this comes from Kirkpatrick (2014). Kirkpatrick argues that in EMI programs students are required to use a language "in which they are unlikely to have as great a level of proficiency" (p. 6). Given that HE necessitates being immersed into and developing an understanding of cognitively challenging content, students need to have developed a high level of L2 proficiency to perform their best in their EMI programs. Kirkpatrick (2014) argues that even when they pass the entry level proficiency tests that are required by HEIs, this does not guarantee that their level of proficiency is sufficient to graduate from these programs. He adds that lack of language support puts students at a disadvantage that is further complicated by the insistence on the use of L2-English only in EMI programs. Building on studies that have provided insights into the advantages that the use of L1 may offer, Kirkpatrick (2014) suggests that students should be given the opportunity to take advantage of their whole linguistic repertoire in the process of producing their work in the L2. Kirkpatrick (2014) suggests that at the university level too, "multilinguals, where appropriate, need to be allowed to use their multilingual skills in the course of teaching and learning" (p. 13).

Van der Walt and Kidd (2013) argue that as EMI universities increase their multilingual student body, an environment is created where "language proficiency and academic success are intertwined and classroom practices are de facto multilingual" (p. 28). Galloway et al. (2020) point out that given the multilingual

nature of HEIs with an international student body, EMI programs need to develop policies that do not present EMI as a necessarily monolingual initiative and that better reflect the linguistic reality of EMI programs. They add that "it is hoped that the flourishing research on language use in the EMI classroom will showcase the valuable use of translanguaging" (p. 410). In a similar vein, Veitch (2021) argues that the view of multilingualism in HE should change into one which recognizes the multilingualism of students and appreciates the opportunities that emerge when the whole linguistic repertoire of stakeholders is valued. Rather than English-only approaches that compartmentalize languages, a holistic approach that takes account of language resources of bilinguals and the fluid nature of languages is encouraged by Veitch, who suggests that in this holistic approach "multilingual practices, such as translanguaging, are natural, legitimised and acceptable." (p. 9).

Sahan and Rose (2021) argue that the E in EMI should not be interpreted as English-only, but rather that students and teachers should be allowed to draw upon their multilingual resources, given that EMI classrooms are inherently multilingual. By challenging the understanding that EMI should be conducted in English only to the exclusion of multilingual resources of participating students and teachers, and presenting translanguaging as a viable alternative pedagogy, Sahan and Rose (2021) propose a shift in pedagogical practices from a monolingual perspective to a multilingual one that welcomes translanguaging in the classroom. They argue that such a shift in EMI not only allows students to learn through English and access the large body of scientific knowledge produced in English, but also recognizes the importance of linguistic diversity and knowledge in other languages. With these practices, students' access to academic content knowledge can be facilitated through the inclusion of their linguistic resources and scientific publications available in

other languages. Sahan and Rose (2021, p. 26) add that "[g]iven that the primary concern of EMI education is content learning, an insistence on English-only instruction appears ideologically (mis)guided rather than pedagogically sound." Similarly, Carroll and Mazak (2017) argue that "[s]tricter university language policies legislating textbooks or a medium of instruction would hinder the possibility for translanguaging practices and serve to enforce a form of academic monolingualism" (p. 19).

While multilingual practices need to be legitimized, this should be done in a principled way. Macaro (2020) argues that if the aim in an EMI context is mainly to help students develop skills for successful communication in English, then it follows that success would depend on large amounts of input and interaction in the L2; however, if the focus is mainly on developing understanding in an academic subject, then the integration of the L1 may turn out to be required. Still, in the case of classrooms with large numbers of international students, the use of the L1 of the majority population becomes debatable if international students do not have the necessary language proficiency in this language (Macaro, 2020).

2.4 L1 in L2 writing

Since the current thesis includes written production by the participants, this section presents studies that have investigated the deployment of the L1 by L2 students in the writing composition process in the L2.

Wang and Wen (2002) identify one of the differences between L1 and L2 writing as the availability of two languages for the L2 user during the composition process. Likewise, Woodall (2002) views L2 writing versus L1 writing as "a

different experience altogether" given that two languages, rather than only one, are drawn upon (p. 23).

One important issue that has received, and continues to receive, much research attention is lexical access by bilinguals. According to the language-selective view, the language that is being used, whether for comprehension or production, dictates lexical candidates in such a way that only the words belonging to that language are activated. On the other hand, the nonselective view posits that irrespective of the language being used, lexical items from both languages are activated (Van Hell & Tanner, 2012). Research reviews on bilingual processing by bilinguals with varying levels of proficiency in the L2 have revealed evidence favoring the latter position, suggesting that even when only one language is called for, both languages are constantly active in the bilingual mental lexicon, both in word recognition (Cook, 2008) and production (Van Hell, 2020). Access to lexical items has been found to be particularly crucial in the formulation stage of a text-construction activity – a stage which takes up a considerably larger percentage of the composition process in comparison to the planning and revision stages (Manchon, Murphy, & de Larios, 2007). In the case of L2 users, depending on L2 proficiency, lexical access and retrieval may pose a greater challenge. This is postulated by the Revised Hierarchical Model (Kroll & Stewart, 1994), which posits that less proficient L2 users' lexical processing is slower than that of more proficient users given weaker connections between lexical and semantic information, which is mediated by the L1 in lower proficiency users.

The L1 has been found to be employed in the L2 composition stage, which is the stage where writers need to retrieve items from their lexicon, which may be particularly challenging for L2 users due to slower access and a relatively smaller

repertoire of L2 words and phrases compared to the L1. Several studies investigated the deployment of the L1 during the L2 writing process, focusing particularly on the differential effects of L2 proficiency.

Some studies involved lower proficiency students. Stapa and Majid (2012) explored how lower proficiency L2 students perform in terms of idea generation and writing quality when asked to generate ideas in their L1 (Behasa Melayu) versus their L2 (English). The students were divided into experimental and control groups, with the former generating their ideas in the L1 and the latter in the L2 while composing an essay. The students in the control group not only generated more ideas but they also scored higher (i.e., wrote better-quality essays in terms of the dimensions tested, i.e., content, organization, vocabulary, language, and mechanics). Wolfersberger (2003) conducted a study on the L2 written composition processes of Japanese students with low L2 proficiency learning English in an intensive program. The students wrote essays in both their L1 and L2 while thinking aloud. They were found to depend largely on their L1 during the L2 composing process and made frequent use of translations. The students were unable to transfer L1 writing strategies to the L2 when the level of proficiency required by a writing task was beyond their current level (Wolfersberger, 2003).

Wang (2003) examined the effects of L2 proficiency on the language-switching behavior of L2 writers. The participants were divided into High-Proficiency (HP) and Low-Proficiency (LP) groups based on their scores on the Canadian Language Benchmarks. The HP group was in the 7-8 bands (corresponding to high B1 and B2 levels on the CEFR, according to a report by North and Piccardo, 2018, on the alignment of the Canadian Language Benchmarks and the CEFR) and the LP group was in the 4-5 bands (corresponding to A2 and low B1 levels). The

results showed that the LP group switched between languages more often. Wang (2003) concluded that language proficiency plays a significant role in language-switching behavior and suggested that L2 instructors encourage their students to use L1 strategically to facilitate the L2 writing process. While the HP group tended to engage in language-switching for the purpose of attending to discourse, the LP participants did it for translation purposes. A comment by one of the participants in the HP group that using his L1 to formulate ideas and retrieve words helps him to express his ideas more precisely points to the efficiency afforded by the L1 to L2 speakers while they are composing in their L2 even at higher levels of proficiency.

Woodall (2002) conducted a study on the use and functions of L1 during L2 writing tasks among intermediate and advanced learners of English, Japanese, and Spanish. The participants were asked to think aloud while writing a personal letter and a persuasive essay. The results indicated that language proficiency was instrumental in how often the participants switched between their languages. While intermediate level students primarily switched to search for lexical items, both proficiency groups utilized their L1 for purposes such as planning and revising. Woodall (2002) argued that language switching may improve the quality and length of texts written by L2 users and therefore suggested that L2 instructors teach their students to use L1 strategically, particularly for higher-level processes such as planning.

Wang and Wen (2002) studied the use of the L1 in L2 writing among sixteen English major university students in China. The participant students were at different levels in their university studies (i.e., four freshmen, four sophomores, four juniors, and four seniors), and they were assumed to be at different levels of proficiency depending on the level of study – although it should be noted that a proficiency test

was not given to confirm this assumption. The students were asked to complete narration and argumentation tasks using the think-aloud method. The results showed that 32% and 24% of the think-aloud data was in L1-Chinese for the narration and argumentation tasks, respectively. The researchers also found that at higher (proficiency) levels, the percentage of L1 was lower. Additionally, they observed that while the students with lower proficiency tended to translate sentences from the L1 to the L2, those with higher proficiency were more likely to compose their sentences directly in the L2, though they also relied heavily on the L1.

Van Weijen, Van den Bergh, Rijlaarsdam, and Sanders (2009) explored the relationship between L1 use in L2 composition and L2 proficiency among twenty-four L1-Dutch, L2-English students majoring in English. The students had met the minimum language requirement of their university, which corresponded to the B2 level. They completed four short essays in L1-Dutch and four in L2-English within a think-aloud protocol. The researchers found that all participants made use of their L1 to varying degrees during the L2 writing process. They proposed that highly skilled writers made less use of their L1, and L1 use was more common in instances of cognitive overload for this group.

Kim and Yoon's (2014) study included Korean students at various proficiency levels, including elementary, intermediate, and advanced, who were enrolled in various programs (e.g., engineering, international studies, mathematics, marketing). The participants were given a placement test as well as a writing task based on the TOEFL to determine their proficiency. They were divided into three groups based on their performance on these tasks. A think aloud protocol was used during data collection, which involved a total of six essays per participant. The results showed that the elementary group used their L1 the most, with an average of

65% in narrative tasks and 66% in argumentative tasks. The intermediate group used their L1 around 50% in both task types, while the figure was around 40% for the advanced group. The study also found that the students used their L1 for various purposes, such as idea generation, direct translation, back-translation, meta-comments, and lexical searching. The frequency with which students from each level used these particular strategies differed depending on proficiency. Based on these findings, Kim and Yoon (2014) concluded that the strategic use of the L1 while composing in the L2 can help improve L2 writing performance.

In addition to think-aloud protocols, research has also investigated translanguaging, or code-meshing, in the composition of L2 texts. In one of the oft-cited studies, Canagarajah (2011a) investigated the translanguaging practices of a graduate student from Saudi Arabia who also mixed Arabic and French while writing a predominantly English essay. In this study, Canagarajah used the term code-meshing to refer to the use of different named languages in text, and translanguaging to multilinguals' communicative competence. He noted that the student's use of code-meshing strategies may have been influenced by Canagarajah's positive attitude towards such practices. Canagarajah also observed that "[b]ecause formal writing is a high-stakes activity in schools, with serious implications for assessment, translanguaging is heavily censored in literate contexts" (p. 402). In a separate article, he also stated that "there is a strong opinion among some scholars that translanguaging is not permitted in writing." (Canagarajah, 2011b, p. 6), and that while teachers may be more open to translanguaging in spoken interactions, it is not typically permitted in writing, which is viewed as a formal activity for assessing student performance.

Behizadeh (2017) implemented a writing instruction program that allowed for code-meshing and found that the participants (ninth grade students) seemed to have a more affirmative attitude towards linguistic diversity and some even engaged in code-meshing after the program. One participant, who favored English-only instruction prior to the study, stated that different languages/dialects should be taken advantage of in school after being introduced to lessons that incorporated linguistic diversity. This implies that students' learning history and previous experiences play a role in how they approach new tasks.

Murphy and de Larios (2010) compared the language use of seven English Language and Literature graduates in a narrative and an argumentative essay task. The participants in the study had high levels of L2-English proficiency, and still, with the exception of only one participant, all used their L1 in the L2 writing process and experienced challenges in retrieving L2 lexical items to effectively express their ideas. The study also found individual differences in terms of the use of the L1, which indicates that there are other factors at play. The authors argue that their study provides further evidence that bilingual writers' use of their whole linguistic repertoire in writing should be seen as "as a site of multicompetence rather than deficiency" (p. 78).

There have also been warnings regarding the embracement of the L1 (code-meshing, or translanguaging) in L2 writing without an analysis of student needs, perspectives, and contextual characteristics. For example, Gevers (2018) analyzed the theoretical underpinnings of code-meshing and its pedagogical application and argued that while code-meshing may seem appealing in terms of hybridity, translingual approaches should be subject to critical consideration before being implemented by educators. In this respect, he also states that multilingual students

may not have the need or the desire to engage in translingual practices in their writing. According to Gevers (2018), given that research on code-meshing has not involved as much evidence derived from student writing as it has done from academics, who enjoy relative freedom and expertise in their language use, code-meshing may not be as readily available to students. Gevers (2018), therefore, argues that some L2 writers may not actively engage in translingual practices. Based on these arguments, Gevers (2018) highlights the need for further research to analyze whether or not students aspire to code-mesh.

2.5 Theories related to encoding-retrieval match

As readers will notice, this section delves into another research area. In this section, research into memory access and retrieval will be presented with a particular focus on how it can inform language of assessment decisions in EMI programs.

Butler (2010) refers to two theories of human memory, i.e., the encoding specificity principle (Tulving & Thompson, 1973; Tulving, 1983) and transfer-appropriate processing (Blaxton, 1989; Morris, Bransford, & Franks, 1977), which both posit that the similarity between encoding and retrieval is a determining factor in the successful recall of memories. In other words, according to these theories, the similarity between the conditions under which information is encoded (e.g., how it is perceived and processed) and the conditions under which it is retrieved (e.g., the cues and processing required to access the information) is a key factor in the successful recall of memories.

Tulving and Thompson (1973) define the encoding specificity principle as follows: “What is stored is determined by what is perceived and how it is encoded, and what is stored determines what retrieval cues are effective in providing access to

what is stored." (p. 353). That is, the encoding specificity principle suggests that the availability of specific properties during retrieval that were also available during encoding (thus becoming part of the memory trace) facilitates memory performance. Ten years after this initial paper, Tulving provided a detailed account of the encoding specificity principle in the 1983 book Elements of Episodic Memory, in which the theory is succinctly explained as follows: "recollection of an event, or a certain aspect of it, occurs if and only if properties of the trace of the event are sufficiently similar to the properties of the retrieval information" (p. 223). Tulving further explains that the nature of similarity could be in various forms, stating that "associative relatedness, matching of features, informational overlap, or whatnot — and it is possible that different kinds of compatibility relations have to be satisfied in different situations." (p. 224). While the kind of compatibility relation may vary depending on the situation, such a relation has to be present for efficient retrieval to occur (Tulving, 1983).

Morris et al.'s (1977) transfer appropriate processing (TAP) framework makes a similar suggestion. They found that a match between the study conditions (focusing participants' attention on semantic processing) and the test (which requires retrieval of semantic elements) results in better performance compared to a mismatch between study and test conditions. The same was found to be the case for nonsemantic or perceptual processing, such as rhyming information or pronunciation. That is, the manipulations that directed learners' attention to rhyming produced better results in the rhyming test in comparison to manipulations that focused attention on semantic processing. In brief, TAP suggests that the overlap between the processing during encoding (study condition) and retrieval (testing condition) enhances memory performance.

Blaxton (1989) designed three experiments to analyze whether the memory systems account (i.e., episodic vs semantic memory) or processing account (i.e., TAP) would better explain dissociations between memory measures. In three experiments, different tasks were utilized which tapped into various combinations of memory systems and processing: data-driven episodic memory tasks, data-driven semantic memory tasks, conceptually-driven episodic memory tasks, and conceptually-driven semantic memory tasks. This kind of an experimental design allowed for the investigation of whether differences in memory performance could be explained by memory systems or processing. The results showed that even when two tasks tapped into the same memory system, there were dissociations between memory measures depending on whether the tasks were data-driven or conceptually-driven, i.e., depending on the type of processing. On the other hand, the overlap between processing operations during the study phase and test phase was shown to enhance performance, irrespective of the memory system that is tapped by the task.

To reiterate, the encoding specificity principle is concerned with the availability of cues during encoding and retrieval. TAP has a similar proposition: It has to do with the match between (levels of) processing during encoding and retrieval. It suggests that memory performance during retrieval will be enhanced to the extent that the cognitive processing engaged in during retrieval is similar to that engaged in during encoding. According to encoding specificity, the information that is encoded and thus becomes a part of memory may also be incidental, such as the speaker's mood or a specific scent (Schroeder & Marian, 2014). Such pieces of information function as cues during retrieval. Given the facilitative function of even incidental cues, Pu and Tse (2014, p. 161) argue,

> Bilingual memory would be better when the words are encoded and then retrieved in the same language than when they are encoded and then retrieved in two different languages because the encoded language could serve as a cue in the memory test to facilitate the retrieval of the studied items.

Language dependent recall is based on this premise. Marsh, Kanaya, and Pezdek (2015) state that language dependent recall, which suggests that "the language in use during retrieval is likely to elicit memories that contain linguistic properties of the same language" (p. 830) is a sub-theory within the more general theory of encoding specificity. This means that if the language that is used during retrieval is the same as the language in which specific information was encoded, retrieval will be facilitated. For example, Friedlander (1990) asked twenty-eight L1-Chinese university students in the United States to respond to two letters in English that required information on two different topics: a Chinese festival and life at an American university. The former was referred to as the Chinese topic and the latter the English topic. The participants in the match condition planned their letters using the language that matched the topic, while those in the mismatch condition used English in their planning for the Chinese topic, and Chinese for the English topic. The results showed that on average the students showed superior performance, that is, scored higher, in the Chinese task than the English task, which is attributed to greater topic familiarity. More importantly, it was found that the students' performance was better if the language of planning and the language of the content knowledge were matched.

The language dependent recall effect has been observed in many studies. The following sections present a review of these studies, focusing separately on episodic, or autobiographical memory, and semantic memory. Since the language dependent recall effect was initially observed in studies on autobiographical memory, these studies are reviewed first below.

2.5.1 Language dependent recall in autobiographical memory

Initial support for language dependent recall came from studies on autobiographical memory access by bilinguals. Several studies have investigated the relationship between language and autobiographical memory retrieval in bilingual individuals.

Marian and Neisser (2000) conducted a study on Russian-English bilinguals who had lived in the United States for about 7 years, starting at an average age of 14. They found that when the language of the interview matched the language of the memory being retrieved, the bilinguals had better access to their memories. For example, if the interview was conducted in Russian, the participants had better access to memories of events where Russian was used. Similarly, using English in the interview led to better access to English memories. However, when it came to memories where both Russian and English were used, the language of the interview did not seem to have an effect on recall as recall of these memories was almost equally distributed in the Russian vs English interviews. This study showed that recall of autobiographical memories is facilitated when the linguistic environment of retrieval is similar to that of encoding.

Schrauf and Rubin (2000) conducted interviews with and provided cue words to older Spanish-English bilinguals. These individuals grew up speaking Spanish and immigrated to the United States at an average age of 28, where they had been living for over three decades. The interviews were conducted either in Spanish or English with cue words in each language. The researchers found that memories encoded in the Spanish context were more likely to be retrieved in Spanish, even when the cue word was presented in English. Memories encoded in English, i.e., those experienced later in life and thus more likely to be experienced in an English context, were more likely to be retrieved in English, but their number was fewer, which is attributed to

the bilingual cognitive context in memories experienced later in life, when the participants were residing in the US. This study too supports the encoding specificity principle.

Carroll and Luna's (2011) study with English-Spanish bilingual students at a university investigated whether the match between content areas and language would facilitate lexical access in comparison to the mismatch condition. The content areas were work (i.e., the English language content area since the participants predominantly used English for work-related tasks) and friends (i.e., the Spanish language content area since Spanish was generally used for social purposes). It was found that word recognition was faster in the match condition (e.g., when words related to family and friends were shown in Spanish) than in the mismatch condition (e.g., when words related to family and friends were shown in English). This study showed that words associated with a content area are more accessible to bilinguals in the language used for that content area than the bilingual's other language.

Other studies found similar results but also pointed to the effect of proficiency. For example, Marsh et al. (2015) investigated language dependent recall by analyzing whether childhood and recent memories would be better recalled by bilinguals in the language of encoding. They asked English-Spanish bilinguals to write about a childhood memory and a recent memory in a free recall task, and randomly assigned the participants to complete the task in either Spanish or English. The participants were also asked to report the language that was in use during the recalled memory. The results showed that the language in which the task was performed influenced the memories retrieved, with those completing the task in Spanish being more likely to remember childhood memories encoded in Spanish, while those completing the task in English had comparable recall of Spanish and

mixed childhood memories. On the other hand, recent events recalled were mostly English or mixed memories in both conditions. The authors suggest that this may be due to the more frequent occurrence of recent events in English or mixed language conditions rather than purely in Spanish, as well as increased language proficiency. They propose that memories that are encoded when bilinguals have reached high proficiency in both languages can be accessible in both languages irrespective of the language of encoding.

Matsumoto and Stanny (2006) conducted a study with Japanese-English bilinguals in which they were cued with Japanese and English words and asked to report personal memories they recalled first and the earliest autobiographical memory they could recall. The interviews were conducted in Japanese, but they had the option to report memories in either language. They found that participants were able to recall more memories when cued with Japanese words, and these memories were often from an earlier time in their lives. That is, Japanese words elicited more memories of events during which Japanese was used. Similarly, when given English prompts, they were more likely to access their English memories compared to when given Japanese prompts. Additionally, proficiency was found to influence memory retrieval in that, in comparison to students with lower proficiency in English, more proficient students were more likely to retrieve more memories encoded in English in response to English cue words.

The studies reviewed so far are concerned with the retrieval and processing of episodic or autobiographical memory. As is clear in Bartolotti and Marian's (2012) statements "in contrast to language-independent access to semantic memory, episodic memories retain language-dependent information that affects retrieval." (p. 15) and "[c]ompared to semantic memory access, episodic memories appear to

integrate language more closely and preserve the language of encoding in the memory trace." (p. 17), semantic memory is thought to be less amenable to, or more independent from, language of encoding during retrieval. This raises the question of the extent to which findings from research on episodic memory can be translated into educational settings, given that even though episodic memory may also be relevant to certain topics covered in educational institutions, semantic memory occupies a considerably larger space in education, and even more so in HE. Indeed, there is another line of research which has provided evidence that recall of semantic memory too may be language dependent.

2.5.2 Language dependent recall in semantic memory

Support for language dependent recall effects in semantic memory has mainly come from studies in arithmetic, which are reviewed first below, but some other studies have shown the same effect in general world knowledge and conceptual knowledge, as well.

Studies reviewed below which focus on access to and retrieval of arithmetic knowledge indicate that students in bilingual education programs may face challenges if they are required to retrieve arithmetic information in the language that was not the language of arithmetic acquisition for them. They also suggest that learners may display poorer performance if they are assessed in their less proficient language.

A study conducted by Saalbach, Eckstein, Andri, Hobi, and Grabner (2013) investigated whether secondary school students in bilingual education programs faced cognitive challenges when switching between languages during math instruction and retrieval. The participants, who were native German speakers

learning French, were divided into two groups based on their proficiency in French: balanced bilinguals (those proficient in both languages) and unbalanced bilinguals (those less proficient in the L2). The study consisted of a training phase with 14 subtraction and 14 multiplication problems presented in either German or French, followed by a test phase with an additional 14 subtraction and 14 multiplication problems. The results indicated that both balanced and unbalanced bilinguals experienced language-switching costs in terms of both response time and accuracy when solving problems in a language that was not the language of training. However, switching from the dominant language to the non-dominant language produced a larger switching effect, which the researchers explain by pointing out that unbalanced bilinguals do not just rely on their non-dominant language when learning information in that language, but also use their dominant language in the process. Saalbach et al. (2013) argue that their findings have implications for bilingual education programs and suggest that transferring knowledge between languages may present cognitive costs.

Van Rinsveld, Brunner, Landerl, Schilts, and Ugen (2015) recruited German-French bilingual participants from different levels of proficiency, including a group of young adults, to investigate the relationship between arithmetic and language. The study found that accuracy levels and response times for simple addition facts were similar in both languages, particularly for the more proficient participants, indicating that at higher proficiencies, retrieval of arithmetic facts either becomes language-independent or highly automatized in both languages. On the other hand, complex problems were solved faster and more accurately in German than in French, despite mathematics being taught in French throughout secondary school. Van Rinsveld et al. (2015) argue that this may be because the solution of complex problems may still

be dependent on German, the first language of instruction and the language of arithmetic acquisition for the participants.

In Volmer et al. (2018), German-French bilingual university students who had a minimum L2-French proficiency of B2 were trained to acquire declarative arithmetic knowledge through auditory presentations in German or French. A test on the fourth day included both studied and unstudied simple multiplication problems, as well as text problems in both German and French. The findings revealed that language switching costs occurred in simple studied problems and text problems, when the participants had to switch from German (their native language) to French (their less proficient language) but not vice versa. The authors attribute this unidirectional switching cost to translation processes and additional cognitive processing and to potential reliance on the L1 when encoding information received in the L2.

In Hahn et al.'s (2019) study, L1-German L2-English university students were provided training in German or English on multiplication, subtraction, and artificial problems. The participants were then tested in the trained language and the untrained language. The results showed a significant effect of language switching on response time across all tasks, but no effect on accuracy. This effect was observed irrespective of the direction of language switching. The researchers suggest that these findings have implications for bilingual education in CLIL settings in that if the language of instruction differs from language of testing, students may experience language switching costs, particularly in assessments in which students are given a limited amount of time. Given that their study investigates factual knowledge only, Hahn et al. (2019) suggest that to develop a better understanding of the effect of having to apply knowledge in a language other than the language of encoding and its

implications for classrooms, language switching costs should also be investigated in tasks that require conceptual and procedural knowledge.

Indeed, language dependent recall effects have been observed in tasks that require conceptual knowledge, too. For example, Marian and Fausey (2006) made an important contribution to memory research by studying whether language dependent recall is also relevant in access to semantic knowledge by teaching and testing academic information, which makes the study findings relevant for teaching and assessment in EMI contexts as well. Spanish-English bilingual speakers, who were grouped into two proficiency levels based on the difference in their English proficiency, listened to stories in Spanish or English and answered questions related to them. It was revealed that in the case of an overlap between the language of encoding and retrieval (the match condition), i.e., when the text and the questions were in the same language, accuracy increased, and response times and errors decreased. However, the language dependent recall was influenced by language proficiency given that unbalanced bilinguals, those who had lower proficiency in English, did not show similar patterns. Marian and Fausey (2006) present two potential explanations to account for this difference: (1) at lower proficiency levels, language may not be a salient cue due to factors such as increased cognitive load and memory demands, and (2) learners may make use of their more proficient language when encoding information presented in their less proficient language, which may confound the results as what is regarded as a mismatch condition by the researchers may actually be a match condition, or vice versa. Another observation from this study which, despite not being a focus for the researchers, is relevant to this thesis in that although they were instructed to stick to one language in their responses, there were instances of code-switching, all three of which occurred in the mismatch

condition, when the participants had read the text in Spanish and answered the questions in English, their less proficient language.

The effect of language dependent recall on semantic memory was also found by Marian and Kaushanskaya (2007). Mandarin-English bilinguals were given tasks that required them to retrieve general word knowledge. The questions were created to require participants to retrieve information that was learned either in Mandarin or English, and they were addressed to the participants in either Mandarin or English. In one of the tasks, for example, one question could be answered by recalling a Chinese love story or an English love story, with the answers “Romeo and Juliet” or “Liang Shanbo and Zhu Yingtai”, respectively. It was found that information learned in a specific language was more easily remembered when that language was used during recall. Language dependent memory effects in terms of accuracy were found in both languages, but the effect was stronger for information encoded in Mandarin. Marian and Kaushanskaya (2007) attribute this to the presence of internal translations from English (the less proficient language) to Mandarin during encoding in English, and less rehearsal and reactivation of information in English due to being acquired later in life.

These studies indicate that language dependent recall effects are also observed in retrieval of conceptual semantic knowledge, but the effect is less pronounced when bilinguals have a lower level of proficiency in one of their two languages. One argument in this regard is that when information is presented in the less proficient language, it may be translated to and encoded in the more proficient language.

In a similar study, Calvillo and Mills (2020) found that processing information in the less proficient language may result in more memory errors.

Calvillo and Mills (2020) had bilingual English-Spanish speakers watch a video of a crime and read a narrative text in English or Spanish about the event with some misleading information. The participants were then given a true-false test in English or Spanish. It was found that, although the (mis)match between the language of the narrative and the test had little effect on memory, language proficiency was instrumental in that the participants were less accurate in their less proficient language, with fewer hit rates and more false alarm rates. That is, when tested in Spanish, the less proficient language, they were more prone to memory errors and false memories.

However, there are also studies that have not found encoding specificity effects (Vander Beken, De Bruyne, & Brysbaert, 2020). However, before presenting the Vander Beken et al. (2020) study, two other studies by Vander Beken are presented to provide some background. Vander Beken, Woumans, and Brysbaert (2018) gave English-Dutch first year psychology students texts in English and Dutch and a true-false judgment test about the texts in the language they had studied the text in. The participants studied the texts for seven minutes and were tested immediately after in the post-test, and they were also given a delayed test in the second session, which was held after a day, a week, or a month in different groups of students. The results showed that there was no significant difference in the students' recognition memory when tested in either language on both the initial and delayed tests, suggesting that it is not a disadvantage for students to study texts and be tested in L2-English.

In another study conducted by Vander Beken and Brysbaert (2018), Dutch-English bilingual psychology students were asked to read a short text in either their L1- Dutch or L2-English. After reading the text, the participants were asked to write

down as much as they could remember (free recall test) and to answer true/false questions about the text (recognition test) with a distractor task in between studying and testing. The researchers wanted to see if there was any difference in performance depending on the language in which the text was read and the type of test used. The results showed that there was no difference in performance on the true/false test, regardless of whether the students read the material in their L1 or L2. However, those who read the text in the L2 did significantly worse on the free recall test compared to those who read it in the L1. Vander Beken and Brysbaert (2018) suggests that since L2 students may struggle with verbal skills on exams that require free recall, though may perform equally well as L1 students on recognition-based exams, the difference in performance raises questions about the type of exams that should be given to L2 students.

Vander Beken, De Bruyne, and Brysbaert (2020) conducted two experiments and a meta-analysis to reveal factors underlying L2 recall cost observed in previous studies, including Vander Beken and Brysbaert (2018). In Experiment 1, which involved L1-Dutch L2-English psychology students, three different conditions were evaluated: learning and being tested in the L1 (L1-L1), learning in the L2 and being tested in the L1 (L2-L1), and learning and being tested in the L2 (L2-L2). Both an essay-style free recall test and a true/false judgment test were administered. The results showed that although there was no difference in the true/false judgment test, recall (essay performance) was worse in the L2-L2 condition compared to the L1-L1 condition. Additionally, the L2-L1 produced closer performance to the L2-L2 condition than the L1-L1 condition, indicating that the poor recall in the L2 is not primarily due to production difficulties, but rather due to learning the material in the L2. The researchers found no support for the encoding-retrieval specificity principle

(language dependent recall), which would suggest better performance in the L2-L2 condition compared to the L2-L1 condition. In Experiment 2, Vander Beken et al. (2020) looked at how well students could recall information from a section in a textbook. For this experiment, they reduced text difficulty by using more verbose language and more familiar topics and used three short answer questions in place of the essay task to make the task less challenging. They split the experiment into two parts, with one group studying texts in English and Dutch and being tested in Dutch for both texts (i.e., L1–L1 and L2– L1), and the other group receiving both texts in English but being tested in Dutch or English (i.e., L2–L1 and L2– L2). The researchers did not find a significant L2 cost, but there was a trend in the direction of better performance when the text was studied and tested in the L1. They obtained the following results: L1–L1>L2–L1>L2–L2. They argue that the findings from the two experiments do not support the encoding specificity principle; rather, they point to challenges due to the L2 both at encoding and production.

Vander Beken et al. (2020) state that several factors may impact the observed L2 cost, including the learner's L2 proficiency relative to text difficulty, the type of test used to measure knowledge, the cost of L2 production, and the amount of effort put into studying. They present the following arguments: If the learner does not have a strong understanding of the L2 words in the text, it will be more challenging for them to understand and process the information. As the learner becomes more experienced in the L2, their performance will improve and become more similar to their performance in their L1. If the type of test used to assess knowledge requires recalling a large amount of information or making connections between many facts, the L2 cost will be more pronounced. Regarding L2 production cost, it is likely that performance in the L2 will be worse when learners are required to respond in the L2

rather than in their L1. Finally, the amount of effort put into studying can also impact L2 performance. Bilingual learners typically require more time to read and study materials in their L2 compared to their L1. Therefore, time pressure may have a greater negative impact on L2 performance compared to L1 performance (Vander Beken et al., 2020, p. 904-905).

To summarize, several studies found support for the encoding specificity principle and language dependent recall, in that bilinguals' access to memory is facilitated when the language of encoding and the language of retrieval match. Language switching costs have been observed both among balanced and unbalanced bilinguals, but in the case of unbalanced bilinguals, this effect was more pronounced in switches from the dominant language in encoding to the non-dominant language in retrieval. It has been argued that less language switching cost from the less dominant to the more dominant language may be because the encoding of information received in the less dominant language may be mediated via the more dominant language. Research by Vander Beken and colleagues have shown a trend in the following manner: L1–L1>L2–L1>L2–L2. The conclusion that can be drawn from this research is that at higher proficiency levels, learners may benefit from being tested in the language in which they received instruction, but if a learner is trained in the less proficient language, having the opportunity to retrieve information in their more proficient language may help them perform better, rather than having to retrieve information in the less proficient language, as both encoding and production in the L2 may be challenging for them. For educational settings, this may mean that allowing learners freedom in terms of test language can enhance test performance.

A similar argument comes from a CLIL setting. Canz, Piesche, Dallinger, and Jonkmann (2021) investigated the effect of test language (German or English) with

361 sixth graders and 703 eighth graders in bilingual CLIL settings. The study also investigated the moderating effect of item type, by including multiple-choice questions (which tap into recognition) and cloze-test items (production). The researchers found that using the common language (in this case, German) as the test language resulted in better performance for the students, even if the items had been taught in the L2-English. They also argue, however, that there may be some negative effects of using the L1 exclusively as the test language, such as reduced accessibility of certain concepts in the L1 as instruction is received in the L2. Therefore, given that test-language itself may introduce score variance not attributable to the construct, they suggest that it may be best to use a combination of both languages in item presentation in order to more accurately assess the students' content knowledge and subject-related competences. Additionally, the advantage for German as the test language was found to be higher for the cloze test than the multiple-choice items, and to decrease as proficiency increased. Canz et al. (2021) point out that as one gains more experience in learning an L2 and becomes more proficient in it, the increased independence in the L2 affects recognition skills earlier than production skills. This implies that particularly in tests that require production in the L2, lower L2 proficiency students may be disadvantaged if asked to respond in the L2.

CHAPTER 3

THE RESEARCH STUDIES: A GENERAL INTRODUCTION

3.1 The research questions

Three research studies have been conducted to explore the behavior of learners enrolled in the EPP and EMI programs at a private (foundation) HEI in Türkiye in terms of the use of a single named language vs multiple named languages in assessment tasks. Conventionally, learners in English-medium HE programs in Türkiye are required in assessment tasks to use English only, which is an L2 for most of the learners. Similarly, the exclusive use of English is encouraged in EPPs. The current studies, on the other hand, give learners the opportunity to employ multiple named languages. This is done in two ways in separate studies: the freedom to use their whole linguistic repertoire in their responses and the provision of input texts in different named languages.

Specifically, the following research questions are investigated:

RQ1. Do learners engage in monolingual or translingual practices when they are given the opportunity to use their linguistic resources without constraints?

RQ2. Does the level of proficiency affect learner behavior in terms of monolingual and translingual practices?

RQ3. What functions does translanguaging serve in assessment?

RQ4. What difficulties do students think they face while studying in English, their second language?

RQ5. How does learner performance compare in a writing test when the input is given (a) only in the L2 or (b) in the L1 and L2?

To answer these research questions, three studies have been conducted. I will refer to them as Study 1, Study 2, and Study 3. All three studies were conducted at a private university in Türkiye, to which I will refer to with the pseudonym the Globe Private University (GPU). Before I present detailed accounts of the methodology, results, and discussion of each study separately, I would like to briefly summarize them and present the university setting so that the rest of the thesis will be easier for readers to follow.

In Study 1, students in the EPP of the GPU were given a question that tests their content knowledge in their CLIL courses, and were instructed to answer the question without any language restrictions. Since the participating students were enrolled in classes targeting different levels of English proficiency, Study 1 aimed to answer RQ1 and RQ2 in CLIL courses.

Study 2 consisted of three phases. In Phase 1, students enrolled in various EMI programs in the GPU were asked questions testing their content knowledge in their EMI courses. They were allowed to use language in any way that saw fit to best answer the question in terms of content. This phase of Study 2 produced data that was used to answer RQ1 in an EMI setting. In Phase 2, all the students involved in Phase 1 were asked to take a writing test that aimed to evaluate their English proficiency. This phase of Study 2 produced answers for RQ2 in an EMI setting. In Phase 3, students were invited to an interview, which involved questions about their language use in Phase 1 and about the challenges they faced in their EMI programs. This phase of Study 2 produced findings relevant to RQ3 and RQ4.

In Study 3, students enrolled in the EPP were given two reading texts and were asked to summarize and synthesize them. In one condition, both texts were in

English, and in the other condition, one text was in English and the other in Turkish. Data from Study 3 was used to answer RQ5.

3.2 The setting

All three studies were carried out at the GPU, where there are English-medium programs as well as Turkish-medium programs; so, the university offers instruction both in English and Turkish. As of 2022, the GPU had nine faculties, two vocational schools, and an EPP. Within the nine faculties, there were over thirty EMI programs. On its website, the GPU states that they believe that internationalization increases the quality of education and research, and advertises its programs to prospective international students. The GPU had over 1000 international students in January 2022, which has likely increased since then.

Study 1 and 3 were conducted at the EPP, and Study 2 was conducted at several EMI programs within the GPU. Richards and Pun (2021) point out that different labels have been used to refer to settings where English is used to teach content to L2 users of English, which include "content-based learning, content and language integrated learning (CLIL), immersion education, theme-based language teaching, and bilingual education, and … English-medium instruction (EMI)." (p. 1), and present a typology of EMI. The different classifications in Richards and Pun (2021) include the following:

- In terms of access to EMI courses, the four models include the categories presented in Macaro (2018, 2022): the selection model, the preparatory model, the concurrent support model, and the multilingual model.
- In terms of the time of introduction of EMI, there are three categories: early EMI, middle EMI, and late EMI.

- The types of EMI curriculum models include single medium, dual medium/partial, parallel, transitional, collaborative, interdisciplinary, sheltered, adjunct, and bridging.
- The different kinds of assessments used are categorized as content assessments, content and language assessments, and language assessments.
- In terms of the relationship between English subject courses and EMI courses, there are five categories: independent, supportive, EAP, thematic approach, and ESP.

The EPP and EMI programs involved in the current thesis can be described as follows based on Richards and Pun's (2021) classifications: In the GPU, students need to certify their language proficiency to be exempted from the EPP, or are required to take intensive English classes. In that sense, in terms of access to EMI, the preparatory year model is used. However, once students have started their programs, they are still provided with language support in the form of EAP and ESP classes. This means that the concurrent support model is also implemented, although the numbers of support classes are not many. Given that for most incoming students EMI occurs only in higher education, the setting can be categorized as a late EMI setting. The type of curriculum used can be categorized as single medium given that almost all content subjects are taught through the medium of English, except a Turkish History and a Turkish Language course, which are compulsory courses in all programs due to Council of Higher Education regulations. When it comes to assessment, a distinction should be made between the EPP and EMI programs. In the EPP, various assessment types are used. Most of them are language assessments, but there are also tests that assess both content and language in CLIL classes, and these can be categorized as content and language assessment given their dual focus. As for

EMI programs, content assessments are used. Lastly, the English subject courses that students take while in their EMI programs are EAP or ESP courses depending on the curriculum of each EMI program.

In the EPP and EMI programs, the language of instruction is specified as English in policy documents, which implies that instructors are expected to use English within the classroom. Course materials and exams are also in English. However, it should be noted that students and instructors have revealed that in practice language practices may vary in that while some instructors choose to stick to English at all times, others also use and allow students to use Turkish, albeit only sporadically. Those who switch to Turkish do so only in certain conditions, such as when there are no international students and the instructor judges that learners seem to have difficulty understanding a topic in their L2-English or when a learner's message is not clearly understood by the interlocutor(s) even after several attempts.

3.3 Ethical issues

There are several aspects of research that should be attended to in educational research in order to protect participants. Responsibilities towards participants include respect for all individuals, avoiding harm to anyone who may be directly or indirectly involved in the research, obtaining informed and voluntary consent, being open and transparent towards participants, informing them of and guaranteeing their right to withdraw at any point in the study, and protecting the privacy and confidentiality of participants (British Educational Research Association, 2018). To these ends, several actions were taken within all three studies. Approval was obtained from the Boğaziçi University's committee for M.A. and Ph.D. research (Appendix A) and permission was obtained from the GPU. All participants in the

study (and all potential participants who ultimately decided not to take part in the study) were informed about the details, including the data collection methods, their rights, and potential research outputs. All participants agreed to sign the relevant consent form (see Appendix B for the consent forms), and were informed that participation was voluntary and that they could withdraw at any time. To protect the identity and privacy of the participants and the institution involved, identifying information has been avoided and pseudonyms have been used in place of names.

CHAPTER 4

STUDY 1

4.1 Introduction

Study 1 was conducted within the EPP, which prepares students for EMI programs at the GPU. The EPP offers L2-English lessons for academic purposes. Additionally, it also has classes specifically tailored to the language requirements of various EMI programs, such as Medicine, International Relations, and Electrical Engineering. This latter group of lessons are categorized as CLIL. This study was used to produce data that could help answer the following questions in CLIL courses:

> RQ1. Do learners engage in monolingual or translingual practices when they are given the opportunity to use their linguistic resources without constraints?
>
> RQ2. Does the level of proficiency affect learner behavior in terms of monolingual and translingual practices?

4.2 The setting

The EPP, where Study 1 was conducted, prepares learners for their EMI programs in the GPU. At the time of the study, learners enrolled in the EPP were mostly Turkish citizens, but there were also international students, particularly from Arabic-speaking countries.

In the EPP, students receive L2-English lessons. The classes that are conducted on Monday, Tuesday, Wednesday, and Thursday can be categorized under EAP, given that the purpose is to equip students with L2 skills that will enable them to participate and perform sufficiently in an academic context. The books that are used within the program, published by a prestigious international publisher, include

academic content, and aim to improve academic reading, writing, listening, and speaking, as is indicated in the books' forewords.

Apart from these skill-based courses, the EPP also offers classes with a particular focus on the specific language requirements of the EMI programs at the university. These classes, which are held on Friday, serve as introductory (language) courses to students' respective departments. The Friday classes are designed specifically for each EMI program. For example, students who are enrolled in the Department of Medicine are taught through materials that are intended to familiarize them with basic concepts and topics in medicine. They learn about the body parts, digestive/ urinary/ respiratory/ skeletal/ reproductive systems, and several disorders, etc. International Relations students learn about major theoretical approaches to international relations, different forms of government, global problems that require international cooperation, and presidential systems in different countries, among others. Electrical Engineering students learn about the branches of electrical engineering, the history of the field of electrical engineering, electric circuits, quantum theory, and so on. The materials for these classes are prepared by assigned instructors at the EPP, who study the curricula of the relevant departments and contact instructors from the relevant departments to decide what to include in the units to be covered. There are also grammar and vocabulary exercises at the end of each unit. As stated above, the courses offered at the EPP can be categorized as EAP, except the Friday classes, which fall under the umbrella of CLIL. The detailed justification for why I chose to categorize them as such is presented in Appendix C.

As for language practices, the instructors in the EPP are expected to use English in the classroom, but there is no strict policy about language use. In fact, when there are no international students in class, instructors also employ Turkish in

their classes to varying degrees. Similarly, students, particularly those at lower levels, are reported to talk to each other in Turkish especially during pair or group work activities, explain their ideas or ask questions in Turkish, and occasionally ask the instructor to make explanations in Turkish if they feel that they have not understood the content. Instructors' practices seem to vary in response to such learner requests.

4.3 Participants

The data came from 226 students, all of whom were L1 speakers of Turkish. The participating students were from seventeen different departments. As was stated before, in the EPP, Friday classes are designed specifically for each EMI program. However, in some cases, students from different programs were given the same course because there were only a few students from each program, and it was not practical for the EPP to offer a separate class for programs with a rather limited number of students. In such cases, programs were categorized according to their faculty so that the content of the courses could be tailored better to the needs of those students as well. There were two such courses: The students from Pharmacy, and Molecular Biology and Genetics departments were given the same course; and Midwifery, Nursing, and Physiotherapy and Rehabilitation students were categorized under Health Sciences. The data was obtained from the following classes:

- Pharmacy, and Molecular Biology and Genetics
- Health Sciences
- Medicine
- Computer Engineering
- Electrical Engineering

- Civil Engineering
- Industrial Engineering
- Management and Information Systems
- Psychology
- Business Management
- International Relations
- Architecture
- Radio, Television and Cinema
- New Media

In each class, there were students with different levels of proficiency, i.e., Pre-Intermediate, Intermediate, Upper-intermediate, and Advanced, as was defined by the EPP itself. Table 2 presents the number of participating students based on their department and level of English at the time of the study.

Table 2. Number of Study 1 Participants Based on Department and Level

Faculty/Department	Pre-int	Int	Upper-int	Adv	Total
Pharmacy & Molecular Biology and Genetics	0	3	10	5	18
Health Sciences	13	18	1	0	32
Medicine	0	2	11	7	20
Computer Engineering	6	8	3	1	18
Electrical Engineering	4	7	0	0	11
Civil Engineering	10	7	0	0	17
Industrial Engineering	2	7	0	0	9
Management & Information Systems	8	10	0	0	18
Psychology	5	14	0	1	20
Business Management	10	8	0	0	18
International Relations	2	4	2	0	8
Architecture	3	6	3	1	13
Radio, Television and Cinema	6	1	0	0	7
New Media	8	6	3	0	17
TOTAL	77	101	33	15	226

Note: Pre-int = Pre-intermediate, Int = Intermediate, Upper-int = Upper-intermediate, Adv = Advanced.

Students take a placement test at the beginning of the school year and are registered into different levels based on the results of this test. After each quarter within the school year, they are given three tests (one of which is based on content learned in Friday CLIL classes) and based on their performance on these tests, they either pass on to a higher level or repeat the same level.

4.4 Tools and procedures

The aim in the assessment procedure in Study 1 was to see what students' linguistic behavior would be like in their answers to a question targeting the Friday CLIL courses when given the opportunity to draw from their whole linguistic repertoire, and whether there is a relationship between proficiency and students' use of their L1-Turkish or L2-English.

As was indicated, the Friday classes are intended to equip students with discipline-specific language skills while at the same time introducing some of the fundamental contents, concepts, and theories related to their disciplines. The course materials for these classes were prepared by selected instructors from the EPP. In Friday classes, one unit was generally covered in each class for a total of 6 units in each quarter of the school year, which means a total of 12 units each term; but this was not always consistently applied in each class, with some classes teaching less than 12 units depending on how long each unit took to cover.

When it comes to assessment, the exams consisted of several parts; but overall, they all had two main sections: content and language. The content part was worth 60 points, and the language part (which included vocabulary and grammar sections) was worth 40 points in total. It is safe to argue, then, that a fundamental aim in these exams was to evaluate the extent to which the learners acquired the

content. In terms of the language of the exams, students were not supposed to use their L1; otherwise, they would lose points.

However, given the focus of the present study, the exam given as part of the study was intended to allow the students to make use of their whole linguistic repertoire without restricting them to any specific named language. By doing this, it was also aimed to give the students the opportunity to represent their content knowledge by bypassing potential language-related challenges in expressing what they knew. The format of the exam was decided upon in collaboration with two course instructors, who were also involved in material development for Friday CLIL classes. We created a test that (a) could be easily used in the courses of different departments, (b) would give all students the chance to show what they have learned in their CLIL classes, and (c) would be representative of the content covered (See Appendix D for a sample test for the Architecture Department. The tests for all the other departments were of a similar format).

The instructions were given in three ways: in English, in Turkish, and in a translingual format (See Appendix D). The decision to include translanguaging in test instructions has received criticism, mainly for two reasons:

i. The language policy in the EPP and EMI programs requires instructors and students to use English, and using other languages than the language of instruction is a clear violation of this policy,
ii. Giving instructions in which different languages are used together may direct students to engage in a similar practice, e.g., they may think that this is what is expected of them in the study, or they may find it interesting and try to do the same.

While acknowledging that they are valid criticisms given the existing policies in the EPP and EMI programs, I would also like to note the following arguments:

i. Several studies have shown that the English-only policy in L2 classrooms and EMI programs is "violated" by both students and instructors, most prominently in spoken production, e.g., when students interact with each other in group work or when they ask or respond to questions. This linguistic behavior has been linked to various perceived and actual benefits in terms of student participation, comprehension, and learning. This implies that if the English-only policy were to be followed without questioning, this could have consequences for students' academic development. This language practice of using different named languages together has received relatively less attention in writing, probably because teachers and students refrain from doing the same in written production, particularly in written exams, for reasons that should be uncovered through empirical research, but that may have to do with (a) the nature of written production, which is essentially different from spoken production, in that writing allows for more planning, (b) the fact that written documents present undebatable evidence that the institution's English-only policy is violated, which may put instructors at risk depending on the institution's rules and regulations, and (c) written language is more norm/rule-bound in general in comparison to spoken language. The relative lack of such written data along with the difficulty of obtaining access to exam papers for reasons of confidentiality could have also played a role in the paucity of research on translanguaging in writing and in assessments (see, for example, Canagarajah, 2011a, and Behizadeh, 2017, for exceptions).

ii. The monolingual attitude against the use of multiple languages within the same text has deep roots in established norms and dominant perspectives. That being said, it should also be highlighted that criticisms against such language use may be based on contextual parameters, e.g., the presence of users of other languages within the student body. If international students who do not share the dominant home language in an EMI context are not given similar input in their own languages in an exam, that would create unfairness against them. Therefore, it would be a mistake on the part of those favoring multilingual practices to entirely disregard such criticisms. However, I also think that from another perspective, giving instructions in this way rather than imposing a monolingual approach in a context where multilingualism is the norm may also be a useful option for students, but it requires careful planning based on contextual needs and parameters, and the availability of resources to allocate for the accommodation of such multilingual practices in assessments. As a matter of fact, the inclusion of different named languages in test tasks has recently been practiced in a high-stakes language exam for university instructors (Baker & Hope, 2019). This indicates that in the future, translingual practices may be more welcome, but only time will tell.

To administer the exam, the researcher printed out copies of the test as well as participant information and consent forms. The exams were administered with the support of the course instructors. The study was introduced to the course instructors, and the process of administering the exam was explained to them. The students were required to do the exam individually, without getting help from the teacher, their classmates, course materials, or any other tools or resources. The researcher visited

the classrooms to inform the students about the study and procedures, informing them that the study was done on a voluntary basis, the results were not to affect their course grade, the answers would not be shared with any third parties, and they were free to leave the study at any time. They were also given time to read and sign the participant information and consent forms. After they signed the consent forms, they were given 30 minutes to complete the exam.

4.5 Data analysis

Lee (2022) argues that the approach to translanguaging by some scholars is through epistemological paradigms that are better aligned with code-switching. Lee (2022) makes the following observation:

> [o]ur research participants may be using language in ways that are not in alignment with our mappings. We may be interested, for instance, in understanding when and why our participants 'switch' between 'codes,' but our participants themselves might not be conceiving of their languaging in this manner, as operating along predictable coordinates of 'codes,' to begin with. (p. 4).

The fact that a word count methodology is used in the current research and that the participants' language repertories are categorized into L1 and L2 may seem to indicate that the epistemological approach taken here still remains within the confines of code-switching research. However, given that written products are analyzed, an outsider's perspective is taken in Study 1. The research paradigm employed obviously does not allow for uncovering cognitive processing during the participants' text generation. After all, the investigation is based on completed texts, i.e., products, rather than the process. Assigning words in these products to different languages may mean seeing languages as homogeneous, compartmentalized codes. However, this is not really the perspective taken here. The counting of words associated with different languages in a conventional manner is intended to show that

bilinguals' language practices, and products, go beyond such categorizations. To show that bilingual practices transcend and evade boundaries between languages, it is necessary to show where these boundaries were in the first place. As Cummins (2017, p. 112) state,

> It is entirely possible to reconcile the construct of translanguaging, which highlights the integrated conceptual/linguistic system through which plurilingual individuals process and use language, with the social reality of different languages, understood as historical, cultural, and ideological constructs that have material consequences and determine social action (e.g., language planning, bilingual programs, etc.).

Whether a word is categorized as a Turkish or an English word was determined (1) by the researcher, who is fluent in Turkish and English, and (2) by consulting the proofing language feature of Microsoft Word. However, there were also situations when this was not sufficient to determine whether a word should be considered a Turkish or an English word. The following decisions were made during the study:

- Person and location names, and acronyms were excluded from the analysis.
- If there were contentious words, they were checked on the Turkish Language Association's online dictionary (https://sozluk.gov.tr/) and in the Cambridge Dictionary (https://dictionary.cambridge.org/). For example, although the word "selfie" is originally an English language word, its use by speakers of Turkish has been so widespread that it has also entered the Turkish Language Association's dictionary without any changes to its spelling. Words that are spelled the same and have the same meaning in both languages and are included in both Turkish and English dictionaries, such as "selfie", "atom", or "test", were not included in the word count analysis.
- Additionally, there were also words which were not included on sozluk.gov.tr, but were still used in Turkish, especially terminological words from health sciences. Some of these words are spelled the same in both

languages (e.g., abdominal, radius). The researcher searched such words online on websites by locating Tıp Terimleri Sözlüğü (Medical Dictionary), Biyoloji Terimleri Sözlüğü (Biology Dictionary), as well as by doing Google searches such as "abdominal ağrı" (abdominal pain) and "radius kemiği" (radius bone). Since student interviews were not a part of Study 1, students could not be asked which language they thought such words belonged to; that is why, words that were found to be used in both Turkish and English with the same spelling were excluded from the word count analysis.

- There are also words which are spelled similarly, but not exactly in the same way, in English and Turkish – words such as acid (asit), medical (medikal), sonography (sonografi), symptom (semptom), bureaucracy (bürokrasi). For such words, the decision to count them as Turkish or English was made based on how they were spelled by the participant. If the English spelling was used, the word was counted as an English word, and if the Turkish spelling was used, it was counted as a Turkish word.

The attempts to appropriately categorize the words as Turkish or English were, for me, a testimony to the difficulty of drawing borders between languages and of the enterprise of assigning words to specific named languages. However, given the psychological and practical reality of named languages, it was also a necessary step to see how experience with another language influences the use of the two named languages by students in CLIL and, as we will see in Study 2, in EMI settings. Also, it should be added that since Turkish is an agglutinative language and English is not, the number of words used to express the same idea in the two languages will likely be different.

Through the coding of the words as L1 and L2, the total number of L1 and L2 words was calculated. However, at this point, the unit names (which are also given in the exam papers) were coded separately, because irrespective of language choice, that is, even when a participant responded in Turkish, unit names were included in student answers in English (Students used the unit names to indicate which unit they were writing about in their responses).

To answer RQ1 (Do learners engage in monolingual or translingual practices when they are given the opportunity to use their linguistic resources without constraints?), and RQ2 (Does the level of proficiency affect learner behavior in terms of monolingual and translingual practices?) in the EPP (CLIL courses, as described previously and in Appendix C), the following procedures were used:

First, the average and total numbers as well as percentages of L1 vs L2 words were calculated according to the proficiency level. These descriptive results were intended to provide a general understanding of language use by students from different proficiency levels. This first analysis showed that L1 use was evident at each proficiency level.

Next, to examine students' language use in more detail, the number and percentage of students who used the L1 only, L2 only, or both languages were calculated. This analysis was used to see if there were students who used both languages within the same response, and if there were differences between the levels in terms of students' language use. Translanguaging in student responses was found at all four proficiency levels.

The fact that there were students who used both languages was of limited informative value. A student may have written a response with all but one word in Turkish, and another student may have written almost half of the response in Turkish

and half in English. In these cases, both students translanguaged, but to varying extents. To understand the extent of translanguaging in a response, the percentage of L2 words used by each student was calculated. For example, if a student used 10 L2 words and 90 L1 words in a response composed of a total of 100 words, the percentage of L2 use was 10%. If a student used 70 L2 words and 30 L1 words, the percentage of L2 use was 70%. Following this, four groups were created according to the percentage of L2 words used: (1) 1-25%, (2) 26-50%, (3) 51-75%, and (4) 76-99%. In this way, it became possible to see if students who used both languages wrote their responses predominantly in the L1, or the L2, or used the two languages for approximately equal amounts.

To see whether the different proficiency groups were statistically different in terms of the amount of L2 use in their responses, inferential statistical analyses were conducted using SPSS 20.0. For these analyses, the Upper-intermediate and Advanced groups were combined as the Upper/Advanced group, because otherwise the number of students in the Advanced group would be too low for the information obtained about this group to be statistically meaningful.

The group sizes were not equal (i.e., Pre-intermediate = 77, Intermediate = 101, Upper/Advanced = 48); so, the data was checked to see if homogeneity of variance assumption was met. Since it was not, the non-parametric Kruskal-Wallis H test was run to see if the percentage of L2 use was moderated by proficiency.

Since the Kruskal-Wallis H test indicated a significant difference, the Mann-Whitney U test with the Bonferroni adjustment was used to make comparisons across the proficiency groups.

4.6 Results

To see whether the extent to which the participants used the L1 or the L2 in their answers varied between different proficiency levels, the average number of L1 vs L2 words used by the participants in their written responses was analyzed (see Table 3). As was previously mentioned, the number of participants in each level was as follows: Pre-intermediate = 77, Intermediate = 101, Upper-intermediate = 33, and Advanced = 15. The unit names, which were provided in English, were used in English by the participants regardless of their language preference in their responses; therefore, they are presented separately and were not included in statistical analyses.

As Table 3 shows, the L1 was used at all the proficiency levels. The average number of L2 words increased along with proficiency. On the other hand, the average number of L1 words tended to decrease as proficiency increased. A high number of L1 words was used by the average student at the upper-intermediate level, but the upper-intermediate group also wrote the longest responses. A closer look at individual student performances at the upper-intermediate level showed that there were three participants who wrote more than 200 words (i.e., 225, 228, 251) entirely in their L1, which contributed to the high number of average L1 words in this group.

Table 3. Average Number of Words Per Student According to Proficiency Level in Study 1

Level	L2 Words	L1 Words	Unit Names	Total
Pre-intermediate	23	68	7	98
Intermediate	44	54	6	103
Upper-intermediate	80	75	6	161
Advanced	105	36	7	148

In the next step, the ratio of L1 vs L2 words to the total number of words was calculated. The results of these calculations are presented in Table 4. This data shows that the use of L2 and proficiency are positively correlated. While only 24% of the

words used by the students at the pre-intermediate level were in the L2, this figure was over 70% in the advanced group. This also means that increase in proficiency was associated with decrease in the use of the L1, from 69% in the Pre-intermediate level to 24% in the Advanced level.

Table 4. Total Number and Percentage of Words Based on Proficiency Level in Study 1

Level	L2 Words (%)	L1 Words (%)	Unit Names (%)	Total
Pre-intermediate	1789 (23.6)	5262 (69.3)	538 (7.1)	7589
Intermediate	4431 (42)	5456 (51.8)	655 (6.2)	10542
Upper-intermediate	2649 (49.9)	2478 (46.7)	183 (3.4)	5310
Advanced	1579 (71.1)	542 (24.4)	100 (4.5)	2221

Since it was observed that both the L1 and the L2 were used by the participants in their responses, the next descriptive analysis focused on the numbers and percentages of students who used only the L1, those who used only the L2, and those who used both languages in each proficiency level (Table 5). The percentage of students who used the L2 only was found to be higher as one progressed from lower to higher levels of proficiency, while the use of the L1 showed a tendency to be lower. The word count analysis (Table 4) showed that a total of 542 L1 words were used by the advanced students, but as seen in Table 5, none of these students used the L1 only in their responses. They either used the L2 only or a mix of the L1 and the L2.

Table 5. Number and Percentage of Students Who Used Turkish Only, English Only, or Both in Study 1

Level	L2 only (%)	L1 only (%)	Both (%)	Total
Pre-intermediate	11 (14.3)	21 (27.3)	45 (58.4)	77
Intermediate	31 (30.7)	12 (11.9)	58 (57.4)	101
Upper-intermediate	13 (39.4)	6 (18.2)	14 (42.4)	33
Advanced	7 (46.7)	0 (0)	8 (53.3)	15

Another interesting finding was that although there seemed to be a decrease in the use of both languages within the same response along with an increase in proficiency, the difference was less pronounced in comparison to the decrease in the use of the L1. However, in this analysis, two students with different amounts of L1 and L2 use within the same response were treated similarly; that is, a student who wrote totally in the L1 except for a few words in the L2, and another who used similar amounts of L1 and L2 were both included in the same group (i.e., the Both languages group).

In order to better understand each proficiency group's translanguaging behavior, four categories were created based on the amount of L2 use in a response: 1-25%, 26-50%, 51-75%, and 76-99%. For example, if a student used only 3 words in the L2 and 97 words in the L1, their L2 use would be 3%, and they would be included in the 1-25% category. In other words, a lower percentage meant a lower amount of L2 use and a higher amount of L1 use. This information can be found in Table 6. The table also provides the percentages of the students in each category in parentheses. Sample responses that illustrate students' translanguaging are provided in Appendix E.

Table 6. Number and Percentage of Students Who Translanguaged According to the Percentage of L2 Use in Study 1

Level	1-25%	26-50%	51-75%	76-99%	Total
Pre-intermediate	31 (68.9)	4 (8.9)	6 (13.3)	4 (8.9)	45
Intermediate	26 (44.8)	17 (29.3)	6 (10.3)	9 (15.5)	58
Upper-intermediate	6 (42.9)	5 (35.7)	1 (7.1)	2 (14.3)	14
Advanced	2 (25)	3 (37.5)	2 (25)	1 (12.5)	8

As can be seen in Table 6, the students who used both languages in their responses were more likely to compose their responses mainly in the L1 at all levels; in other

words, the majority of the students in each level used more than 50% of L1 in their responses. The data also indicates that the probability of the students who wrote mainly in the L1 to include L2 words in their responses was higher than the probability of the students who wrote mainly in the L2 to include L1 words.

The analyses were followed by inferential statistics. Since the descriptive statistics showed that the students' language behavior in their responses varied as a function of proficiency, the next step involved determining whether the differences between the proficiency groups were significant. The analyses were conducted based on the percentage of L2 use. As was previously mentioned, if a student wrote totally in the L1 for example, their score was 0; if a student wrote totally in the L2, their score was 100; or if a student used equal amounts of L1 and L2, their score was 50, and so on.

Because the numbers of students in the Upper-intermediate and Advanced levels were low, the two groups were combined for the statistical analyses, as otherwise the sample size of the Advanced group in particular would not be sufficient to produce meaningful statistical results. The resultant three proficiency levels (Pre-intermediate, Intermediate, and Upper/Advanced) were compared to see if there was a difference between them in terms of their language use in their answers.

Since the homogeneity of variance assumption was violated due likely to the unequal group sizes, the non-parametric independent samples Kruskal-Wallis test was performed. The test showed that there was a statistically significant difference in the L2 use percentages between the different proficiency groups, $\chi^2(2) = 28.810$, $p = 0.000$, with a mean rank L2 use score of 85.10 for the Pre-intermediate group, 124.17 for the Intermediate group, and 136.61 for the Upper/Advanced group. For the

Kruskal-Wallis test, epsilon squared (ε^2) is recommended as an appropriate measure of effect size; the ε^2 value was .106, which corresponds to a medium effect size (King, Rosopa, & Minium, 2018).

Given the presence of a significant difference, the Mann-Whitney U test was conducted as a post-hoc analysis to make pairwise comparisons. The Bonferroni adjustment was applied to control for Type I error across the tests. The results indicated significant differences between the Pre-intermediate group and the Intermediate group, $U = 5.276$, $p = .000$, and between the Pre-intermediate group and the Upper/Advanced group, $U = 2.647$, $p = .000$. However, the difference between the Intermediate and the Upper/Advanced groups was not significant, $U = 2.734$, $p = .199$.

4.7 Discussion

There is a "dearth of literature specifically related to the multilingual turn in CLIL" and to translingual practices in various educational contexts (Karabassova & San Isidro, 2020, p. 5). The current study investigated what linguistic practices students taking CLIL courses would engage in when offered the freedom to use their whole linguistic repertoire, and whether these practices were related to L2-English proficiency. The results obtained from the assessment task within CLIL courses of the EPP showed that students engaged in both monolingual and translingual practices when given the opportunity to answer questions without any language-related constraints imposed upon them. The level of proficiency in L2-English was found to be related to students' language behavior in that the use of the L2 in student responses tended to increase as proficiency increased. Additionally, irrespective of proficiency, students were found to translanguage in the form of using both of their

languages within the same response. These students were more likely to write dominantly in the L1 and include L2 words in their response than vice versa.

In terms of the difference between the different proficiency groups, while the Pre-intermediate group used significantly more L1 than the Intermediate and the Upper/Advanced groups, the difference between the two latter groups was not significant. Given the unequal group sizes, a non-parametric test was employed. The number of the students in the Upper/Advanced group was 48, which might have affected the robustness of the finding, but still a medium effect size was obtained. The differences in sample sizes and the small number of Upper/Advanced students might have contributed to the lack of a significant difference between the Intermediate (N=101) and Upper-Advanced groups.

It should be emphasized that the EPP, the setting of Study 1, aims to develop students' L2-English skills to prepare them for their EMI programs. Most of the classes offered by the EPP can be categorized as EAP classes, in which skill-based courses are offered via academic content and tasks, because the focus is on teaching L2 skills. However, the classes offered on Friday are specifically designed to help students acquire fundamental information relevant to specific departments, in addition to L2 skills, and therefore assessment tasks also include a content section apart from the language (that is, grammar and vocabulary) section. It was suggested by instructors of Friday CLIL classes (see Appendix C) that because the main goal of these classes is to prepare students for their respective EMI programs, the acquisition and assessment of disciplinary knowledge is a priority. However, because language knowledge and content knowledge are closely connected and there is a dual focus on the development of L2 skills and acquisition of field-specific information in these classes, allowing students to use other languages in the exams given as part of these

classes would be hard to justify in terms of context validity, not serving the purpose of the EPP. Still, results from Study 1 can be informative for contexts where assessment tasks concerned with testing students' content knowledge are given in the L2 to students with limited proficiency in the L2.

The findings from Study 1 show that L2-English students may make use of the L1 or both of their languages when responding to questions that assess their content knowledge in CLIL courses. The finding that the use of the L2 is higher at higher proficiency levels indicates that as students acquire content and language knowledge in the L2, their likelihood to use the L2 increases. After all, the instructions did not place any constraints in terms of language use and asked students to provide the best answer to show what they had learned in their CLIL classes. In other words, high proficiency students could just as well have answered in the L1, just like lower proficiency students tended to do. This shows that as students become more proficient in the L2, they might be more comfortable expressing their content knowledge in the language of instruction. It might also be that their encoding and retrieval processes have become more effective so that they are not challenged in understanding content in the L2, nor in expressing their knowledge in the L2.

One concern in allowing students to use their whole linguistic repertoire may be that this might cause students to depend too much on their L1, and not use the L2 sufficiently, which would create hindrances in their L2 learning process. However, the current study has revealed that with increasing proficiency, the students tended to make less use of their L1 in their responses. Although, to my knowledge, the relationship between proficiency and use of the L2 in assessments has not been researched in CLIL contexts, likely because students are required to use the L2 only in assessments, research into willingness to communicate (WTC) has shown the

effect of proficiency in students' likelihood to use their L2 in communication. For example, in their 2011 study with first-year engineering students, Alemi, Daftarifard, and Pashmforoosh found that students with higher L2 proficiency tended to be more communicative in the classroom, while those with lower language proficiency were more hesitant to communicate. Since this study, the relationship between WTC and proficiency has been investigated by several researchers in different contexts. Rostami, Kashanian, and Gholami (2016), Tan and Phairot (2018), Sato (2020), and Barrios and Acosta-Manzano (2021) found a similar relationship between language proficiency and WTC among Iranian, Thai, Japanese, and Spanish L2-English learners, respectively, showing that the WTC of learners was negatively affected by a lack of proficiency, and at more advanced levels, learners had higher WTC. Likewise, Darasawang and Reinders (2021) found a statistically significant relationship between WTC and English proficiency among first-year undergraduate students in Thailand. Lastly, a meta-analysis of twenty-two research studies on WTC by Elahi Shirvan, Khajavy, MacIntyre, and Taherian (2019) revealed that perceived communicative competence was significantly correlated with WTC. Although the participants' willingness to use the L2 was not assessed within the current study, the fact that higher proficiency students used more L2 may have to do with their willingness to show their content knowledge in the L2, rather than the L1.

San Isidro and Lasagabaster (2019) state that there is a paucity of research on code-switching in CLIL contexts, and they find this surprising given "the fact that CLIL is inextricably connected to multilingual language learning" (p. 337). Indeed, this linguistic phenomenon is a fact of multilingual classrooms, and despite policies which aim to regulate classroom language use and to promote an English-only policy, "like nature, the L1 creeps back in, however many times you throw it out

with a pitch-fork." (Cook, 2001, p. 405). The fact that a monolingual (one language only) approach is strictly followed in assessment tasks is also expressed by Wei (2018):

> For me, the Translanguaging pedagogy also helps to re-examine an age-old question of the role of L1 in second, foreign, and additional language teaching and learning. Despite the theoretical appraisal in recent years of the importance of L1 in learning additional languages, the target language-only or one-language-at-a-time monolingual ideologies still dominate much of practice and policy, not least in assessing learning outcomes. (p. 16)

While translanguaging may have much to offer in language teaching and assessment, it could be argued that it is particularly relevant when the purpose is to assess content knowledge in CLIL or EMI settings. It should be highlighted once again that language and content are intertwined as expression of content is mediated by language (and other semiotic resources). One might also argue that the purpose in CLIL is to enable students to express their content knowledge in the target language – yet this argument too is motivated by a monolingual model, which has been shown to be "violated" in CLIL (and EMI) classrooms (e.g., Cavalli, 2020; Duran et al., 2022; Lin, & He, 2017). The same was true for the Friday CLIL classes in the EPP, as the reports of course instructors showed (which are presented in Appendix C). Instructors reported that they sometimes used Turkish, especially when students were challenged with understanding part of the content or certain concepts. As one instructor stated "it is a good thing for them to learn the Turkish versions of some terminologies. Ve tabi mesleki ingilizcenin challenging olduğu da unutulmamalı [And of course it should not be forgotten that vocational English is challenging]".

Additionally, the fact that the CLIL exams in the EPP were divided into two sections (content and language) implies that a distinction is made between content knowledge and language knowledge. Instructor comments showed that particular attention was paid to teaching terminology in the L2 (e.g., "The main aim is to

familiarize students with the terminology related to their departments", "To teach the concepts that the students will see when they start their departments", "To prepare the students for the technical terms of their departments."), and content learning objectives were prioritized over language learning objectives in assessments because, as one instructor stated, "The students' level of English is already assessed in their academic English exams." One finding from the current study is that although the participants' use of their L1 tended to decrease at higher proficiency levels, translanguaging in the form of the use of features from both languages in the same response was observed in responses at approximately the same rate in all proficiency levels. Student responses included many instances where terminology was used in English, while explanations were provided in Turkish. Some examples are provided below in Table 7 (For more, please see Appendix E).

Obviously, translanguaging allows at least some students to express their knowledge more fully. Insisting on a one-language-only approach may limit students' ability to express their content knowledge, particularly under timed exam conditions. Students may sometimes be unable to retrieve an L2 word or words (which emerged as a finding in student interviews in Study 2, and this is discussed in more detail under Study 2.) As a matter of fact, the inclusion of the phrase "ağaç gövdesi" ("tree trunk") in an otherwise English text by a student from the Radio, Television and Cinema course can be given as an example of this:

> Green symbolizing nature, wealth and rebirth because it's the colour of nature and grass that's why we can comfortably use it for showing life and grow. Brown is colour of solidarity because it's colour of ağaç gövdesi but is is also colour of dirt so that's why we can also use it for showing the unethical things, bad situations.

Table 7. Sample Student Responses That Include Translanguaging in Study 1

Department	Sample Answer (Original Excerpt)	English Translation of the Excerpt
Computer Engineering	Sınıflandırmaları öğrendik. Tokenization: Kelimeleri teker teker sayma Parsing: Cümle ögeleri Lemmatization: Cümlenin formları Part of speech tagging: adj., noun, etc. Language detection: identify language	We learned about classifications. • Tokenization: Counting words one by one • Parsing: Sentence elements • Lemmatization: Forms of the sentence • Part of speech tagging: adj., noun, etc. • Language detection: identify language
Medicine	Crohn's Disease Semptomları: İshal, rektal kanama, kilo kaybı, ateş Hemorrhoid: İshal, kabız, az lifli yemek yemek Diverticulitis: Ateş, abdominal pain IBS: Diarrhea, loose watery bloating	Crohn's Disease Symptoms: Diarrhea, rectal bleeding, weight loss, fever Hemorrhoids: Diarrhea, constipation, eating low fiber food Diverticulitis: fever, abdominal pain IBS: Diarrhea, loose watery bloating
Psychology	Değişik akılda tutma yöntemleri Music mnemonic: Şarkıyla akılda tutma. Örn = ABC song Name mnemonic: Bir kelimenin her harfine bir şey kodlama Expression or word: Kelimeyi hikayeleştirme. Örn = periyodik tablo Model mnemonic: tablo oluşturma – pie chart Connection: Birbiriyle bağlantılı kelimelerle akılda kodlama	Different information retention methods Music mnemonic: Keeping in mind with a song. Example = ABC song Name mnemonic: Coding something for each letter of a word Expression or word: Creating a story for the word. Example = periodic table Model mnemonic: creating a chart – pie chart Connection: Coding in mind with related words
International Relations	Power kendi içinde "Formal" ve "Personal" olmak üzere ikiye ayrılır. Daha sonra "Formal" kendi içinde "Coercive P., Legitimate P., Reward P." olarak; "Personal" de kendi içinde "Expert ve Referent" olarak ikiye ayrılır.	Power is divided into two as "Formal" and "Personal". Next, "Formal" itself is divided into "Coercive P., Legitimate P., Reward P."; "Personal" into two as "Expert and Referent".

Duran et al. (2022) found in an EMI university in Türkiye that the L1-Turkish was enacted as a last resort, as students only turned to it when they were unable to find the desired word in English. They argue that language practices within classrooms "display how the participants construct the language policy of EMI in and through interaction, enacting a multilingual pedagogy that treats all available languages as resources." (p. 16). The student whose response is provided above also seems to have included the phrase "agaç gövdesi" due to failure to retrieve "tree trunk", which might have been either completely unavailable or temporarily inaccessible to them.

The student could have tried, and potentially found, a way to work around this problem, by rephrasing the sentence or finding another brown item that signals solidarity, but this would obviously slow them down, which, again, may constitute a problem in timed exams.

García (2019) asserts that despite the increased visibility of multilingualism, language education remains monolingual in terms of design and implementation irrespective of program type (e.g., bilingual, CLIL, or foreign language instruction), but also highlights "the translanguaging discourse that simply exists in classrooms, giving evidence of its presence despite type of program, language policy, subject instruction, or age and type of learners and teachers." (p. 371). Translanguaging has been found to be present in student responses in the current study as well. Various researchers have suggested implementing the integration of translanguaging in CLIL classrooms, including at the university level, as it has been found to offer various benefits, including being more conducive to learning (e.g., Gallagher & Colohan, 2017; Kao, 2022; Lin, 2019; Zhou & Mann, 2021). Additionally, there are also concerns about national languages losing their value as languages of science given the dominance of English. For example, Cavalli (2020) states, "the use of two languages in the construction of concepts is becoming an emergency in modern societies, where the risk that knowledge will be built only in the single language of globalisation is more than real" (p. 68), which is also implied in the statement "it is a good thing for them to learn the Turkish versions of some terminologies" by one of the CLIL instructors in the EPP. Although this statement may also mean that students will need to know Turkish terminology as they may be employed in Türkiye after graduation, it still points to the necessity of building field-specific knowledge in at least two languages, rather than one. As Nikula and Moore (2019) emphasize, it

would be beneficial for teachers to have a general knowledge of translanguaging as a characteristic of natural bilingual communication, which they and their students can use based on "situational demands" (p. 9). Similarly, the argument made within Study 1 is not that translanguaging should be included in all assessments in all CLIL environments at all levels of proficiency, but particularly when the assessment purpose is to determine whether students have developed content knowledge, students may be allowed to take advantage of their whole language repertoire to show their true content knowledge.

CHAPTER 5

STUDY 2

5.1 Introduction

This study was conducted to produce data that could help answer the following questions in an EMI setting:

> RQ1. Do learners engage in monolingual or translingual practices when they are given the opportunity to use their linguistic resources without constraints?
>
> RQ2. Does the level of proficiency affect learner behavior in terms of monolingual and translingual practices?
>
> RQ3. What functions does translanguaging serve in assessment?
>
> RQ4. What difficulties do students think they face while studying in English, their second language?

Study 2 consisted of three phases. In Phase 1, students enrolled in various EMI programs were asked questions testing their content knowledge in their EMI courses, and were allowed to answer them without any language constraints. This phase produced data that was used to answer RQ1 in an EMI setting. In the second phase, the students involved in Phase 1 were invited to take a writing test that aimed to evaluate their English proficiency. This phase of Study 2 produced answers for RQ2 in an EMI setting. In the last phase, the participants were invited to an interview which involved questions about their language use in Phase 1 and about the challenges they faced in their EMI programs. This phase produced findings relevant to RQ3 and RQ4. These steps are presented in Table 8.

Table 8. Phases of Study 2

Phase	Steps
Phase 1	I. EMI course instructors are contacted II. Course instructors prepare exam questions III. Participants are given the exam (N = 157) IV. Participant responses go through a word count analysis
Phase 2	I. Participants are invited to take a written proficiency exam II. Participants are given the proficiency exam (N = 114) III. The essays are graded by two raters
Phase 3	I. Participants are invited to an interview II. Interviews are conducted (N = 18) III. Interviews are transcribed and analyzed

5.2 The setting

Study 2 was conducted in EMI programs of the GPU, which aim to equip students with the knowledgebase, skills, and attitudes that are required in relevant job areas, as well as preparing them for further studies at a more advanced level within related fields.

The study was conducted at different courses in various programs. Below, I will briefly introduce each program. The information presented below comes from the official documents of the programs which are available to the public but is rewritten by the researcher in a way that is intended to provide the necessary information to establish the setting while at the same time protecting the anonymity of the institution.

- New Media and Communication: It is a four-year undergraduate program. The program website states that the medium of instruction is English, but other than that there are no references to language requirements or any objectives as to students' L2 development. The program mainly aims to educate students to become media practitioners and scholars. It is stated that students are prepared to work at both local and global media platforms. In a conversation with one of the instructors, I asked what is meant by the word

"global" and how the department prepares students to work at global platforms. They said that "global" refers to media platforms that have an international audience and that have branches in many countries, and preparing students to work at global platforms means helping them understand the needs and media-related preferences of people from various backgrounds in terms of nation, language, social class, etc. When I asked whether they thought English provided any advantages in that regard, they stated that:

    - the platforms that use English are able to reach more people,
    - media platforms of countries where a language other than English is the official language establish channels and platforms that broadcast in English to reach an international audience,
    - graduates who are competent in English have more job opportunities and can earn more,
    - but since global media companies started establishing branches in different countries and they broadcast and publish in the official language(s) of that country, graduates may work in global companies but use their local language.

- Radio, Television and Cinema: It is a four-year undergraduate program. The program aims to educate students to become media professionals who are able to produce content for different kinds of media, have developed an understanding of different kinds of media and can cater to the needs of each, can analyze the target audience, and are accountable towards the general public. According to the program's website, graduates can choose to have a career in areas such as media centers, news centers, production companies,

and universities. The program's language of instruction is English, but its website does not provide any information as to what benefits students may gain from studying through English.

- International Relations: It is a four-year undergraduate program. The language of instruction is identified as English. Documents that are intended for prospective students state that the department offers them the opportunity to attain a high L2-English proficiency that will enable them to use the language in academic and professional contexts. It should be highlighted here that this is said to be done through L2-English classes that are offered by the EPP. The International Relations program mainly aims to equip students with the knowledge and skills that are necessary to analyze and make sense of international developments, and thus to help them become experts in the area of international relations. The career opportunities that the department provides are said to include working at governmental institutions (the Ministry of Foreign Affairs in particular), the media, financial institutions, and universities.
- Economics: It is a four-year undergraduate program. The program's website states that it is an English-medium department. However, other than that, there is no information as to why the department has opted for English as the medium of instruction. The program seems to put emphasis on the knowledge-base and skills that the program aims to equip students with, given that phrases such as "theoretical knowledge", "comprehensive knowledge" and "problem solving" are repeatedly used in their documents. The career opportunities mentioned on the website include accounting, marketing, banking, and foreign trade.

- Psychology: It is a four-year undergraduate program. The program's main objective is identified as helping students develop the necessary knowledge and skills that will enable them to use evidence-based theoretical and practical approaches in their work and further studies. The department website states that graduates can find employment in various areas, including educational institutions, guidance and psychological counseling centers, research companies, as well as governmental institutions. The language of instruction is English, yet the program does not refer to developing L2-English skills as one of its objectives.

5.3 Participants

As is explained above, Study 2 involved three phases, which include the administration of content exams, a language test, and semi-structured interviews, respectively. The participants of each phase are introduced below.

5.3.1 The content exam participants

The participants were students from various EMI programs at the GPU. This means that, as all students need to prove that they have sufficient proficiency in English to begin their EMI programs, they were either exempted from the EPP, or successfully passed the in-house proficiency test or the TOEFL after receiving English classes offered by the EPP.

At this point, I should provide some details as to the English language requirements to give an idea of the L2-English proficiency of the participating students. When they first register into their EMI programs, students can either take

the university's in-house English proficiency exam or submit a TOEFL IBT score to be exempted from the EPP. The TOEFL IBT result is valid only for two years, which means that students need to have obtained the required score within the last two years before their registration. In addition, students who received their primary, secondary, and high school education in an English medium school in a country where English is the official language can apply for exemption from the language exam requirement.

Educational Testing Service (ETS) is the organization that prepares and administers the TOEFL. On its website, ETS is described as "the world's largest private educational testing and measurement organization" (ETS, n.d.). In a study carried out as part of ETS research, Papageorgiou, Tannenbaum, Bridgeman, and Cho (2015) analyzed the correspondence between TOEFL scores and the Common European Framework of Reference (CEFR) levels. It was found that the minimum score that corresponds to the B2 level is 72, and the minimum score that corresponds to the C1 level is 95. That the EPP requires students to get a minimum score of 75 from the TOEFL to begin their departments means that the students in the EMI programs are expected to have achieved a CEFR level of B2 or above.

Similarly, according to the information provided in the university's documents, students need to have reached at least the B1 level to be admitted to the university's in-house proficiency test. Students need to take a placement test before the proficiency exam, and those students who are eligible to take the proficiency exam need to get a minimum score of 60 out of 100. We can assume that 60 corresponds to 75 on the TOEFL. Although I have not been able to locate publicly available information as to how the correspondence between the two tests was established, based on the available information, we can conclude that the minimum

proficiency level required to begin the EMI programs at the GPU is set at the CEFR B2 level.

At the time of the study, the participants were getting EMI in their undergraduate studies. Table 9 shows the number of participants from each department.

Table 9. The Number of the Content Exam Participants Based on the L1 and the Course Enrolled in Study 2

Faculty	Program	Course	L1 Arabic	L1 Turkish	Total
Faculty of Communication	New Media and Communication	Media and Society	18	24	42
		Digital Storytelling	7	12	19
	Radio, Television, and Cinema	Research Development	5	9	14
Faculty of Economics, Administrative and Social Sciences	International Relations	International Political Economy	0	9	9
		History of International Relations	0	13	13
		Introduction to Political Science	4	7	11
	Economics	Introduction to Business	9	9	18
		Organizational Behavior	6	9	15
Faculty of Humanities and Social Sciences	Psychology	Psychology of Learning	0	14	14
Total			49	106	155

There was also one L1-Albanian student in the International Political Economy course and one L1-French student in the Media and Society course, and both students were temporarily there as part of an exchange program. This means, including these two students, there were a total of 157 participants.

5.3.2 The written proficiency test participants

The students who participated in the content exams were invited to a written proficiency test similar to the writing section of the EPP's in-house proficiency exam. A total of 114 students volunteered to take the written proficiency test. Seventy-seven were L1 Turkish, and 37 were L1 Arabic speakers. The number of students who took the test from each EMI course is presented in Table 10.

Table 10. The Number of the Proficiency Exam Participants Based on the L1 and the Course Enrolled in Study 2

Faculty	Program	Course	L1 Arabic	L1 Turkish	Total
Faculty of Communication	New Media and Communication	Media and Society	15	23	38
		Digital Storytelling	6	12	18
	Radio, Television, and Cinema	Research Development	3	4	7
Faculty of Economics, Administrative and Social Sciences	International Relations	International Political Economy	0	4	4
		History of International Relations	0	4	4
		Introduction to Political Science	1	4	5
	Economics	Introduction to Business	7	9	16
		Organizational Behavior	5	9	14
Faculty of Humanities and Social Sciences	Psychology	Psychology of Learning	0	8	8
Total			37	77	114

5.3.3 The interview participants

The students who were involved in Phase 1 of Study 2 were sent e-mails and invited to a semi-structured interview. The researcher purposely first e-mailed those who used both languages in their responses in the content exam as a fundamental aim of

the interviews was to uncover the functions of translanguaging. Next, those who used either L1 only or L2 only were also invited, in order to reach more participants and to obtain information about the reasons behind the language choices of these students, as well. They were informed about the aims, duration, and location of the interview in the e-mail.

Eighteen students agreed to participate in the interview. Table 11 presents the L1 of the participants, the EMI course in which they took the content exam, the language they used in the content exam, and their written proficiency scores.

Table 11. Information about the Interview Participants in Study 2

Participant	L1	Course	Language in the Content Exam	Proficiency Score
IP1	Turkish	History of International Relations	Both	13.25
IP2	Turkish	History of International Relations	Both	17.5
IP3	Turkish	History of International Relations	L2	14
IP4	Turkish	Psychology of Learning	Both	13
IP5	Turkish	Psychology of Learning	Both	10.5
IP6	Turkish	Psychology of Learning	Both	7.75
IP7	Turkish	Psychology of Learning	Both	NA
IP8	Arabic	Research Development	Both	14.75
IP9	Arabic	Research Development	Both	11.5
IP10	Turkish	International Political Economy	L2	13.25
IP11	Turkish	International Political Economy	L2	18.25
IP12	Turkish	International Political Economy	Both	8.25
IP13	Arabic	Introduction to Business	Both	9.75
IP14	Turkish	Introduction to Business	L1	5.5
IP15	Turkish	Media and Society	L1	7.75
IP16	Turkish	Media and Society	L1	5
IP17	Turkish	Organizational Behavior	Both	7.25
IP18	Turkish	Organizational Behavior	L1	9.75

Note: IP= Interview Participant, NA= Not available as the student did not participate in the written proficiency exam.

5.4 Tools and procedures

To review, Study 2 aimed to uncover (a) what students' linguistic behavior would be like when given the opportunity to draw from their whole linguistic repertoire in an

exam assessing content knowledge, (b) whether there is a relationship between proficiency and students' tendency to use one or the other language or both, (c) what functions students use translanguaging for in the content exam, and (d) what challenges they face in their EMI classes. For (a), the participants were given questions prepared by their EMI course instructors; for (b), they were given a written proficiency test; for (c) and (d), they were invited to a semi-structured interview. The content and proficiency exams, and the interviews are described below.

5.4.1 The content exams

Given that I am not a specialist in the targeted content areas, I needed to collaborate with EMI instructors and asked them to prepare questions to be used in the study. I sent e-mails to instructors teaching in EMI programs, asking whether they would be interested in preparing one or two written response questions that tested their students' knowledge in one of the EMI courses they were teaching. The questions were supposed to be similar to those they ask in the mid-term or final exams they give as part of their course assessments. They were also informed about the aims and procedures of the study. A total of nine instructors from five programs prepared questions. Their questions are presented in Table 12. The table also provides information as to the faculties, programs, term in which the relevant course is offered, and the amount of time given to answer the question (which was determined by the course instructors).

Table 12. Questions Asked in the Content Exams in Study 2

Faculty	Program	Course	Term	Time	Question
Faculty of Communication	New Media and Communication	Media and Society	1	20	Why do people fear the media and its influence?
		Digital Storytelling	1	30	Answer the following questions: a. What is digital storytelling? How is it different from traditional storytelling? b. List and explain three of the steps in digital storytelling? c. Choose a topic that is important to you. Imagine that you are preparing a digital story on this topic. Explain if your digital story would be a fictional or non-fictional one.
	Radio, Television, and Cinema	Research Development	5	20	What is the purpose of writing a literature review? Why is it important to start your research with it?
Faculty of Economics, Administrative and Social Sciences	International Relations	International Political Economy	5	20	Explain Immanuel Wallerstein's theory of political economy and imperialism.
		History of International Relations	1	20	Explain the social structure of urban Medieval Europe.
		Introduction to Political Science	1	20	Explain the three different approaches used for justifying war.
	Economics	Introduction to Business	1	15	Explain the difference between a manager and a leader. Please do refer to the concepts of power, influence, authority, hierarchy.
		Organizational Behavior	1	15	Are motivation and work satisfaction the same concept? Describe the ways how employees can be motivated.
Faculty of Humanities and Social Sciences	Psychology	Psychology of Learning	3	20	What are the categories of long-term memory? How are their functions different? And how are they related to autobiographical memory?

The EMI course instructors informed their students about the study and determined a suitable time in cooperation with them. I visited their classrooms at the hour which the instructor told me was appropriate, and informed the students about the study. They were delivered the participant information and consent forms. I informed them that the study was conducted for scientific purposes, their participation was on a voluntary basis, and they had the right to leave the study at any point. The volunteer students answered the questions their instructors had prepared. In line with the design of the study, they were allowed to use any language they felt comfortable with as long as they gave their best answer in terms of content (For sample responses, see Appendix F).

5.4.2 The written proficiency test

An important question addressed in this study is whether language use by students who have obtained certification of an adequate level of English proficiency to progress to their EMI programs varies in the content exam as a function of L2 proficiency. To analyze whether learners' proficiency in the L2 was correlated with their linguistic behavior in their answers to the content exam questions, the students who participated in the content exams were invited to take an essay writing task that was intended to assess their written proficiency.

Given that all the participants had passed an English proficiency test which required an essay type response (the university's in-house proficiency test or the TOEFL), they were assumed to be familiar with this question type. In most English Preparatory Programs in Türkiye, students are taught different essay types (e.g., cause-effect, argumentative, problem solution), and that was the case with the EPP in the current study as well. The essay topic was required to be one which would not

(dis)favor any participant. In order to ensure that the task type was familiar to the participants and had contextual validity, an essay task similar to the one that is included in the EPP's proficiency exam was created in consultation with two instructors at the EPP. Also, to make sure that any subgroup of participants would not be advantaged or disadvantaged because of the essay topic, a topic that did not require field-specific knowledge and was sufficiently general was selected. The essay prompt was as follows:

> Some people believe that the latest technology is creating a larger divide between the rich and the poor, and increasing inequality. To what extent do you agree or disagree with this opinion?
>
> You may use the ideas below and/or your own ideas.
>
> AGREE:
> Limited access to technology in rural areas
> Technology takes over jobs
> Less dependence on human workers
> Monopolistic markets (e.g., Google, Amazon, Facebook)
>
> DISAGREE:
> New jobs for all people
> Education becomes more accessible to everyone
> Access to social services and government support
> Development in the agriculture and food sectors in rural areas

The prompt also included ideas that students could use while writing their essays. International proficiency tests, such as TOEFL or IELTS, do not provide such additional information. The reason they were included in the prompt is because most participants were assumed to be familiar with this format, as this is how essay questions were asked in the EPP.

I visited their classrooms to give the test in pen-and-paper format. After the completion of the test, two raters from the EPP graded the essays. Both raters were ELT B.A. graduates and held an M.A. in ELT. To evaluate student performances, an analytic rubric was employed (For the whole rubric, see Appendix G). The rubric

was adapted from the rubric that was used by the EPP to grade essays in their in-house proficiency exam. Because of this, the raters already had extensive experience using the rubric. After the raters graded the essays, the average of the two ratings was calculated to assign a final score to each essay.

The rubric, which rates student performance on a 25-point scale, is divided into two main categories, which are composed of other subskills (See Table 13):

i. Content-Organization-Coherence (12 points)

ii. Use of Language (13 points)

Table 13. Categories and Dimensions in the Rubric in Study 2

Main Category	Dimension	Points
Content-Organization-Coherence	Paragraphing	1
	Introduction of the Topic	1
	Thesis Statement	1
	Topic Sentences	2
	Supporting Ideas	4
	Conclusion	1
	Coherence	2
Use of Language	Grammatical Range and Accuracy	6
	Lexical Range and Accuracy	6
	Punctuation and Spelling	1
Total		25

The dimensions included in the rubric are dimensions that are commonly used in L2 writing assessment. For example, an investigation of the TOEFL Independent Writing rubric, which is a holistic one, shows that the following dimensions are evaluated: addressing the topic, organization, supporting explanations and details, unity, progression, coherence, and language use (lexical and grammatical variety and accuracy). Similarly, the IELTS Task 2 Writing Rubric includes the following dimensions: Task Response, Coherence and Cohesion, Lexical Resource, and Grammatical Range and Accuracy. Task Response relates to presenting a well-

developed position and using relevant and various supporting ideas. The rubric used in this study takes account of similar components of writing.

5.4.3 Interviews

The participants in Phase 1 of Study 2 were then invited to take part in an interview which had various purposes. They involved uncovering:

- language use by students and instructors in the classroom,
- the purposes for which other languages are used in EMI classrooms, if they are used at all,
- the language(s) of materials that students rely on to learn academic content in their EMI programs,
- the language(s) that students use in their learning activities, either individually or within a group,
- the perceived advantages and disadvantages of EMI,
- the reasons for language preferences in the content exam they took as part of the study.

The students were invited to the interview through e-mails. Interviews were scheduled with those who replied to the e-mail and agreed to participate in the interview. The interviews were held individually. The interviews lasted for an average of around 16 minutes. A total of 18 (15 L1-Turkish, 3 L1-Arabic) students took part in the interviews. Prior to each interview, the participating student was informed about the purpose of the interview, reminded that it was a voluntary study, their personal information would be kept confidential, they were free to leave the study whenever they wanted to without having to explain why, and the interview

data would be used for scientific purposes. They were also instructed to ask any questions they might have any time during the interview.

Fifteen interviews were held in Turkish, and three in English. The L1-Arabic participants were informed that the interview could be held in Arabic with the help of an L1-Arabic English language instructor, who at the time was working in the university where the research was conducted. However, the participants felt comfortable being interviewed in English. The interview questions are provided in Appendix H.

5.5 Data analysis

To answer RQ1 (Do learners engage in monolingual or translingual practices when they are given the opportunity to use their linguistic resources without constraints?) in an EMI context, first, a word count analysis was done on students' answers to the content exams. The same procedures as in Study 1 were followed. The word counts for responses that were entirely or partially in Arabic were done by an L1-Arabic L2-English instructor. As English and Arabic have different orthographies, assigning words to either language was more straightforward in comparison to Turkish. However, one additional consideration to note is that English words (i.e., words that were included in English, but not Arabic dictionaries) that were written in the Arabic script were categorized as English. The total numbers as well as percentages of L1 vs L2 words were separately calculated for each course. These descriptive results were intended to provide a general understanding of language use by students enrolled in different EMI courses. This first analysis showed that L1 use was evident in all content exams. Next, the numbers of students who used the L1 only, the L2 only, and both at different courses were calculated. In this way, the numbers of students who

were engaged in mono- vs trans-lingual practices were obtained. Lastly, the numbers of students who used the L1 only, the L2 only, and both were calculated according to the students' L1, mainly to find out if there was an obvious difference between L1-Arabic and L1-Turkish students in this regard.

To answer RQ2 (Does the level of proficiency affect learner behavior in terms of monolingual and translingual practices?), the correlation between the percentages of L2 use and writing proficiency scores (Total, Content- Organization-Coherence, and Language Use as well as sub-categories) was calculated, using the Pearson product-moment correlation coefficient. The correlation analysis was used to find out whether an increase in proficiency was accompanied by an increase in the use of the L2 by the students.

Next, the students were separated into three groups based on their language use in the content exams:

- 46 used the L1 only (0%), and they formed Group 1
- 36 used both the L1 and the L2 to varying degrees (1% to 97%), Group 2
- 32 used the L2 only (100%), Group 3.

To see whether these three groups differed from each other in terms of their writing proficiency scores, separate ANOVA analyses were conducted on (1) the Total scores and the two main categories in the rubric, i.e., (2) Content- Organization-Coherence and (3) Use of Language.

Group 2 included students whose use of the L2 ranged from 1% to 97%, which means that there were students who tended to compose in the L2 and use only some L1 words, and vice versa. A comparison of those who predominantly used the L1 vs those who tended to use the L2 could also be informative. It turned out that of the 36 students in Group 2, 29 wrote mostly in the L1 (less than 50% L2 use), only 7

answers consisted mostly of the L2 (more than 50% L2 use). Making sub-groups from Group 2 and comparing them would not provide robust statistical results as there would be only 7 participants in one of the groups. Instead, all students were divided into the following two groups:

Group 1: 0-50% in the L2

Group 2: 51-100% in the L2.

These two groups' Content-Organization-Coherence, Use of Language, and Total scores were compared using an Independent-Samples T-test. The ANOVA and T-test analyses helped uncover the relationship between proficiency and the participants' language use.

To answer RQ3 (What functions does translanguaging serve in assessment?) and RQ4 (What difficulties do students think they face while studying in English, their second language?), the interview data was thematically analyzed. Terry et al. (2017) argue that while researchers have used different procedures in thematic analysis, two general approaches can be delineated: one that is built upon coding reliability, and another more qualitative approach that offers more flexibility in the development of codes and themes. This first approach is problematized by Terry, Hayfield, Clarke, and Braun (2017) in several ways, e.g., arriving at objective coding may not be possible or even desirable, and researcher subjectivity is integral to the analysis and does not necessarily result in worse results as the researcher is the one creating the analysis (p. 20). However, because quality is an essential concern in research, Terry et al. (2017) provide a six-phase analytic process for conducting thematic analysis. These phases are described as follows:

i. Familiarization: The researcher engages deeply with the data through multiple readings or listenings, and with a questioning and critical approach.

i. Generating codes: This is an iterative process in which labels are attached to relevant and meaningful segments of the data.
ii. Theme development: In this phase, the researcher looks for meaningful patterns within codes in order to group, collapse or revise these codes to construct bigger themes.
iii. Reviewing themes: The researcher analyzes the themes constructed to make sure that they are closely relevant to the data and the research question.
iv. Defining themes: This is where the researcher takes an interpretive stance and comes up with names that capture the essential meaning of each theme.
v. Producing the report: This phase is where the research question is answered, and the analysis is situated within relevant literature.

Terry et al. (2017) advise for 15-20 interviews for PhD research if the data used for thematic analysis is part of a bigger data set. The number of students interviewed in the current study, 18, seems adequate for thematic analysis.

The objective of the interviews was to gain insight into how language is used by instructors and students in general, student perspectives on EMI, and students' linguistic choices in the content exam they took as part of the study. The interviews were transcribed. I read the transcripts multiple times to have a deeper understanding of the participant views, and I followed the steps proposed by Terry et al. (2017). The analysis of the interviews was therefore interpretive, and a set of general themes were identified that characterized the reasons why students used the L1, the L2, or both in their responses.

5.6 Results

In this section, the findings from Study 2 are presented. First, I will present data that is relevant to RQ1 (i.e., students' language use in content exams) and continue with RQ2 (the relationship between language use and proficiency). Next, data from the interviews will be presented, which will serve the following functions: (a) establish students' language use in and outside of their EMI classes, (b) present the challenges students face in their EMI classes, and (c) reveal the reasons for students' distinct language uses in the content exams.

5.6.1 Language use in the content exams

To see the extent of L1 vs L2 use among the students in the content exams, the total numbers of L1 vs L2 words used by each participant were calculated. These were grouped according to the EMI course in which the students took the content exam. For each course, the ratio of L1 vs L2 words to the total number of words was also calculated (See Table 14).

Table 14. Total Number and Percentage of Words in the Content Exams in Study 2

Course	L1 words (%)	L2 words (%)	Total
Media and Society	3935 (79.4)	1008 (20.4)	4953
Research Development	494 (31.5)	1073 (68.5)	1567
International Political Economy	299 (25.7)	866 (74.3)	1165
History of International Relations	509 (55.5)	408 (44.5)	917
Introduction to Political Science	208 (21.4)	763 (78.6)	971
Psychology of Learning	339 (36.3)	595 (63.7)	934
Introduction to Business	693 (41.1)	993 (58.9)	1686
Organizational Behavior	636 (52.5)	575 (47.5)	1211
Digital Storytelling	1250 (64.7)	682 (35.3)	1932
Total	8363 (54.5)	6963 (45.4)	15336

In five of the courses (i.e., Research Development, International Political Economy, Introduction to Political Science, Psychology of Learning, Introduction to Business), 59% to 77% of the total number of words in student responses were in the L2; in the other four courses, on the other hand, L1 words accounted for 53% to 79%.

Since it was observed that both the L1 and the L2 were used by the participants in their responses, the next descriptive analysis focused on the comparison of the numbers and percentages of students in each course who used the L1 only, the L2 only, or both of their languages in their responses (See Table 15).

Table 15. Number and Percentage of Students Who Used Turkish Only, English Only, or Both in Study 2

Course	L1 only (%)	L2 only (%)	Both	Total
Media and Society	29 (67.4)	7 (16.3)	7 (16.3)	43
Research Development	0 (0)	9 (64.3)	5 (35.7)	14
International Political Economy	1 (10)	7 (70)	2 (20)	10
History of International Relations	2 (15.4)	6 (46.2)	5 (38.5)	13
Introduction to Political Science	1 (9.1)	7 (63.6)	3 (27.3)	11
Psychology of Learning	1 (7.1)	7 (50)	6 (42.9)	14
Introduction to Business	8 (44.4)	5 (27.8)	5 (27.8)	18
Organizational Behavior	8 (53.3)	4 (26.7)	3 (20)	15
Digital Storytelling	3 (15.8)	6 (31.6)	10 (52.6)	19
Total	53 (33.8)	58 (36.9)	46 (29.3)	157

In Media and Society, Introduction to Business, and Organizational Behavior, the largest number of students answered the questions through the L1 only. The situation in the Media and Society course was particularly remarkable. A large majority of the students in this course (67%) answered the question in their L1, 16% used their L2, while another 16% used both their L1 and L2. The only course in which the use of both languages had the highest percentage (compared to L1 only and L2 only) was

Digital Storytelling. On the other hand, most students used only the L2 in their responses in the remaining five courses.

Students came from four different L1 backgrounds (Turkish, Arabic, Albanian, and French), but there was only one speaker of Albanian and French each. The majority of the participants, 75 out of 105, spoke Turkish as their L1 and Arabic was the L1 of 28 participants. When it comes to a comparison of students' language use based on their L1 (see Table 16), the Turkish and Arabic speakers showed similar language choices: the L1 only (31% vs 36%), the L2 only (43% vs 39%), and both languages (27% vs 25%).

Table 16. Language Used in the Content Exams Based on the Participants' L1 in Study 2

L1 of Participants	L1	L2 (English)	Both	Total
Arabic	12 (24)	24 (48)	14 (28)	50
Albanian	1 (100)	0 (0)	0 (0)	1
French	0 (0)	0 (0)	1 (100)	1
Turkish	40 (38.1)	34 (32.4)	31 (29.5)	105
Total	53 (33.8)	58 (36.9)	46 (29.3)	157

Based on these analyses, the answer to RQ1 is that the students engaged in both monolingual and translingual practices when they were given the opportunity to use their linguistic resources without any constraints. Some used their L1 only, some the L2 only, and others wrote using both languages within the same response text.

5.6.2 The relationship between proficiency and students' language use

RQ2 has to do with examining the relationship between the level of proficiency and students' language choices in the content exams. To answer this question, correlation, ANOVA, and t-test analyses were deployed.

First, the correlations between the percentages of L2 use and writing proficiency scores (Total, Content-Organization-Coherence, and Language Use, as well as sub-categories) were calculated, using the Pearson product-moment correlation coefficient. Table 17 shows these correlations.

Table 17. Correlations between Written Proficiency Scores and Percentage of L2 Words Used in the Content Exams in Study 2

Dimension in the Rubric	Percentage of L2 Words
Paragraphing	.142
Introduction of the Topic	.085
Thesis Statement	-.016
Topic Sentences	.257**
Supporting Ideas	.350**
Conclusion	-.011
Coherence	.219*
Grammatical Range and Accuracy	.382**
Lexical Range and Accuracy	.361**
Punctuation and Spelling	.144
Content-Organization-Coherence	.272**
Use of Language	.374**
Total	.369**

Note. * $p < .05$, ** $p < .01$, N= 114

In the rubric, the following dimensions were rated out of 1 point: Paragraphing, Introduction of the Topic, Thesis Statement, Conclusion, and Punctuation and Spelling. The fact that no significant correlation was found between these dimensions and the percentage of L2 words may have to do with the small discriminatory power of these dimensions on their own given the small range of possible scores: 0, 0.25, 0.5, 0.75, and 1. Particularly important for our purposes are the correlations between the percentage of L2 words and the main scoring categories (i.e., Content-Organization-Coherence and Use of Language) as well as the Total scores, given that these three scores provide a more accurate representation of

proficiency. All three of these scores were significantly correlated with the percentage of L2 words at the .01 significance level. This indicates that more proficient students were more likely to use the L2 in their responses.

Next, to see whether there exists a difference between the students who used the L1 only, the L2 only, or both languages, the percentage of L2 use by each student was calculated through the word count analysis done on students' responses in the content exams. Three groups were formed. Of the 114 participants who took the written proficiency test,

- 46 students used the L1 only (0%), and they formed Group 1
- 36 students used both the L1 and the L2 to varying degrees (1% to 97%), Group 2
- 32 students used the L2 only (100%), Group 3.

Next, to analyze whether these three groups differed from each other in terms of their writing proficiency scores, separate ANOVA analyses were conducted on the Total scores and the main categories in the rubric (i.e., Content-Organization-Coherence and Use of Language). Table 18 presents the mean scores and standard deviations of the three groups on the written proficiency test.

Table 18. Descriptive Statistics for the Written Proficiency Test Scores in Study 2

		Content-Organization-Coherence		Use of Language		Total Scores	
Group	N	M	SD	M	SD	M	SD
Group 1	46	5.63	2.65	5.40	2.85	11.03	4.78
Group 2	36	6.68	1.85	7.57	2.88	14.26	3.71
Group 3	32	7.89	2.68	9.00	3.17	16.89	5.50
Total	114	6.60	2.59	7.10	3.29	13.70	4.06

Note: N = Number, M = Mean, SD = Standard Deviation.

First, a Between-Subjects ANOVA was conducted on Content-Organization-Coherence scores. There was a significant effect of group on the scores, $F(2, 111) = 8.12$, $p = .001$, $\eta_p^2 = 0.128$. The eta-squared (η^2) values of .01, .06, and .14 indicate small, medium, and large effect size, respectively (Cohen, 1988), and the same values hold for partial eta squared (η_p^2) values, as well (Richardson, 2011). Based on these criterion values, the effect size in the current analyses could be said to approach a large effect size. Since the homogeneity of variance assumption was not met, the non-parametric Kruskal Wallis H Test was conducted, which confirmed the ANOVA results, $H(2) = 14.18$, $p = .001$. Post-hoc comparisons between the groups with a Bonferroni adjustment revealed that while there was not a statistically significant difference between Group 1 ($M = 5.63$, $SD = 2.65$) and Group 2 ($M = 6.68$, $SD = 1.85$), $p = .162$, Group 1 scored significantly lower than Group 3 ($M = 7.89$, $SD = 2.68$), $p = .000$. Group 2 and Group 3 performed similarly in this category, $p = .135$.

Secondly, a Between-Subjects ANOVA was run on Use of Language scores. Homogeneity of variance assumption was met. There was a significant effect of group on Use of Language scores, $F(2, 111) = 14.67$, $p = 000$, $\eta_p^2 = 0.209$. Post-hoc comparisons between the groups with a Bonferroni adjustment revealed that Group 1 ($M = 5.40$, $SD = 2.85$) performed significantly lower than both Group 2 ($M = 7.57$, $SD = 2.88$), $p = .004$, and Group 3 ($M = 9.00$, $SD = 3.17$), $p = .000$. However, there was not a significant difference between Group 2 and Group 3, $p = .146$.

Lastly, a Between-Subjects ANOVA was run on Total scores. Homogeneity of variance assumption was met. There was a significant effect of group on Total scores, $F(2, 111) = 15.03$, $p = .000$, $\eta_p^2 = 0.213$. Post-hoc comparisons between the groups with a Bonferroni adjustment revealed that Group 1 ($M = 11.03$, $SD = 4.78$)

performed significantly lower than both Group 2 (M = 14.26, SD = 3.71), p = .008, and Group 3 (M = 16.89, SD = 5.50), p = .000. However, there was not a significant difference between the scores of Group 2 and Group 3, p = .069.

Additional useful information could be gained by investigating whether there existed a difference within the group who used both languages in their answers, between those who wrote mostly in the L1 and those who wrote mostly in the L2. Recall that within this group, there were students who included only a couple of words in the other language as well as those whose use of the two languages was of similar amounts. In other words, students with varying amounts of L2 use, from 1% to 97%, were all included in Group 2. There were 36 students in this group, and 29 of them wrote mostly in the L1, and only 7 mostly in the L2. Making sub-groups from Group 2 would not provide robust statistical results due to the small sample size. Instead, all 114 students were divided into the following two groups:

Group 1: 0-50% in the L2

Group 2: 51-100% in the L2.

The two groups' Content-Organization-Coherence, Use of Language, and Total scores were compared using an Independent-Samples T-test. Levene's test showed that the homogeneity of variance assumption was met. The results are shown in Table 19.

Table 19. Comparison of Proficiency Scores of Participants Who Predominantly Used the L1 (Group 1) vs the L2 (Group 2)

	Group 1		Group 2					
	M	SD	M	SD	df	t	p	Cohen's d
COC	6.13	2.41	7.49	2.70	112	-2.73	.007	0.53
Use of Language	6.28	3.10	8.67	3.10	112	-3.91	.000	0.77
Total	12.41	4.71	16.17	5.40	112	-3.83	.000	0.74

Note. Group 1 N=75, Group 2 N=39, COC = Content-Organization-Coherence.

Group 2 performed significantly better than Group 1 on all three categories. Given that Cohen's (1988) standard effect sizes are as follows, 0.2 = small, 0.5 = medium, and 0.8 = large, the values for Use of Language and Total approached large effect sizes, and that for Content-Organization-Coherence corresponded to a medium effect size. Together with the correlation statistics, these results indicate that language proficiency affects learners' language behavior when they are given the chance to use language without any constraints.

5.6.3 Language use in EMI classrooms

As the findings showed that the students used the L1 in their responses to the questions that assessed their content knowledge (some in the form of the L1 only and others through the use of both the L1 and the L2) and based on previous research, the issues of language-related challenges in EMI and the functions of translanguaging with respect to assessment were also addressed in the current study. This was done through interviews, which served to discover answers to RQ3 (What functions does translanguaging serve in assessment?) and RQ4 (What difficulties do students think they face while studying in English, their second language?). For the answers to these questions to be more meaningful, it was also important to understand the linguistic context and how language was used by instructors and students in class and by students in their out-of-class learning experiences, including their individual and group studies. That is why before I move on to the answers to RQ3 and RQ4, I present student answers to the interview questions that can help better set the scene for readers.

The first two interview questions (henceforth, IQ) were as follows:

IQ1. Which language or languages are used in your lessons?

IQ2. Are any languages other than the official language of instruction used in your lessons? If so, for what purposes?

During the interviews, in response to IQ1, some of the students made comments that also answered IQ2. That is why in this part, the findings from IQ1 and IQ2 are presented together.

The interview participants' (IPs) answers revealed that the language of instruction is identified as 100% English, but Turkish finds its way into classrooms, albeit to varying degrees, depending mainly on the approach taken by the course instructor. It was evident from the interviews that, particularly in response to student requests and when they suspect a lack of understanding among L1 Turkish students, instructors may decide to use Turkish. It should be expressed that, based on the student reports, instructors seem to make judicious use of Turkish and tend to be stricter as to the language of instruction policy in the presence of international students.

One important point that frequently came up in student answers is that students sometimes have difficulty understanding the content in English or expressing themselves in English and that is exactly when instructors either themselves choose to or are requested by students to use or allow them to use Turkish. This finding is particularly compelling within the scope of the present study, because of its implication that student learning processes, in terms of both the depth and pace of learning, may be impacted by the choice of the medium of instruction. In terms of the depth of learning, it implies that students' understanding of a topic in class may be diminished if the instructor persists in delivering the content in the L2

when students are challenged in understanding it (research has shown the L1 to assist understanding, but lack of understanding may sometimes also be related to the semantic and cognitive load of the content itself). In terms of the pace of learning, the use of the L1 seems to decrease the amount of time spent on teaching a topic; and so, at times when students express failure to comprehend the topic in the L2, the L1 may allow faster comprehension. Below a selection of such comments is presented:

IP1: İngilizce kullanılıyor sadece, çok böyle gerekmedikçe Türkçe kullanmıyoruz. [Only English is used, we do not use Turkish unless very necessary.]

IP1's statement "unless very necessary" means that they believe that at some points the use of Turkish becomes a necessity. It indicates that when this necessity is felt, students may use their L1 Turkish. As for the question of when this necessity arises, IP2's comment below presents a generic answer:

IP2: Ya %90 İngilizce, bazen biz takılınca Türkçe tekrar ediyorlar, o kadar. [I mean, 90% English, sometimes when we are stuck, they repeat in Turkish, that's it.]

The phrase "when we are stuck" means that the use of English is sometimes interrupted, and the instructor provides explanations in Turkish. This comment also implies that IP2 refers to "getting stuck" in comprehending content in the L2, given that the solution is for the instructor to repeat in Turkish what they have already delivered in English. The use of Turkish in cases of lack of comprehension is also referred to by other students. For example,

IP10: Derslerimizde İngilizce ve yani genel olarak İngilizce dili kullanılıyor. Ara ara anlamadığımız noktalarda hocalarımız Türkçe bir şekilde rica ettiğimiz takdirde açıklama gereği duyuyorlar. [In our lessons, English, and I mean generally the English language is used. From time to time at points when we do not understand, provided that we request, our instructors feel the need to explain in Turkish.]

IP10 states that comprehension problems are sometimes experienced by students, and they may request explanations in Turkish, and instructors feel the need, or

necessity, to make explanations in Turkish. Similarly, IP11's comment below indicates that although course content is mostly delivered in English, some instructors provide explanations in Turkish, as well. This comment also shows that this is not a uniform practice among instructors, as "kimi hoca" ("some instructors") do this while others do not.

IP11: Genelde anlamadığımız yerde Türkçe soruyoruz. Kimi hoca Türkçe açıklama yapıyor ama genelde İngilizce anlatıyor yani Türkçe bir şey anlatmıyor. [Generally, we ask in Turkish when we do not understand. Some instructors make Turkish explanations but generally they teach in English, I mean, nothing is taught in Turkish.]

Other comments show that in addition to comprehension, students may "get stuck" in production, as well. IP4 states that particularly complex topics may prompt the use of Turkish for fostering comprehension of the topic, but lack of adequate English proficiency may also lead students to speak in Turkish.

IP4: Genelde İngilizce oluyor ama yani İngilizcemiz yetmediğinde de Türkçe konuşabiliyoruz. Yani İngilizce kullanılıyor. Böyle çok kısa bir şekilde bazen Türkçe de kullanılabiliyor… Bazen bazı konular komplike olduğu için onları daha rahat anlamamız açısından kısa bir şekilde başvurulabiliyor. [It is usually English, but you know when our English is not enough, we may speak Turkish. I mean, English is used. Sometimes Turkish may also be used in a brief way…Because sometimes some topics are complicated (Turkish) is resorted to in a brief way for us to understand them more comfortably.]

Another student, IP7, who also seemed to doubt the adequacy of their competence in English, referred particularly to limited vocabulary knowledge as a factor that prevents them from using English, albeit only rarely.

IP7: İngilizce kullanıyoruz hocam. Türkçe çok kullanmıyoruz. Ama çoğunlukla hani %95 oranında İngilizce konuşuyoruz. Hani bir de hani İngilizcemiz çok fazla gelişmiş olmadığı için, bizim bilemediğimiz kelimeler de olduğu için akademik genelde o zamanlar hani Türkçeye geçiş yapıyoruz. [Now we use English hocam. We do not use Turkish much. But mostly, I mean, 95 percent of the time we use English. I mean, as our English is not very advanced, and as there are words that we do not know, which are generally academic, at these times we switch to Turkish.]

All these comments point to challenges with learning and engagement in the EMI programs. Even though these students took proficiency tests that were intended to make sure that they have the necessary English language skills to study in EMI programs, not everything seemed to go smoothly for them once they were in the programs. This is not meant to suggest that English proficiency tests are aimed to ensure that no student will have any difficulty understanding all spoken and written content, or communicating every idea in spoken or written form. That may not even be an achievable goal. However, the fact that these students seem to understand the same content when delivered in Turkish implies that this is a language-related issue, and these students need further language support once they are in their EMI programs.

Two other issues that have emerged from students' answers are (1) their doubts about their English competence ("when our English is not enough", IP4; "as our English is not very advanced", IP7) and (2) topic difficulty ("some topics are complicated", IP4; "[the topic] was difficult", IP16; "a situation which is too complicated that we cannot understand", IP14), which in combination lead to comprehension ("when we do not understand", IP10 and IP11) and production ("we may speak Turkish", IP4) problems, and creates the "necessity" (IP1, IP10) for instructors to present some of the content in Turkish.

There also seems to be differences between instructors in relation to the leniency/severity regarding adherence to the English-only policy, as was also mentioned by IP11. The interviews imply that most instructors allow the inclusion of Turkish from time to time, but there are also a few who take a stricter approach about this:

IP3: Hocalar, öğrencilerin anlamadıklarını hissettiklerinde ya da öğrenciler talep ettiğinde ya da soru sorduğunda Türkçeye geçebiliyor. Ama bence bu tamamen hocayla ilgili bir şey çünkü mesela benim bir hocama ben Türkçe soru sormak istediğimi söylediğimde diyor ki, sen ne yaparsan yap ben İngilizce konuşurum. [Instructors may switch to Turkish when they feel that students do not understand, or when students request or ask questions. But I think it's all about the instructor because for example, there is an instructor, when I tell them that I want to ask a question in Turkish, they say, no matter what you do, I speak English.]

IP11: X hoca gerçekten İngilizce konuşmamızı istiyor. Hatta bazı konularda biraz rahatlığa kapılıp birkaç üst üste Türkçe cümle kuruyorsak, bizi uyarıyor ve diyor ki kaç yıldır İngilizce öğreniyorsunuz, elbet birkaç cümle kurabilirsiniz, yapmayın arkadaşlar, diyor ve İngilizceye teşvik ediyor. [Instructor X really wants us to speak English. They even warn us if we get a little too comfortable in some topics and form a few sentences in Turkish one after the other, they warn us and say, you have been learning English for many years, of course you can form a few sentences, don't do this, friends, and encourage us to speak English.]

As is clear, the English only policy is more strictly followed by some instructors; however, student comments also indicate that even in these classes, students attempt to break this rule and successfully so. It is evident from the phrase "no matter what you do" (IP3) that students may still resort to Turkish, but the instructor's response in such situations will still be in English. The instructor who IP11 talks about tries to encourage and increase the use of English among students, but this does not prevent students from "getting a little too comfortable" from time to time and switching to Turkish.

These comments show that Turkish is resorted to in EMI classes, although not to a large extent and depending on individual policies of instructors. An important issue that has been raised in previous research in this regard is the presence of international students who may have little or no knowledge of the L1 of the majority home students in EMI contexts (Macaro et al, 2018). There were international students in the EMI programs involved in the current research, too. The

interview participants also reported how the presence of international students influenced the decision to use or not to use Turkish:

IP14: Şöyle, eğer sınıfta yabancı bir öğrenci yoksa, İngilizce bir şekilde hocaya cevap verdiğimiz zaman çok zorlanıp böyle tam düşüncelerimizi tam anlatamıyoruz o kısımda, o yüzden hafif böyle bir Türkçeye geçiş olabiliyor. Ya da anlamadığınız çok karmakarışık olan bir durumda yine sınıfta eğer yabancı biri yoksa, hoca çok kısa bir şekilde Türkçe bir özet geçebiliyor bizler için. Bu şekilde. Onun dışında bütünüyle İngilizce gidiyoruz. [The thing is if there is not a foreign student in the classroom, when we respond to the instructor in English, we have a lot of difficulty and cannot explain our thoughts accurately in that part, that is why there may be a slight transition to Turkish. Or in a situation which is too complicated that we cannot understand, again if there are no foreigners in the classroom, the instructor may present a very short summary in Turkish for us. That is how it is. Apart from that, we use English for everything.]

IP16: Bugün mesele X hoca çok zor bir konu anlattı, derste yabancı bir öğrenci yok diye dersin sonunda çok küçük bir özet geçti, nasılsa yabancılar yok diye. Zor olduğunu kendi de biliyordu hocanın. Anlaşılabilsin diye kendi inisiyatifiyle birlikte Türkçeye de geçti. [Today, for example, Instructor X taught a difficult topic, as there were no foreign students in class, presented a very brief summary at the end of the lesson, as after all there were no foreigners. The instructor themselves knew that it [the topic] was difficult. On their own initiative, they switched to Turkish, too, so that it could be understood.]

As is clear from the statements of IP14 and IP16, instructors take the presence of international students into consideration when making decisions about whether or not to use Turkish. The English-only policy is more strictly followed when there are international students. Although there were only three L1-Arabic students in the interview sample, they confirm that courses are always or almost always conducted in English. This implies that the presence of international students in the classroom changes the classroom's linguistic dynamics, and the use of Turkish is minimized, if not totally avoided.

IP8: Okay, only English. We just use English in the university. Maybe some of my friends, we talk in Arabic together or some other friends we talk in Turkish. With instructors, we just use English. It is very rare that I use Turkish as all of our professors do not use Turkish.

IP13: Turkish happens like when something technical does not work. For example, havalandırma [air conditioning], or maybe, yes, some stuff like this. So, it is easier for the professors to tell the students to solve this problem in Turkish.

IP8 states that the instructors use English only, and that is why students' interactions with the instructors also happen only through English. However, the classroom environment is still not a monolingual space because students also talk in Arabic or in Turkish among themselves. As a matter of fact, this is a very common scene in classrooms where students from different lingua-cultural backgrounds receive education: students may converse with each other in different languages, particularly in social interactions or during pair or group work. IP13's comment shows that instructors may also use Turkish for things that are not immediately relevant to the course content and thus that do not have to be understood by international students.

The answers to the first two interview questions provide important insights, such as language-related challenges and the use of Turkish in EMI classes especially when there are no international students. These questions were all about what happens within the classroom. However, learning does not only happen within the classroom; quite the contrary, out-of-class and informal learning activities are of substantial importance. IQ3 and IQ4 aimed to collect information about students' language use when learning content outside of the classroom. I will first present findings from IQ3, and then move on to IQ4.

5.6.4 Language of study resources used by students

IQ3. Resources in which languages do you use while studying for your lessons (or exams)?

Let's begin with a striking comment:

IP7: Ben asla İngilizce hiçbir şey okumuyorum. [I never read anything in English.]

Although IP7 claimed to only use Turkish resources, when asked to clarify, they elaborated, and said that they do not mean coursebooks but the materials that they themselves find to study for their courses.

Ten participants stated that they use English resources only. Eight other participants stated that they use both English and Turkish resources. This is a particularly relevant finding for the current study because it shows that translanguaging, in the sense of making meaning through the use of two languages, is ingrained in the lives of many students studying in EMI programs.

IP1 states that they generally use English resources, because it is difficult to find Turkish ones, and says that they would prefer Turkish resources if they were available, because they are usually "better".

IP1: Ben İngilizce kaynakları kullanıyorum ama şey Türkçeleri daha iyi oluyor genelde, Türkçe bulursam ona daha yönlenirim de Türkçe bulmak daha zor olduğu için – kitaplar falan hep İngilizce. Ya zorunluktan İngilizce kullanıyorum çoğunlukla. Yoksa Türkçe daha iyi.[I use English resources, but their Turkish versions are generally better, if I find Turkish (resources), I turn to it more, but because it is more difficult to find Turkish – books and stuff are always in English. I mostly use English [resources] out of necessity. Otherwise, Turkish is better.]

Glimpses into the reasons why Turkish resources may seem "better" are provided by the comments of IP18: difficulty understanding English resources, increased study load required to understand English resources, high course load which results in difficulty catching up, and spending a lot of time trying to understand English resources.

IP18: Çoğunluk Türkçe. Ama yani Türkçe bulamazsam İngilizce bakıyorum. Çünkü anlamadığım şeyi niye zaman kaybı yapayım ki? Yani zaten çok dersim oluyor hocam. Bakıyorum hem İngilizce anlayayım hem çevireyim yazayım derken çok zaman kaybı oluyor. Yetiştirmek için genellikle Türkçe kullanıyorum. [Mostly Turkish. But if I can't find Turkish, I look for English. Because why would I waste time on something I don't understand? I mean, I have a lot of lessons already, hocam. I see that when I try to both understand

English and translate and write, it is a big waste of time. I usually use Turkish to catch up.]

Obviously, using only Turkish resources is not an option for the participants, since their classes are conducted (mostly) in English, and assessment tasks are entirely in English. Even if they acquire content knowledge in Turkish, not being able to express it in English would cause them to fail in their assessment tasks. However, since they feel that Turkish resources help them develop a more complete understanding of the content (depth of learning), and do so in a shorter amount of time (pace of learning), they take advantage of Turkish resources along with English ones, as is evident in the comments of IP12 and IP16.

IP12: Ya %90 hem İngilizce hem Türkçe oluyor. Türkçesi varsa ve güzel bir kaynaksa onu alıp İngilizceye çeviriyorum sonra. Öyle oluyor genelde. [I mean, 90% it is both English and Turkish. If it's in Turkish and it's a good resource, I take it and translate it into English later. That's how it usually happens.]

IP16: İlk önce Türkçe kaynak kullanıyorum. Sonrasında İngilizce kaynaklar kullanıyorum. Yani ikisini karışık kullanıyorum. Hem Türkçe hem İngilizce kullanıyorum ders çalışırken. [First, I use Turkish resources. Then I use English resources. So I use a mix of the two. I use both Turkish and English while studying.]

IP12 and IP16 state that they first use Turkish resources, and then English resources. It seems that the initial use of Turkish resources and re-studying the same content in English enhances their comprehension in comparison to studying only from English resources. Indeed, this interpretation is confirmed by IP2 and IP14.

IP2: Ağırlıklı olarak tabii %100 İngilizce ilerlediğimiz için bölümde aynı şekilde kaynaklarımız %100 İngilizce. Biz de makale taraması yaparken yine İngilizce şekilde yapıyoruz. Ancak örneğin hocamızın derste kullandığı kitabın Türkçesi varsa ondan da yararlanıyoruz. Mesela kullandığımız kaynak İngilizce ama onun Türkçe çevirisi de var ve ders öncesi ya da sınavlara çalışırken biz Türkçesinden de ön bir çalışma yapıp sonra İngilizcesi üzerinden tekrarlarımızı, çalışmalarımızı gerçekleştiriyoruz arkadaşlarımla. [Since we are mostly covering content in 100% English, our resources in the department are also 100% English. While we are scanning articles, we do it again in English. However, for example, if the book used by our teacher in the lesson has a Turkish translation, we also make use of it. For example, the

source we use is in English, but there is also a Turkish translation of it, and before the lesson or while studying for the exams, we do a preliminary study in Turkish and then we do our reviews, our studies in English with my friends.]

IP14: Genelde konuyu bilmiyorsak ilk olarak Türkçe bir altyapı oluşturuyoruz daha sonra İngilizcemiz gelişmesi için bu konuyla ilgili İngilizce kelimeleri, akademik kelimeleri bilmek için de İngilizce çalışıyoruz. Genelde böyle oluyor. Yani önce Türkçe, sonra İngilizce. [In general, if we do not know the subject, we first create a foundation in Turkish, then we study in English to improve our English, to know the English words, academic words related to this subject. That is how it generally happens. So first Turkish, then English.]

IP14's comment ("first create a foundation in Turkish") clearly shows that students choose Turkish resources to "better" obtain content knowledge. Particularly interesting is the statement "if we do not know the subject", because it implies that if students are already familiar with a subject, it is more readily accessible to them through L2-English relative to a subject which is new to them. As it is essential for students to have the English language skills, or content knowledge in English, to express their knowledge in written or spoken English in the in-class assessment tasks, development of these skills is also critical. IP14 says that re-studying the same content through English resources contributes to their field-specific L2-English knowledge. In that sense, it could be argued that it makes sense for students to first use Turkish- and then English-resources.

Students' decision to resort to Turkish resources also seems to vary from one course to another, depending on the (perceived or actual) difficulty of courses.

IP5: Ben çoğunlukla İngilizce kullanıyorum. Tabii yanında dersten derse göre değişiyor yine. Derslerin zorluğuna göre aynı kitabın Türkçesini de kullanabiliyoruz. İlk başta Türkçesini tamamen anlayıp daha sonra tekrardan üzerinden İngilizce geçiyoruz ezber için. Bu şekilde. [I mostly use English. Of course, additionally, it also varies from course to course. Depending on the difficulty of the courses, we can also use the Turkish version of the same book. At first, we completely understand the Turkish and then we go over it again in English for memorization. That's how.]

Although factors that may make an EMI course more or less difficult were not amply available in the interview data, the newness of or unfamiliarity with a subject seems to contribute to the perceived difficulty of a course. However, it is likely that many of the courses in HE include content that is new to and unfamiliar for students. The issue of what causes one EMI course to be perceived as more difficult than another could prove an interesting line of future research.

Translanguaging does not only take place in the form of learning content through resources in different languages. Even the students who reported studying through only English resources engaged in translanguaging in the form of translation. IP11 states that they need to frequently translate a lot of words, which points to the importance of a large L2 vocabulary for success in EMI.

IP11: Bütün notlarımı İngilizce buluyorum, çünkü İngilizce kaynak bulmak daha kolay geliyor. Türkçe kaynaklar yani eksik bilgilerle doluymuş gibi. İngilizce okuma yapmaya başladıktan sonra bana Türkçe kaynaklar eksik gelmeye başladı. O yüzden hep İngilizce kaynak buluyorum, ama işte çok fazla çeviri kullanıyorum. Hani paragraf paragraf değil ama kelimeleri çok sık bir sürü kelimeyi çeviriyorum Translate üzerinde. [I find all my notes in English because it is easier to find resources in English. It is as if Turkish resources are full of incomplete information. After I started reading in English, Turkish resources started to seem incomplete to me. That's why I always find resources in English, but the thing is I use a lot of translations. You know, not paragraph by paragraph, but I translate a lot of words very often on Translate.]

The same was also reported by L1-Arabic students. They reported using Google Translate when an L2 text is too challenging for them.

IP9: Because most lectures are just slides, I mean, I don't really have to do research on the Internet, so English resources. I also take my notes in English, but sometimes definitely I use [Google] Translate.

IP13: This semester it is almost just English because my English has improved. Like it is better than other semesters, other years. Yes, sometimes I read a text and it is hard to understand. I take it, I put it in Google Translation, I translate it because it takes, it's like I will read this text in English in 10 minutes, I read it in Arabic in 5 minutes maybe. So just mapping in Arabic, and if it is important, I read one more time in English because I know like the translation is not accurate. So I do this, yes. But why I don't from the

> beginning search in Arabic. This is because actually resources in English is better.

IP13 stated that they were now able to manage by studying only English resources, because their L2 proficiency had improved, which means that in previous semesters, they did more than using "just English" resources. Clearly, studying through Arabic is seen as the faster option, so it is viewed as the superior option in terms of pace of learning. Additionally, the phrase "mapping in Arabic" reminds of IP14's comment ("create a foundation in Turkish"), although the former implies a more skimming-type exercise that provides general understanding, while the latter refers to developing a deeper or more comprehensive understanding.

The responses to IQ3 showed that the deployment of the L1 by studying resources in the L1 or by translating content from the L2 to the L1 or from the L1 to the L2 was common. However, students' out-of-class learning activities involve more than engaging in course-related textbooks, including but not limited to, reviewing their notes, completing written or spoken homework assignments, or repeating what they have learned through inner speech. Additionally, out-of-class learning activities are not always carried out on an individual basis; quite the contrary, collaboration with others in pairs or in groups is also a common practice, and language is an integral aspect in such activities. That is why one of the interview questions, IQ4, addressed this issue, and this is presented in the next section.

5.6.5 Language use by students in their individual and group studies

IQ4. Which language or languages do you use in your individual and group learning activities outside of the classroom? Why?

The responses to this question varied from a predominant reliance on L2-English, to deployment of two or three languages (English, Turkish, Arabic) for different

purposes, to using the L1 in general. Student responses also provided some insights into why they may depend on one or the other language in individual and group learning activities.

One reason for the preference to conduct learning activities in English is that it is the obvious choice, given that content is already predominantly presented in English in classes and in course materials.

IP11: İngilizce çalışıyoruz. Konu zaten İngilizce üzerine olduğu için, birbirimize İngilizce anlatıyoruz. Ama şöyle konu başlıklarını mesela Türkçe söylüyoruz. Cevapları İngilizce olarak cevaplıyoruz. Genelde o şekilde oluyor. Yani ekstra bir şey yapmıyoruz. Yani normal İngilizce sınavına çalışıyormuş gibi oluyor biraz. [We study English. Since the subject is on English, we explain it to each other in English. But, the thing is, for example, we say the titles in Turkish. The answers, we answer in English. It usually happens that way. So we don't do anything extra. So it's a bit like studying for the normal English exam.]

IP11 states in group work they explain content to each other in English, but Turkish seems to find its way into conversations in English, albeit to a limited extent. This provides an opportunity for them to practice their L2 along with acquiring content knowledge. The language learning aspect is implied in the phrase "a bit like studying for the normal English exam". This might have been intended to express the similarities between the (behavioral and cognitive) processes that they are involved in when learning a subject in English vs learning English, but even when understood as such, this points to its value in terms of requiring a focus on and attention to linguistic aspects. The use of English as the obvious choice and the contribution of conducting content learning activities via English to the development of L2 skills were also expressed by IP14, who specifically mentioned vocabulary knowledge.

IP14: Genelde İngilizce oluyor hocam çünkü yani kelime hazinemizin gelişmesi lazım. Bölüm zaten İngilizce olduğu için yani İngilizce üzerinden gitmeye çalışıyoruz genel olarak. [It is usually in English, hocam, because our vocabulary knowledge needs to develop. Since the department is already in English, generally we try to use English.]

IP14 sees English as the natural option because they are “already” taught through English. The inclusion of the word “generally” indicates that there are times when other languages are also brought in, which, based on the rest of the interview, is most likely Turkish. Studying and discussing content in English is seen as a means to learning vocabulary, which research also refers to as a byproduct of EMI, but here it is also important that students express making a conscious choice to “try” to use English. This shows that acquisition of vocabulary in EMI happens not just incidentally but also intentionally as students see this as a “need”.

While English is preferred as it aligns with the language of content delivery and serves to meet the “need” to develop L2 knowledge, those who use L1-Turkish mainly refer to the shared knowledge of Turkish and better learning of complex content via Turkish.

IP5: Yani o konuyu eğer derste anlamışsam ve kafamda herhangi bir soru işareti kalmadıysa İngilizce olarak çalışıyorum Türkçe’ye gerek duymuyorum. Ama anlamadığımız çok önemli bazı noktalar olduğunda onlarda Türkçe kaynaklardan bir çalışma yapıp ondan sonra İngilizce üzerinden işte ezber olsun tekrar olsun o şekilde devam ediyorum. Grup çalışmalarında zaten Türk arkadaşlarımız da yine oluyor o yüzden birbirimize anlatırken Türkçe anlatıyoruz genelde İngilizceden daha çok. Daha karşılıklı olarak anlayalım ve şey olsun diye içeriği saf bir şekilde anlaşılabilsin diye. O yüzden genelde arkadaşlarla çalışırken Türkçe bir şekilde ilerliyoruz. [I mean, if I understood the subject in class and there is no question mark in my mind, I study in English, I do not need Turkish. But when there are some very important points that we do not understand, I study from Turkish sources and then continue in English, in the form of, memorization or repetition in English. We already have Turkish friends in group work, so when we explain something to each other, we usually speak Turkish more than English. So that we can mutually understand, and so that the content can be understood in a pure way, so to speak. That’s why we usually progress in Turkish when studying with friends.]

IP5’s comments indicate that some topics may be too complex for them to understand in their less proficient L2-English, in which case Turkish is the resource they depend on for a “purer” comprehension of such content. This shows that even when students seem to grasp content readily in some classes, courses may also

include topics or language that is not readily accessible by some students. One argument could be that some content is more cognitively challenging, but the fact that IP5 and their peers seem to understand the same content when they study and discuss it in Turkish clearly points to the mediating effect of language and proficiency. Additionally, as is conveyed by the phrase "so that we can mutually understand", the facilitative effect of Turkish seems to be not only in terms of achieving a better grasp of content but of communicative efficacy. However, as students cannot only depend on Turkish resources or use Turkish only in EMI, they purposely take advantage of the affordances of both languages, as is also revealed in the comments by IP2:

IP2: Ya kendim hem İngilizcesini hem Türkçesini yazıyorum. İkisine birden bakıyorum çünkü zaten yani bence her insan öyle, herkes kendi anadilinde düşünüyor yani ne olursa olsun. Türkçe çalışıyorum yani. İkisini birden okumaya çalışıyorum… Grup çalışmaları ful Türkçe oluyor genelde. Beraber sonradan çeviriyoruz Türkçe çalıştıktan sonra. Kaynakları da not alırken yani ders notu çıkarırken onu da Türkçeye çevirip hem Türkçe hem İngilizce olarak yazıyoruz. [I personally write (take notes) both in English and Turkish. I look at both at once, because I think everyone is like that, everyone thinks in their mother tongue, like, no matter what. So I study in Turkish. I try to read both [English and Turkish] at the same time… Groups work is usually in full Turkish. We translate it together later, after we study in Turkish. While taking notes on the sources, that is, while making lecture notes, we translate them into Turkish and write them in both Turkish and English.]

The belief that the L1 is more accessible and conducive to better learning seems to be held by IP2, as well. Also, translanguaging is present in individual and group learning activities in the form of translating, and reading in one language and taking notes and discussing in both languages. When studying within a group, they talk and discuss in Turkish, but then translate their notes into English. If they study from an English resource, this time, they translate from English into Turkish. Throughout this learning process, they engage in communicative, meaning making practices that

depend on the active deployment of their whole linguistic repertoire, which, from a functional perspective, includes two named languages.

However, during such learning activities, too, one of the main practical constraints of translanguaging pedagogy emerges when there are students from different lingua-cultural backgrounds who may or may not share the L1 of the majority students in an EMI context. The participants who referred to these kinds of situations reported a more pronounced dependence on English.

IP17: Genelde Türkçe kullanıyoruz. Eğer yabancı öğrenci olduğu zaman yabancı arkadaşlarımızla İngilizce yapıyoruz konuşmaları dersler hakkında sınav çıkışları falan, sınav hakkında konuşmak için ama onun dışında genelde Türkçe kullanıyoruz… Genelde İngilizce okuyup Türkçe bir şekilde tartışıyoruz. Terimleri yine İngilizce şekilde aktarıyoruz. Ama konuyu vesaire Türkçe bir şekilde tartışıyoruz. [We generally use Turkish. If there are foreign students, we converse in English with our foreign friends about the lessons, after the exams, to talk about the exam, but other than that, we generally use Turkish… We generally read in English and discuss in Turkish. We convey the terms in English. But we discuss the subject and so on in Turkish.]

In addition to corroborating the finding that students translanguage in group studies, IP17's response also shows that the presence vs absence of international students, who may have no or limited knowledge of Turkish, influences the linguistic ambiance. In their presence, English is used as the common lingua franca. IP17 specifies the context where, or purposes for which, they interact with international students: to talk about classes, or after the exams, to talk about exams. Whether or not IP17 had ever been involved in group study with international students is not clear from their statements. However, the comments by L1-Arabic students show that studies within an international group tend to be conducted in English, but depending on whether they know Turkish, Turkish may also be used.

IP8: If all of us are Arabic, Arabs, we use Arabic. If some of us are like international students, we use English. And if the majority are Turkish, probably we are gonna use English, sorry, Turkish.

IP9: Books and slides are English, I mean, I study myself in English, but I think about it, like, in Arabic. I sometimes make notes in Arabic… In groups, it depends. I mean, if we study in group, usually like it's international, so we talk like in English, but sometimes Arabic too if there are just Arabs.

These statements attest to the multilingual nature of the EMI programs in the GPU as well as to students' translanguaging practices. They provide insights into the language or practices by means of which students try to learn, or encode, information in this EMI university. Since this is an EMI context, and the university has an English-only policy, retrieval of information in English is an essential part, and purpose, of the whole enterprise. Since students take their exams in English, they should be able to express their knowledge in English. Although I will present more detailed accounts of the issue of language of assessment in later sections, the following comment by IP12 is worth being mentioned here, as it provides a glimpse into the relationship between this student's learning activities and their information retrieval processes in the exam.

IP12: Yani Türkçe kaynaktan da okusam İngilizce kaynaktan da okusam bu sene artık İngilizce not alıyorum. Ama düşünürken yani zihnime yüklemeye çalışırken Türkçe düşünüyorum. Çünkü sınavda unutursam bile Türkçe hatırlayıp İngilizce yazabileyim diye. Sonra tekrar İngilizce yazmaya çalışıyorum. [I mean, this year, I now take notes in English whether I read from a Turkish source or an English source. But when I think, that is, when I try to load it into my mind, I think in Turkish. Because even if I forget it in the exam, I can remember in Turkish and write in English. Then I try to write in English again.]

IP12 states that they read both Turkish and English resources, but prefer to take notes in English this year. The phrase "this year" implies that in previous years they used to take notes in Turkish, too. However, as prominent is the comment "when I try to load it into my mind, I think in Turkish", which implies that they feel more inclined to try to encode content information in their L1. This may seem to go against common sense, since in the EMI context, the purpose is for students to be able to access and produce field-specific information in the L2. Additionally, exams and

other assessment tasks are carried out in English. Learning information in the L1 when it is to be expressed in the L2 seems to be misaligned; but, IP12 also states that "even if I forget it in the exam, I can remember in Turkish and write in English", and this suggests that they depend on their L1 for deeper processing and understanding of the content, and retrieve the relevant information in the L1 to then translate it into the L2. This is how the learning process enfolds for IP12: read the text in the L1 or the L2, review it in your mind in the L1, and next take notes in the L2. This means that translating information from the L1 to the L2 is a key component of the learning, or encoding, process; and thus, using the same strategy of translation in the exam when trying to retrieve the relevant information does not seem misaligned.

However, over-reliance on the L1 may result in a diversion from the EMI's purpose to teach content in English. In addition, since L1-Turkish EMI students in this EFL context mostly use Turkish outside of the classroom, excessive use of the L1 in content learning activities may lead to a lack of or truncated development of their L2 proficiency, and in turn, result in an inability to express their knowledge in English. This point is raised by IP3:

IP3: Türkçe anlattıktan sonra kısa bir özet geçtikten sonra İngilizce bir şekilde yapıyoruz ama son zamanlarda şunu fark ettik İngilizce, işte Türkçeyi araya karıştırdığımızda nasıl söyleyeyim size İngilizce kısmı azalıyor bizde. O yüzden onu fark ettiğimiz için Türkçe ön çalışmayı biraz daha azalttık artık çok küçük noktalarda Türkçeye bakıp ağırlığı daha fazla İngilizceye vermeye çalışıyoruz. [After explaining in Turkish, after making a short summary, we do it in English, but recently we realized that English, how can I say it, when we mix Turkish, the English part is decreasing for us. That's why because we realized that, we reduced a little bit our initial/preparatory study in Turkish, now we resort to Turkish at very little points and try to give more weight to English.]

IP3 states that upon the realization that they were using Turkish too much, they decided to spend less time on studying in Turkish, and more time on English.

Based on the student responses to IQ4, it can be concluded that students use both their L1 and L2 in their individual and group learning activities. The responses also offer some insights into why students choose to use one or the other language. However, it is also important to understand what advantages and disadvantages students associate with EMI, because it can enrich our understanding of why they may choose to use the L1 or the L2 while studying for their EMI courses. IQ5 delved into student perspectives as to the advantages of EMI, and IQ6 into the challenges or disadvantages. I will first present what advantages are associated with EMI.

5.6.6 Student perceptions regarding the advantages of EMI

IQ5. Are there any advantages of having English as the language of instruction? If so, please explain them.

The main advantages of EMI according to the participant views include the following: developing L2 knowledge and skills, offering increased (job) opportunities abroad, and enhanced access to scientific knowledge as English has come to serve as a lingua franca of scientific publications. Acquisition of field-specific content knowledge was not brought up as an advantage of EMI by the participants.

Although the contribution of EMI to students' L2 proficiency is yet to be confirmed by future research, it was referred to as an advantage of EMI by most participants in the current study. I present a few of these comments below.

IP3: Benim İngilizcem büyük oranda gelişti eğitim dili İngilizce olduğu için. Bir de bölümümüz zaten İngilizce. Hani bunu kesinlikle bilmemiz lazım. Bize yurtdışı olanakları da sağlayacağını düşünüyorum. [My English has improved substantially as the language of instruction is English. And our department is already in English. We definitely need to know this (English). I think it will provide us with opportunities abroad.]

IP8: English is now a global language, like everybody needs it everywhere and I think we need it. And I think this is something like we can both improve and, like, reinforce our English because we are studying English. So I think English education is important. We can develop our language.

While IP3 refers to both language learning and opportunities abroad, the L1-Arabic participant IP8's comment suggests that English has become a lingua franca ("everybody needs it everywhere") and therefore learning English is a necessity, and EMI enables them to do so. Similarly, IP10 refers to the same benefit, but with a different wording, saying that they are starting to "think in English". They also refer to more scientific publications being in English.

IP10: İngilizce düşünmeye başlıyorum bu sayede. Bilimsel birçok materyal İngilizce. Bu yüzden lehime bir durum oluşuyor. Aynı zamanda, yine tüm kaynaklar İngilizce olduğundan, onları anlamam için İngilizce önbilgisi gerekiyor ve bu da hocalarımca veriliyor. Bunlara ilaveten, tüm güncel yayınlar İngilizce. Günceli yakalamak için İngilizce şart. [Thanks to it, I'm beginning to think in English. Many scientific materials are in English. That's why a situation arises in my favor. At the same time, since all the resources are in English, I need prior knowledge of English to understand them and this is given by my teachers. In addition, all current publications are in English. English is a must to keep up to date.]

IP10 emphasizes the importance of knowing English in order to access (recent) research publications. IP4's comments also express a similar point, arguing that since there are not sufficient publications in Turkish in their field, development of L2 skills allows access to resources that would otherwise be unavailable to them unless translated into Turkish.

IP4: Özellikle bizim bölüm bağlamında konuşacak olursam Türkiye'de psikoloji ile alakalı her ne kadar son zamanlarda popüler bir hale gelse de maalesef yeterli araştırmalar için kaynaklar bulunmuyor. O yüzden bölümü daha iyi anlayabilmek için mecburen yabancı kaynaklardan yararlanmak zorunda kalıyoruz. [Especially in the context of our department, although psychology has become popular recently in Türkiye, unfortunately, there are not enough resources for research. Therefore, we are compelled to benefit from foreign sources in order to better understand the field.]

The attitudes of many of the participants towards EMI seem favorable. Even those who seem to prefer Turkish-medium instruction over EMI recognize the advantages

offered by EMI. For example, despite claiming that there are no advantages of EMI except providing the opportunity to engage in speaking practice, IP18 goes on to list various advantages of EMI.

IP18: Pratik yapıyorsun, konuşma pratiği. Yani bence onun dışında bir avantajı yok. Yani Türkçe her türlü daha iyi. Mezun olduktan sonraki iş durumu için İngilizce muhtemelen daha iyidir diye tahmin ediyorum. Ekstra dildir sonuçta. Bir de kaynak açısından her türlü daha iyidir ya, çünkü İngilizce kaynak sayısı çok çok daha fazla. [You do practice, speaking practice. I mean I don't think it has any advantage other than that. So Turkish is better in every way. For the job situation after graduation, I guess English is probably better. It's an extra language after all. Also, it is certainly better in terms of resources, because the number of resources in English is much, much more.]

Another student who claims that they would better understand the course if delivered in Turkish and argues that there are not many benefits of EMI is IP6, who also recognizes that it is not an inherent problem with EMI but has to do with the ability of a student to embrace and take advantage of opportunities offered by EMI.

IP6: Bence çok avantajı olan bir durum değil yani olmazsa olmaz aşırı yardımcı oluyor her alanda mükemmel 5 adım öndesin falan filan kafasında değilim. Önemli olan bence dersi hangi dilde en iyi şekilde anladığım. Bu yüzden zaman zaman Türkçe olmasını bile tercih edebilirim. Ama bir şeye alıştıktan sonra ona o şekilde sürdürüyorum. O yüzden şu an İngilizce şekilde sürdürüyorum. Yani kullanan ve geliştiren insanlar için eminim avantajlıdır. Ama ben nedense onu beceremediğim için benim için çok da bir avantajlı durum söz konusu değil. [I don't think it's a situation that has a lot of advantages, I am not in the mindset that it's indispensable, extremely helpful, perfect in every way, you are 5 steps ahead, and so on and so forth. The important thing, I think, is in which language I understand the lesson best. That's why I may even prefer it to be in Turkish from time to time. But once I get used to something, I keep it that way. That's why I'm continuing in English at the moment. I mean, I am sure it is advantageous for people who use and develop it. But since for some reason I can't do it, it's not a very advantageous situation for me.]

As is clear, IP6 thinks that their comprehension of content is constrained, or compromised, in EMI, and for this reason they prefer to have Turkish classes "from time to time". This phrase "from time to time" implies that IP6 is not willing to totally give up on EMI. In fact, they have become accustomed to it; but still, because they, for some reason, have not used and developed their English, they cannot collect

the potential benefits of EMI; therefore, it is not advantageous for them. But IP6 also says that it is surely advantageous for those who have used and developed their English. There was another student (IP16) who said they could not find any benefits of EMI:

IP16: Türkçe de okusam olurmuş bu bölümü ama diplomada hani 'İngilizce' yazması bir avantaj. Onun dışında derste hani tamamen Türkçe gibi anlamadığımız için. Mesela ben siyaset bilimi ve kamu yönetiminden çap yapıyorum hocam, aynı konuları Türkçe anlıyorum yani Türkçe dersi olduğu için daha faydalı. Yani İngilizcenin çok bir ne gibi faydası olabilir ki hocam, yok yani. [I could as well study this department in English medium, but it is an advantage that it will write 'English' in my diploma. Apart from that, since we do not understand the course like we would in Turkish. For example, I'm doing double major in political science and public administration, hocam, I understand the same subjects in Turkish, I mean, because courses are in Turkish, it is more beneficial. I mean, what kind of an advantage could English offer, hocam, there is none.]

IP16 sees an instrumental, pragmatic value in graduating from an EMI program, as this information will be included in their diploma. In other words, despite stating that "there is no advantage" of studying in English, IP16 identifies at least one advantage, which is also related to increased job opportunities given that having a diploma that says they graduated from an EMI program may put them at an advantageous position in the job market. In fact, when saying "there is none", IP16 seems to focus on content learning. This statement comes right after IP16 states that they take the same courses in Turkish medium and EMI programs because of doing a double-major and they understand courses in Turkish while failing to understand them to the same extent in English. This same argument will come up more profoundly in the next section under IQ6.

A comparison of Turkish medium and EMI programs was made by IP1, as well, but from a different perspective. IP1 emphasizes the value of learning English thanks to EMI, and argues that this puts them in a better position in comparison to someone who studies in a Turkish medium program.

IP1: Şu an biz kötü buluyoruz İngilizcemizi ama hiç İngilizce eğitimi almayan birine göre yani Türkçe bölüm okuyan birine göre daha iyi olduğumuza inanıyorum ve şu anda bir yurt dışına çıksak bir ülkede daha rahat yaşayabiliriz diye düşünüyorum. Yani bir tık daha özgüvenli hissettiriyor bana. [At the moment, we find our English bad, but I believe that we are better than someone who has never studied English, that is, than someone who studies in a Turkish-medium department, and I think that if we go abroad right now, we can live more comfortably in a country abroad. So it makes me feel a little more confident.]

While thinking that their English is not good enough, IP1 also feels "confident" that they will be able to live abroad without having much problem, unlike someone who does not need to learn English for being in a Turkish medium program. And this viewpoint is representative of what has emerged as the most-mentioned benefit of EMI: developing L2-English skills.

However, it is evident from previous research studies and a few of the quotations that have been presented so far that EMI is not without problems or difficulties. The following part is devoted to student perspectives regarding the challenges that they face in EMI programs.

5.6.7 Student perceptions regarding the disadvantages of EMI

IQ6. Are there any difficulties or disadvantages of having English as the language of instruction? If so, please explain them.

Contributing to the development of L2-English proficiency emerged as one of the main benefits of EMI; yet, on the other hand, lack of adequate L2 proficiency, both in terms of comprehension and production, was the most frequently reported challenge, and it was claimed to compromise the acquisition of content knowledge.

IP8 states that learning and remembering is easier for them in L1-Arabic than in L2-English. They make an important observation about EMI: language is not the

end, but the means, and when the means is not readily conducive to the end, it becomes a "problem".

IP8: I believe if I was studying in Arabic, it would be easier. The problem is now English is like how can I say it, the world language… So, a language is not the main topic of what we are studying. It is just a tool. So if the tool is hard, it is hard to, yeah. For example, if someone talk to me about something in Arabic, it will stuck in my mind better than if someone say it in English.

IP8's statement "it is just a tool" is reminiscent of the socio-cognitive theory, according to which language is a cognitive tool that is employed in the learning process. IP8 implies that if a person has not mastered how to use the tool, that is, if the tool itself is "hard", then what is intended to be achieved will become harder, due to the tool not serving its purpose optimally. If the tool, that is the L2, was mastered, then what is conveyed in the L2 would also "stick" in IP8's mind, but that does not seem to be the case. Being put in a situation where they are supposed to achieve a goal with a tool which they have not yet mastered sufficiently is a problem with EMI for IP8.

What happens when the tool itself is still difficult to use? One consequence seems to be inadequate mastery of content. This idea is raised by IP3, for example:

IP3: Konuya çok fazla hakim değiliz aslında hani bölümün konularına… Tarih özellikle çok fazla yoğun. Bunu İngilizce olarak çalışıyor olmak ekstradan zaman harcamamıza sebep oluyor. [In fact, we do not have much knowledge on the subject, you know, the subjects of the department... History is particularly intense. Studying this in English causes us to spend extra time.]

IP3 says that history is an intense subject, by which they mean that it requires them to study a lot, and they do not feel they have mastery over the contents covered in their department. The intensity of the course, accompanied with having to master it in English, causes them to spend more time on the subject. The labor-intensive nature of EMI is also expressed by IP11, whose comments show that the increased

study load in EMI has to do with not only comprehension tasks, but also production tasks.

IP11: Emek istiyor tam anlamıyla emek istiyor. Bir de biz bizden beklenti akademik seviyede olduğu için ben elime kağıt alayım kalem alayım ya da wordu açayım, hadi başlayayım yazmaya diyemiyorum. Ben şimdi birazcık şey olacağım egoya girecek ama ben bölüm birincisiyken bile ben bölüm birincisiyim ve ben kendim de ben yok ya yazamam akademik bir şekilde oturup iki cümle bile çıkartamam diyorsam sınıftan kimsenin bunu düşünebildiğini zannetmiyorum. Böyle bir kanıya varıyorum. Çok egoist bir yaklaşım olacak ama. Ben kimsenin akademik yazabileceğini düşünmüyorum. Doğrudur yanlıştır bir şey diyemem ama bu bağlamda Türkçe yazsam iki günde bitireceğim bir şey İngilizce yazsam beş günde bitiriyorum. [It takes effort, it really takes effort. Also, since the expectation from us is at an academic level, I can't just say let me pick up a paper and a pen or open (Microsoft) word, start to write. I'm going to sound a little egoistic, but even as the top student in the department, I am the top student in the department, and if I say that I can't write even two sentences in an academic way, I don't think anyone in the class can think about doing it. I come to such a conclusion. It will be a very egoistic approach though. I don't think anyone can write academically. I can't say it's right or wrong, but in this context, for something that I would finish in two days if I wrote in Turkish, I spend five days when I write in English.]

IP11, as the student with the highest GPA in their department, emphasizes the labor-intensity of EMI, saying "it really takes effort". However, unlike IP3, whose statement relates to comprehension, IP11 gives tasks that require academic writing as an example. They do not think anyone in their class, including themselves, would be able to compose academic writing without being challenged. They add that this is not just about academic writing, but about academic writing in English: it takes a lot more time to complete an academic writing task in English than it would in Turkish. Based on student responses, having to invest more time in EMI compared to Turkish-medium instruction emerged as a disadvantage of EMI. EMI's being time-costly and labor-intensive may create affective consequences as well, as is seen in IP7's comments below:

IP7: Ben her şeyi kafamda Türkçe olarak düşündüğüm için sürekli çeviri yapmam gerekiyor kafamda, derste falan. Bu çok yavaşlatıyor beni şahsen… Dersi dinlerken çok sıkıntı olmuyor, hocadan tekrar geri dönüş alabiliyoruz da,

kaynak okurken biraz zorlanıyorum ya bazen. Tabii, birinci sınıfta daha kötüydü, şu an daha rahat genelde ama hala hiç korkmuyorum demiyorum yani, hala korkuyorum İngilizce paragraflardan. [Since I think of everything in Turkish in my head, I constantly have to translate in my head, in class and so on. This slows me down a lot personally… While listening to the lecture, there is no problem, we can get feedback from the teacher again, but sometimes I have a little difficulty while reading a resource. Sure, it was worse in first year, now it's more comfortable in general, but I'm not saying I'm not worried at all now, I'm still worried about English paragraphs.]

IP7 clearly states that they depend on their L1, both when listening to lectures or reading a resource, and they translate "everything" into Turkish. This implies that IP7 depends on Turkish for encoding semantic information related to their courses. And this takes time, and slows their processing. IP7 says this is less of an issue during lectures because they can request help from their instructors, but when they study on their own, while reading academic content, they feel concerned, although the feeling is not as pronounced as it was in the first year of their EMI program. The decrease in negative feelings about not being able to cope with English texts provides further evidence that students feel that their L2-English skills develop in EMI programs. Still, the continuing dependence on the L1 may mean that students have not developed adequate L2 competence that allows them to comprehend L2 content without having to first translate it into the L1 in their mind. Study load, negative feelings, and inadequate competence in English are all succinctly expressed by IP12, too.

IP12: Bölüme kabul edilirken, yani ben hazırlıktan bölüme geçerken işte sınavı kolay bir şekilde verdim. İki kere girdim. İlkinde kalmışım, ikincisinde geçtim. Yani o yüzden bölüme geçerken herhalde konuşacağım diye geçtim, yani herhalde dedim ben bu adamları anlarım. O yüzden böyle bir güzeldi. Ama şimdi şey düşünüyorum, ya bu İngilizce bölümlerde sanırım birazcık daha seçici olmalılar ya, herkes okumamalı İngilizce. Yani çünkü bazen gerçekten anlamayıp, normalde bir Türkçe bölümü okusam şu anki emeğimin yarısıyla çok daha yüksek bir yerde olurdum ama İngilizceyken zamanımdan çok fazla verip çok az verim alıyorum. Hoşuma gitmiyor, çok aşırı iyi hissetmiyorum. [When I was accepted to the department, that is, when I passed from the preparatory school to the department, I easily passed the exam. I took it twice. In the first one, I failed, in the second one, I passed.

That’s why I thought I could probably speak when I started the department, so I said I guess I can understand these guys. That's why it was so nice. But now I’m thinking, I think they should be a little more selective in these English departments, not everyone should study in English. I mean, because sometimes I don’t really understand, and normally if I studied in a Turkish department, I would be in a much higher place with half of my current effort, but when it is in English, I give too much of my time and get very little efficiency. I don’t like it, I don’t feel too good.]

Although EMI universities in Türkiye require students to submit certification of language proficiency or to take in-house proficiency exams (following the English preparatory year), meeting minimum language requirements does not mean that students are ready to thrive in EMI programs without further language support. IP12 expresses this. They state that their expectation was to comprehend lectures after successfully passing the language proficiency exam, but this turned out not to be the case; on the contrary, they found themselves spending a lot of effort without proportionate gains in return. Their comments indicate that they do not appreciate this; rather, they believe that entry-level language proficiency benchmarks should be set higher.

Comprehension challenges manifest themselves in different ways: while listening to lectures, or reading books, but also in assessment tasks. Below I present some comments about exam-related challenges, starting with the comments of IP15:

IP15: Bölüm derslerini anlamakta zorlanıyorum. Sınavlarda soruları anlamıyorum. Derslere katılmak istemiyorum İngilizce olunca. Türkçe olsa, bölümümüzdeki dersleri daha iyi anlayabiliriz ve derse devamlılık artırılabilir. [I’m having a hard time understanding the lectures. I don’t understand questions in exams. I don’t want to attend classes when they are in English. If they are in Turkish, we can better understand the courses in our department and attendance can be increased.]

Apart from experiencing challenges with comprehending courses and unwillingness to join EMI courses, IP15 also states that they (sometimes) do not understand exam questions. This raises important questions about the validity of exams, because if the purpose of these exams is to assess content knowledge, a students’ failure to

understand a question due to (parts of) the language of the question being inaccessible to them would introduce construct-irrelevant variance into the assessment. Interpretations based on the results of such an exam would not be accountable, because supposedly a low grade means that the student has not grasped the content, but it is not taken to mean that the student lacks sufficient language competence – actually, they are assumed to have the necessary language skills to take that EMI course, and to understand the language of the exam questions because they have met the L2 proficiency requirements.

The issue is not limited to comprehension problems in exams, but also includes problems with production.

IP5: Mesela sınavlarda, biz sonuçta İngilizce yazıyoruz ama bazen bazı şeyler aklımıza gelmeyebiliyor o an. O an aklımıza Türkçesi geliyor. Ama bir anda İngilizcesi aklıma gelmeyebiliyor. [For example, in exams, we write in English after all, but sometimes some things may not come to our minds at that moment. At that moment, the Turkish equivalent comes to mind. But I can't think of the English equivalent immediately.]

That IP5's statement that they remember (content or concepts) in Turkish but not in English means that they have in mind the relevant information to answer the exam question, but they are unable to retrieve the words associated with the L2 to express that information. One might argue that this problem can be solved in various ways, such as trying to find synonyms or to express the idea in other words, and in this way, the student's failure to retrieve the exact words may not be reflected severely in exam scores. However, the interview responses provide evidence that this is not necessarily such an easy task, as can be seen in the comments below.

IP4: İlk yıl böyle bir afallamıştık daha doğrusu. Çünkü sadece bir yıl hazırlık eğitimi görmüştük ve psikoloji eğitimi görmemiştik. Psikolojiye Giriş dersinin ilk sınavında hepimiz baya yüksek notlar almadık yani, ki çok çalışmamıza rağmen. Yani orada dersten çıktığımızda, sınavdan çıktığımızda, birbirimize söylediğimiz ilk şey hepsini biliyordum ama yani ifade edemedim asla. Türkçe olarak yazsaydık biz bundan 100 alırdık dedik. Yani bakıldığında zaman zaman bu gerçekleşiyor ama tabi bu zaman geçtikçe

deneyim kazandık ve kendimizi daha iyi ifade edebiliyoruz artık. [In fact, we were so stunned the first year. Because we had only one year of preparatory education and we had not studied psychology. Not all of us got very high grades in the first exam of the Introduction to Psychology course, despite our hard work. So when we got out of class, when we got out of the exam, the first thing we said to each other was I knew it all but I was not able to express it at all. We said that if we had written in Turkish, we would have gotten 100 from it. I mean, this happens from time to time, but of course, as time passed, we have gained experience and now we can express ourselves better.]

These comments by IP4 indicate that EMI students may suffer in terms of exam scores due to failure to retrieve L2 words to express ideas, although they have the information to correctly answer the question. The statement "we had only one year of preparatory education, and we had not studied psychology" suggests that the problems experienced in exams might have to do with inadequate field-specific, rather than general L2 proficiency. One solution that students have tried in order to work around this problem is expressed by IP10:

IP10: Dediğim gibi konuşma kısmında biraz sıkıntılı olabilir. Kendimizi yeterince ifade edemiyoruz. Bir de sınavlarda oluyordu. Bu yüzden puan kayıtları da çok yaşandı maalesef. Böyle kelimeyi aslında Türkçe biliyorsun, hatta kelimenin o ara İspanyolca dersi alıyorduk İspanyolcası bile aklıma geliyordu. Ama İngilizcesi bir türlü gelmedi. Bu tarz durumlar çok fazla yaşanıyor. O yüzden hatta bazı arkadaşlarımızdan hoca kabul eder diye, İngilizcesini bilmiyorum diye Türkçesini vesaire de yazabiliyorlar. Tabii kabul olmuyor ama çok yaşanıyor o tarz durumlar maalesef. [Just like I said, it can be a little troublesome in terms of speaking. We cannot express ourselves adequately. It also happened in the exams. Because of this, unfortunately, there were a lot of points lost. Like, you actually know the word in Turkish, at that time when we were taking Spanish lessons, even the Spanish of the word came to my mind. But its English equivalent never did. Situations like this happen a lot. That's why, some of our friends can even write in Turkish, etc., because they do not know the English, in case the teacher accepts it. Of course, it is not accepted, but unfortunately, such situations happen a lot.]

IP10 believes that they have indeed failed to show their true knowledge of content in (some) exams, due to not being able to retrieve words associated with English to express their knowledge. They remember one occasion when they were able to remember the Turkish and Spanish words to express their idea, but not the English

words. The statement “Situations like this happen a lot” indicates that failure to retrieve words in the L2 is a common issue. However, research is needed to reveal the extent of it. IP10 says that when they experience this in the exam, some students write in Turkish hoping that the instructor will accept it, but “of course, it is not accepted” – which might be because given that the university has an English-only policy, accepting answers that include words in another language would mean violating the policy on a formal document.

Overall, based on the reports of the students, the following challenges were identified:

- Language-related challenges
    - L2 lexical access and retrieval
    - L2 comprehension
        - Listening to lectures
        - Reading English resources
        - Understanding exam questions
    - L2 production
        - Speaking in the classroom
        - Academic writing
        - Remembering field-specific words in exams
- Content-Related Challenges
    - Topic difficulty and unfamiliarity
    - Field-specific terminology

Given the limited number of interview participants, the identified challenges may not be comprehensive. For the same reason, they may not be felt by many, or most, students in the EMI university in the study or elsewhere. However, the themes and

codes included (except maybe the exam-related ones) have also been detected in the literature across various settings as challenges experienced by EMI students.

In the content exams given within the current study, students were offered the freedom to use language however they saw fit to best answer the questions that were intended to assess their content knowledge in their EMI classes. Some were found to write only in the L1, some only in the L2, and some used both in their responses. The last part of the interview involved asking students to explain their language use in the content exam. The following section presents findings obtained from IQ7 and IQ8.

5.6.8 Factors affecting students' language use in the content exams

IQ7. Why did you prefer to use (the language preferred by the student in the exam previously held within the scope of the study will be stated here) in the exam you took within the scope of this study?

IQ8. (If the students used different languages together in their answers in the exam previously held within the study) I have noticed that you switched between different languages in certain parts in your answer. I will show you these parts in your answer. Please indicate why you switched languages in these parts.

The responses in relation to these questions will be presented under the following sections:

- Reasons for using (mainly) the L1
  - Language competence
    - Feeling more comfortable with the L1
    - Efficiency of production in the L1
    - Feeling doubts about their ability to express themselves in the L2

- Reasons for using (mainly) the L2
    - Encoding-retrieval match
    - Compartmentalization of Languages
- Reasons for using both languages in the same response
    - Encoding-retrieval match
    - Lack of (access to) L1 equivalents
    - Inefficient lexical retrieval in the L2

5.6.8.1 Reasons for using (mainly) the L1

In the following sections, the themes that emerged from the interviews regarding the preference to use the L1 are presented along with relevant comments of the participants. The reasons that students provided for their use of the L1 in their responses to the questions that assessed their content knowledge in their EMI classes revolved around language competence. The participants were found to refer to superior or poorer facility in their L1 vs L2 as a reason for their language choices. Those who used their L1 did so because they felt (1) more comfortable expressing themselves in their L1, (2) more efficient (faster) in L1 production, and (3) doubts about their ability to express themselves in the L2.

5.6.8.1.1 Feeling more comfortable with the L1

The use of the L1 was mainly motivated by students' perception that they would better express their knowledge in the L1, because in comparison to the L2, it is "more comfortable" and "easier". These perceptions imply that these students do not think they could as easily respond to the questions in English.

IP16: Bir de daha rahat genelde Türkçe yazmak benim için. [Also, it is more comfortable for me to write in Turkish in general.]

IP12: Genele vurulabilecek yerleri Türkçe yazmayı tercih ettim. Daha rahat ifade edebileceğim için. [I preferred to write the parts that were more general in Turkish. Because I can express them more comfortably.]

IP15: İlk önce Türkçe yazmayı tercih ettim, çünkü daha iyi bir şekilde açıklayabileceğimi düşündüm. Kendimi daha iyi ifade edebileceğimi düşündüğüm için Türkçe yazmayı tercih ettim. [First, I chose to write in Turkish because I thought I could explain it better. I chose to write in Turkish because I thought I could express myself better.]

IP15's comment, in particular, suggests that the comfort associated with the L1 also comes with better expression of ideas, that is, allows the production of responses with better quality in terms of content, because they can "explain it better". The higher competence in the L1 produces feelings of ease and better expression, yet there was another way in which the students' decision to use the L1 was determined by language competence, which is efficient production in the L1.

5.6.8.1.2 Efficiency of production in the L1

Students are expected in many exams to perform under timed conditions, and the same was the case in the current study as well. This means that students have to write impromptu answers to content questions, and they have to do it fast enough, which places additional burden on L2 students who not only have to remember and formulate the correct answer (which itself requires time) but also express it in a language in which their processing may be less than optimal (which also requires time). It appears that students who chose to use the L1 did so because they could write faster in the L1. One question during the analyses of interview data was whether "efficiency of production in the L1" was a sufficiently distinct category from "feeling more comfortable in the L1", and it seems to be so. That is because the feeling that one can better express themselves in one language than the other does not necessarily occur under timed conditions, although efficient production probably

contributes to that feeling. Additionally, the comfort of the L1 was also associated with “better” responses, while efficiency was associated with “faster” responses.

IP18: Çünkü süre kısıtlıydı. Ve Türkçe daha hızlı bir şekilde yapabilirim diye düşündüğüm için direkt Türkçe şekilde açıkladım. [Because time was limited. And because I thought I could do it faster in Turkish, I explained it directly in Turkish.]

IP16: Ya zaten kısıtlı süremiz var, zaten hani hızlı olmam gerekiyor, bir de çeviri ile falan uğraşmak istemedim. Direkt kafamdan yazayım dedim. Daha hızlı olacağını. [We have limited time anyway, I need to be fast anyway, and I didn’t want to deal with translation or anything. I thought I’d write it straight out of my head. It would be faster.]

Both IP18 and IP16 say that their choice of the L1 was associated with pace. IP16 elaborates on this by stating that they did not want to “deal with translation”, but decided to “write straight out of [their] head”, which indicates that they think their processing in the L1 vs L2 is different, because L2 production would be mediated by the L1. Having to access information, retrieve items associated with the L1, and translate them into the L2 would be a slower process for IP16, and to save time, they chose to write “directly” in the L1. Similarly, IP7’s statement that they have to “constantly translate in [their] head” and that “this slows [them] down” points to students’ beliefs about the difference between processing in the L1 vs L2.

The effect of language competence on students’ use of their L1 in their responses to content questions was also associated with their doubts about their L2 skills.

5.6.8.1.3 Feeling doubts about their ability to express themselves in the L2

Students’ feelings of having an inadequate level of English, which produces issues with L2 production, are more elaborately presented under previous interview questions, particularly IQ6 (That is why it will be presented only briefly here). The

same feeling was found to be instrumental in the decision to use the L1 in the content exam, as well.

IP14: Az önce size tam söylediğim sebeplerden aslında… Biz pandemi sürecinde 3 dönem online eğitim aldık. O dönemde de gerçekten artık elimizin altında internet olduğu için işte Google Translate olsun Yandex olsun oralardan hızlı hızlı kullanım yapıyorduk ve birazcık İngilizcemiz öylece köreldi geriledi. O sebeple bu dönemde dediğim gibi sanki hani 1 sınıfa dönmüş gibi hissettim kendimi. O yüzden daha çok ve daha hızlı olmam gerektiği için burada Türkçe kullandım ama tabi sınavlarda bu mümkün olmuyor. [For exactly the reasons I just told you… We received online training for 3 terms during the pandemic process. At that time, indeed, since we now have the internet at our disposal, we were quickly using Google Translate or Yandex, and our English just atrophied and regressed. That's why, as I said, during this period, I felt like I was back in the first year (of university). That's why I used Turkish here because I needed to (write) more and be faster, but of course, this is not possible in exams.]

Not only does IP14 think they could write more and faster in the L1, but they also refer to the feeling that their English proficiency "regressed" during the pandemic, which means that they did not feel they could write as well in the L2.

While one may argue that "Feeling doubts about English proficiency" and "Feeling more comfortable with the L1" are the same, they are in fact sufficiently distinct categories in that even when a bilingual person has high levels of proficiency in both languages, they may feel more comfortable in one without doubting their skills in the other.

5.6.8.2 Reasons for responding (mainly) in the L2

In the following sections, the themes that emerged from the interviews regarding the preference to use the L2 in the content exams are presented along with relevant comments of the participants. The L2 preference was found to be guided by encoding-retrieval match and compartmentalization of languages.

5.6.8.2.1 Encoding-retrieval match

Let's remember the three theories introduced in the Literature Review: encoding specificity principle, language-dependent recall, and transfer appropriate processing (TAP). The encoding specificity principle states that the availability of specific properties during retrieval that were also available during encoding act as cues and facilitate memory performance (Tulving & Thompson, 1973). Language dependent recall, seen as a sub-theory under encoding specificity, identifies language as one such cue in that "retrieval linguistic context facilitates retrieval of memories that were encoded with similar linguistic properties" (Marsh et al., 2015, p. 836). And lastly, as another theoretical construct relevant to encoding specificity (Reed, 2012), TAP suggests that the match between cognitive processing during encoding and retrieval enhances memory performance (Morris et al., 1977). All three theories suggest that the encoding-retrieval match will facilitate memory performance. Encoding specificity focuses on the presence of the same cues (language being one such cue), and TAP focuses on the mental processes. One implication of language dependent recall is that "retrieval and application of knowledge may be most effective if it is done in the language of learning" (Volmer et al., 2018, p. 75; Hahn et al., 2019). And TAP implies that "we recall something most easily when we are in the same situation in which we learned it" (VanPatten, 2004, p. 74). Given that TAP is an "extension of the encoding specificity ideas to broader mental operations" (Roediger, Tekin, & Uner, 2017, p. 8), the more general theme, "transfer appropriacy" was initially used during the coding process. However, the term that has a more transparent meaning, "encoding-retrieval match" was selected – and it refers to the match between learning conditions/processes and students' language behavior in the content exams.

Below are comments from students that imply encoding-retrieval match as a factor in their use of the L2 in their responses.

IP3: Şöyle zaten İngilizce bir dersten çıkmıştık… kendimi tamamen İngilizce odaklı olarak devam etmek istedim. Zaten Türkçe çok fazla görmüyoruz bölümde ve İngilizce bana daha yakın geldi. O yüzden İngilizce cevaplamak istedim. [It's like we had already left an English class… I wanted to keep myself completely focused on English. We don't see much Turkish in the department anyway, and English felt closer to me. That's why I wanted to answer in English.]

IP3 relates their feeling of "closeness" to English in the content exam to the limited use of Turkish (and extensive use of English) in their program. Additionally, IP3 refers to the linguistic context, or ambiance, at the time of the content exam, saying that they had just left an English-medium class, and that they wanted to continue to operate in that language. This statement is reminiscent of IP8's answer in relation to another question, which was as follows:

IP8: I was in the taxi, I was talking to them in Turkish. And when I went to X Hoca, used to speak English with him, but I find myself talking in Turkish. And after this I went to the class, I started to talk the professor also in Turkish. So, it is sometimes like when my mind switching to a language, it goes this language.

IP8, who would normally speak in English with the instructor, finds herself using Turkish with him, obviously without realizing it during the conversation. At this point, I would like to introduce an anecdote I myself experienced. While at a conference, the speaker asked us, the participants, to play a game, which involved quickly saying aloud the number of fingers the partner raised. The speaker gave the instructions in Turkish first, and repeated them in English as there were a few participants who did not speak Turkish. When we started the game, I found myself saying "three" instead of "üç" although my partner only spoke Turkish. I was still operating in English, because the most recent instructions were given in English by the speaker. This implies that language ambiance may also affect language retrieval.

Apart from the linguistic context and the general use of English, students' individual learning activities also seem to play a role in the use of the L2 in their content exam responses, as is stated by IP11:

IP11: Ben dersi ne şekilde öğrendiysem aslında yazarken o şekilde yazıyorum. Düşünürken belki o şekilde düşünmüyorumdur, Türkçe düşünüyorum ya da konuşurken asla İngilizceyi tercih etmiyorum ama yazarken hep İngilizce yazıyorum. Öyle çalıştığım için de bu var muhtemelen. [When I write, I actually write the way I learned the lesson. Maybe I don't think that way when I think, I think in Turkish or I never prefer English when I speak, but I always write in English. That probably happens because I study like that.]

IP11 clearly states that they used English because that is how they learned the content, or how they studied it. IP11 adds that they do not prefer to use English while speaking or thinking, but it is not clear whether they mean their speaking or thinking in class, or out-of-class activities. However, they make it clear that when studying for their courses, they take notes in English, which means they practice the same skills that are required by the content exam, and that is "probably" why they wrote their response in the L2. IP 12 holds similar views:

IP12: Yani dersi İngilizce dinlediğim için ve sınav öncesinde de İngilizce çalıştığım için İngilizce daha fazla cümle vardı kafamda Türkçeye oranla. [I mean, I had more English sentences in my mind than Turkish because I listen to the lesson in English and I study in English before exams.]

IP12 refers to listening to the lessons in English as one factor, which implies the effect of language of encoding, and to studying in English as another factor, which implies the effect of the cognitive processes that are engaged during encoding. The statement that there were "more English sentences" in their mind "relative to Turkish" indicates that IP12 does not feel the need to translate them from the L1 to the L2. While IP16 "write it straight out of [their] head" in Turkish, IP12 seems to do this in English for some sentences.

5.6.8.2.2 Compartmentalization of languages

Compartmentalization of languages refers to the students' perspective that the two languages should be kept separate and homogeneous, without features associated with one language crossing over into the other language.

There were students who, despite believing that they could produce a better response if they included Turkish, avoided using Turkish in their response in English because they thought that would not be appropriate – although they were instructed before the content exam that they were free to draw upon their whole linguistic repertoire. The idea that features associated with different named languages should not be used within the same (academic) text seems to be so ingrained in those students' minds that they risk not conveying their true knowledge for the sake of composing their answer purely in the L2. For example, IP10 states that they felt "compelled" to write in one language only:

IP10: Konuyu İngilizce öğrendiğimiz için İngilizce yapmak istedim ama Türkçe mesela aklımdaydı doğruları ama İngilizce devam ettiğim için konuyu tam olarak yazmadım. [Since we learned the subject in English, I wanted to do it in English, but for example, in Turkish the correct answers were right in my mind, but because I continued in English, I could not write about the subject completely.]

R: Bu söylediğini biraz açar mısın? [Can you elaborate on that a little?]

IP10: Hocam konuda daha fazla şey yazabilirdim, bildiğim konuyu İngilizce başladığım için eksik yazdım. Yani yanlış yazdım… Türkçe yazsaydım hocam onu yazabilirdim. Ama İngilizce başladım, sonra İngilizce devam etmek zorunda hissettim. [Hocam, I could have written more about the subject, [but] since I started in English, I wrote it incompletely. I mean, I wrote it wrong… If I had written in Turkish, hocam, I could have written it. But I started in English, then I felt compelled to continue in English.]

IP10 states that their response to the exam question only conveyed part of their knowledge because they failed to express all of their ideas in the L2, but despite this, they chose to continue in English because they felt compelled to do so, having already written part of the answer in English. When talking about the disadvantages of EMI, IP10 stated that some students include Turkish words in their answers in

exams, hoping that the instructor will accept it, but “Of course, it is not accepted”. The fact that this linguistic practice is not accepted in their exams might have made IP10 feel compelled to respond totally in the L2. A similar sentiment was expressed by IP11:

IP11: Türkçesini düşünüp çeviremediğim birkaç cümle vardı aslında yazamadığım ama yani akademik bir şey olduğu için yarısı İngilizce yarısı Türkçe devam etmek istemedim. O yüzden İngilizce bildiğim kadarıyla yazdım. [There were a few sentences that I could think of in Turkish and could not translate, but I did not want to continue half in English and half in Turkish because it is an academic thing. That’s why I wrote as much as I know in English.]

IP11, too, states they could have given a better response in terms of content if they included some Turkish, but they did not want to do this because it is “an academic thing”. IP11 seems to hold the belief that their academic text, in this case, their exam response, should not include translanguaging. This comes at a cost because they believe they could have provided a more complete response if they wrote some sentences in Turkish. Not choosing to do this, IP11 wrote as much as they could in English.

5.6.8.3 Reasons for using both languages in the same response

In the following sections, the reasons for translanguaging in the same response that emerged from the interviews are presented along with relevant comments of the participants. The translanguaging behavior was associated with encoding-retrieval match, lack of (access to) L1 equivalents and inefficient lexical retrieval in the L2.

5.6.8.3.1 Encoding-retrieval match

As explained under “Reasons for responding (mainly) in the L2”, encoding-retrieval match refers to students’ language use in the exam being determined by the language of learning and associated cognitive processes during encoding. The effect of the

linguistic context of learning activities on students' translanguaging behavior in the content exam was expressed by IP8, for example:

IP8: Because one answer is because my mind was thinking like this, like switching by reflex. I didn't choose. My mind thinking this way and because you gave me this option... I have like option to write in my own language, but still I don't feel like I want to write with this language because I didn't study this topic in this language.

IP8 states that because they had the option to use both languages in their responses, their mind did the "switching by reflex". As a matter of fact, they seem to feel positively about writing in Arabic, but they cannot write completely in Arabic because they "didn't study this topic" in their L1-Arabic. A similar and more specific reason is provided by IP5:

IP5: Biraz da alışkanlık olduğum için sanırım. Bu dersleri çok fazla özellikle de bu konuyu memory konusunu çok fazla tekrar ettiğimiz için direkt otomatik olarak bu şekilde çıkıyor. Yoksa dediğiniz gibi kısa hafıza vs bunlar aslında Türkçesi çok daha basit de olabilir ama dediğim gibi direkt alışkanlıktan yazdım büyük ihtimalle. [I guess it's just because I'm used to it. Since we repeat these lessons so much, especially this subject, the memory subject, it comes out like this automatically. Otherwise, as you said, short memory etc. These may actually be much simpler in Turkish, but as I said, I wrote it out of habit, most likely.]

IP5 obviously has both the Turkish word "hafıza" and the English equivalent "memory" at their disposal. They think that their use of the terminology in English while writing in Turkish is because they have repeatedly studied this topic in the L2, and it has become a habit, or an automatic process, to use the terms in the L2. This comment is also reminiscent of frequency effects in language processing.

IP12, on the other hand, makes a distinction between more general vs specific information in their response:

IP12: Çünkü İngilizce çalıştım. Mesela şimdi and after all this virgül the wealth the resources are distributed based on their political decisions. Mesela ben bu cümleyi direkt İngilizce çalıştım… Genel yerlere baktığınızda mesela bu sistemde üçlü hiyerarşi sistemi vardır, ya da son olarak bölge gücü olabilecek semi-periferi devletler var. Bunlar çok genel bilgiler olduğu için Türkçe yazdım. Özellikle İngilizce olmasını istediğim yerler ağır yerler olurken çok

> genele vurulabilecek yerleri Türkçe yazmayı tercih ettim. Daha rahat ifade edebileceğim için. [Because I studied in English. For example, now, “and after all this” comma “the wealth the resources are distributed based on their political decisions”. For example, I studied this sentence directly in English… When you look at the general parts, for example, there is a triple hierarchy system in this system, or finally, there are semi-peripheral states that can be regional powers. Since these are very general information, I wrote them in Turkish. While the parts I wanted to be in English were heavy parts, I preferred to write in Turkish the parts that could be expressed in general. So that I can express it more easily.]

To put IP12’s statements in context, which may otherwise not be clear enough for readers, I present below part of IP12’s response in the content exam:

> Actually Wallerstein defines world-system theory in 2 types. World empires and world economy. World empire sisteminde empire olan devlet kendisine bir tributary seçer ve bu tributary devleti sömürmeye başlar. And after all this, the wealth, the resources are distributed based on their political decisions… Ve periphery ülkeler gelişmemiş ülkelerdir ve geçimlerini hammadde satışı ve tarımla sağlarlar. Ve son olarak bölge gücü olabilecek semi-periphery devletler var. Bu devletler ortalama ekonomik güce sahiptirler ve denge politikası izlerler. [Actually Wallerstein defines world-system theory in 2 types. World empires and world economy. In the world empire system, the empire state chooses a tributary for itself and begins to exploit that tributary state. And after all this, the wealth, the resources are distributed based on their political decisions… And periphery countries are underdeveloped countries, and they make their living from the sale of raw materials and agriculture. And finally, there are semi-periphery states that can be regional powers. These states have average economic power and follow a policy of equilibrium.]

What emerges from IP12’s statements is that the “heavy” parts, which probably refer to field-specific terminology as well as names of theories and constructs, are expressed in the L2 (e.g., ‘world-system theory, tributary, periphery, semi-periphery), while “the parts that could be expressed in general” and therefore did not require field-specific words are expressed in Turkish. Additionally, IP12 refers to sentences which they studied “directly in English”. Evidently, according to IP2, studying these sentences in English makes them more accessible to them in English.

The words “world”, “system”, “theory”, “types”, “economy”, “political”, “decision” could be easily translated into Turkish. It should not be difficult for IP12

to use them in Turkish. The words “economy” and “political” are used as “ekonomi” and “politik” in Turkish. That is, IP12 must have access to Turkish equivalents of these words just like IP5 has access to the Turkish word “hafıza”. Indeed, IP12 also uses the word “ekonomik” in their response. However, this may not always be the case. Students may also have difficulty accessing the L1 equivalents of some words, which is presented in the next section, and this marks the distinction between the themes “encoding-retrieval match” and “lack of (access to) L1 equivalents”.

5.6.8.3.2 Lack of (access to) L1 equivalents

L2-English students in EMI programs may be, and usually are, exposed to content that they have not studied in their L1, and therefore field-specific terms are learned in the L2, but not in the L1 unless, of course, they also study the same content in the L1. As a result, some lexical items may be inaccessible to them in the L1, and they may not even be aware if L1 equivalents exist. Such was the case for IP8:

IP8: If I know the topic in English, it is hard to talk about this topic in Arabic… Because I don’t know the academic terms in Arabic. And because they are not used very much, I didn’t even hear them.

In addition to implying language dependent recall (encoding-retrieval match), IP8’s comments also make it clear that they do not know, and have never heard, certain academic terms in their L1. That is why even when writing in the L1, if they need to use such academic terms which are not lexically accessible to them in the L1, they resort to the L2. While writing this paragraph, I was also listening to a YouTube video. In the video, Ali Babacan, former minister of foreign affairs, interviews İlber Ortaylı, a prominent Turkish historian. Just as I wrote “they use them in the L2”, I heard Ali Babacan say, “Bu soft power dediklerinin ben Türkçeye iyi bir tercümesini hâlâ göremedim, bulamadım. [I still haven’t seen, or found, a good translation into

Turkish of what they call soft power.]" (Babacan, 2022). This is a common experience for those who have studied a particular field through EMI. A similar point was made by IP5:

IP5: Bunu yine sınav sonrası ya da sınav öncesi tartışmalarımızda yaptığımız gibi bütün terimler İngilizce oluyor konuyu yine Türkçe açıklasak da. O yüzden terimlerin Türkçesini tam olarak böyle hatırlayamıyorum O yüzden hani İngilizce kullanmak daha basit geliyor terimler bağlamında. O yüzden terimler dışında Türkçe ama terimler direkt İngilizce şekilde gidiyor. [As we do this in our post-exam or pre-exam discussions, all terms are in English, even if we explain the subject in Turkish. That's why I can't exactly remember the Turkish of the terms. That's why it's easier to use English in the context of terms. That's why, apart from the terms, Turkish, but the terms go directly in English.]

IP5 states that even when they make explanations in the L1 while studying for their exams, they use academic terminology in the L2. As a result, when answering the content exam question, they responded mainly in the L1 and used L2 academic terminology. This is also in support of encoding-retrieval match, because their language behavior in the exam matches how they studied for their exams: they used all the terms in English when explaining the subject in Turkish during their learning activities, and they did the same in the content exam.

IP1 describes the cognitive process they went through, providing further evidence that students' inclusion of lexical items from their L2 while composing in the L1 may be due to (temporary) lack of access to the L1 equivalent:

IP1: Bölümü direkt İngilizce ile yaptığınız zaman terimleri hiç Türkçe yapmadan direkt İngilizce bir şekilde söylüyoruz…Şöyle, mesela o çizdiğim şemanın İngilizce yazdığım şeyler direkt aklıma o şekilde geldiği için İngilizcesini yazmayı tercih ettim. Ve bunları açıklarken de direkt iyi bir şekilde açıklamayı Türkçe şekilde yapabileceğimi düşündüm. Bu yüzden Türkçesini yazdım ve bazı yerlerde direkt aklıma İngilizcesi geldiği için Türkçesini mesela o an peasantlar yazmışım, onun Türkçesini değil de İngilizcesini yazmışım çünkü o an aklıma direk onun İngilizcesi geldi, hani Türkçesini bir an hatırlayamayacağımı düşündüğüm için bu şekilde peasant şeklinde yazmayı tercih ettim. [When you directly make the department English, we say the terms directly in English, without using any Turkish language… For example, in the diagram I drew, I chose to write the English version because the things I wrote in English came to my mind directly in English. And while

> explaining these, I thought that I could explain directly in Turkish in a good way. That's why I wrote the Turkish version of it, and since it directly came to my mind in English in some parts, for example I wrote peasants, not the Turkish version of it, but the English version, because at that moment, I immediately thought of its English, since I thought that I could not remember the Turkish for a moment, I preferred to write it as peasant.]

The responses presented in this section explain why students may take advantage of their L2 while writing in the L1. The following section, on the other hand, deals with the use of the L1 while writing in the L2.

5.6.8.3.3 Inefficient lexical retrieval in the L2

The section that deals with the disadvantages of EMI includes student comments on the challenges of comprehension and production in the L2. There were statements that specifically referred to not being able to express ideas in the L2. These include, for example, IP10's comment "You actually know the word in Turkish… but its English equivalent never did [come to their mind]" and IP11's comment "There were a few sentences that I could think of in Turkish and could not translate". The following comment by IP7 also provides evidence that students may sometimes need to use Turkish while writing in English in their exams:

IP7: Sınav kağıdımızın yüzde yüz İngilizce olması gerektiği için sınava girmeden önce bende hafif bir stres yaratıyor bu. Çünkü çok iyi bildiğim bir cümle tek bir kelimeyi hatırlamadığım için ifade edemiyorum. Onu yazmadan bitiriyorum bu beni bazen üzüyor. Sınavdan önce de geriyor. [Since our exam paper has to be 100 percent English, this creates a little stress for me before I take the exam. That's because I can't express a sentence I know very well because I don't remember a single word. I finish [the exam] without writing it, it makes me sad sometimes. It also makes me nervous before the exam.]

In addition to showing that lexical retrieval of certain concepts in the L2 may be difficult for students in EMI, IP7's comment also shows that if not given the opportunity to use their whole linguistic repertoire, students may suffer not only in terms of their exam scores, but also affectively. This suggests that allowing

translanguaging in content assessments, in contexts where students' limited L2 competence may put them at a disadvantage, may prove beneficial in terms of both academic achievement and emotional state, including motivation. Future research into this relationship is necessary to help form a clear understanding of the caveats and opportunities translanguaging in assessment may bring into students' EMI experiences.

5.7 Discussion

Unlike Study 1, which was conducted within an EPP, Study 2 involved students from various EMI programs at a private (foundation) university. The main aim in the EPP is to teach English as an L2 to incoming students who, upon completing the EPP, will begin their EMI programs. EMI programs, on the other hand, prepare students for their future careers in specific fields. Therefore, the aim is to equip students with knowledge, skills, and attitudes that are required for them to fulfill their future jobs in relevant areas.

The university's publicly available documents indicate internationalization as one of its objectives, and their internationalization policy includes increasing the number of international students and lecturers, cooperating with international HE and research institutions, and increasing their place in international university rankings. Usually, EMI is seen as a way to achieve these goals (Doiz et al., 2011; Hesford et al., 2009; Horner & Tetreault, 2017; Wächter & Maiworm, 2008) and the use of English may be assumed by EMI universities as necessary and sufficient for achieving internationalization (e.g., Karakaş & Bayyurt, 2019). I have not been able to locate research into or reports regarding where the graduates of the GPU are employed, but the information available on the university's LinkedIn page shows

that most of their alumni work in Türkiye (yet, of course, this needs to be verified through a more reliable method). If that is really the case (most graduates being employed in Türkiye), it also implies that, very likely, many graduates need to interact with (monolingual or L2) Turkish speaking people in their jobs, and this has certain implications. Macaro (2020) argues that an EMI medicine program would need to serve purposes such as ensuring not only that the medical content has been grasped and understood, but also that the students are equipped with L1 terminology and the ability to explain content in the L1 to non-specialists such as patients. Macaro (2020) also states that (the extent of) the need to learn L1 terminology may depend on the field, and points out that in the case of an economics lecturer, for example, the need for teaching students L1 terminology would be less of an issue given that graduates of Economics programs are less likely to have a practitioner role. The students in the current study were enrolled in various EMI programs, and it is not within the scope of this study to find out whether, or to what extent, graduates of each program would need to use their L1 in their jobs, but it is probable that a good many of them will. Therefore, future research into the evaluation of EMI programs in Turkish HE as well as students' learning experiences and the languages used for learning/teaching and assessment can provide insights into ways of further developing appropriate pedagogical and assessment practices. Indeed, as suggested by İnal, Bayyurt, and Kerestecioğlu (2021), EMI policies in Turkish HE should be supported by academic justification.

As part of Study 2, RQ1 investigated how students' language use would be in their responses to questions assessing their content knowledge in EMI courses when given the opportunity to use any named languages or to translanguage. The results showed that while some used the L1 only, others wrote in the L2 only, and still

others used both within the same response. Course-based rates of L1 words to the total number of words in the responses ranged from 33% to 79%. In terms of the language behavior of students, when all nine courses were combined, a balanced distribution was observed in that 34% of the students responded in the L1 only, 37% in the L2 only, and 29% used both languages to varying extents.

RQ2 investigated whether there was a relationship between proficiency and students' language use in their responses. A correlation analysis of the language use (the rate of L2 words) of 114 students who took the written proficiency exam showed that students' tendency to use the L2 was positively correlated with proficiency. A comparison between the L1-only, L2-only, and both-languages groups showed that while the L1-only group had a significantly lower proficiency than the two other groups, the comparison of the L2-only and both-languages groups did not yield a significant difference. When students were grouped again according to whether they wrote dominantly in the L1 vs L2, the two groups were found to differ significantly in terms of proficiency. Based on these findings, it was observed that more proficient students tended to write in the L2, and translanguaging was observed in students' responses in both lower and higher proficiency levels.

RQ3 was on the functions of translanguaging in assessment, and RQ4 on the difficulties students think they experience in their EMI studies. These two questions were related in the sense that the students' use of L1-only or both languages in their responses was at least partially attributed to L2-related challenges. In addition, for the answers to these questions to be more meaningful, they were situated in the context of the EMI programs within the study as well as in students' experiences.

The discussion of the findings is presented in the following sections.

5.7.1 Student challenges in EMI

Part of the interviews was on challenges in EMI, and the findings regarding challenges were rather informative. But, to do (at least some) justice to EMI, the perceived benefits that emerged from the interviews (which correspond to some of the many potential benefits that have been also observed in other research) should also be presented. According to the participants, the main benefits of EMI are the improvement of L2-English, which serves as a lingua franca, more job opportunities abroad, and greater access to scientific knowledge (not only because English is widely used in scientific publications but also because the development of their L2 skills allows them to access resources that may not be available in L1). Of these reasons, the improvement of L2 skills was the most cited one by the participants. However, as discussed below, this study also corroborates the argument that "[m]any challenges in EMI implementation stem from 'language inadequacies'" (Pun & Thomas, 2020, p. 255).

Research comparing student outcomes in L1-medium vs EMI programs produced different results in terms of academic outcomes. Some studies have shown that studying through the L2 does not cause academic outcomes (in the form of course grades, or GPAs) to suffer, as students in EMI and non-EMI programs were found to obtain comparable grades (Costa & Mariotti, 2017; Dafouz & Camacho, 2016; Dafouz et al., 2014). However, even when similar results are obtained in terms of GPA, there may be other factors involved. In this regard, Zaif et al. (2017) point to the higher scores in the university entrance exam of EMI students in comparison to non-EMI students, which implies that EMI might have resulted in relatively lower academic outcomes for students who could otherwise (i.e., in a non-EMI program) have achieved higher results. Additionally, a comparison of average performances

may conceal important differences. For example, a comparison between higher performance groups showed that Spanish-medium instruction students outperformed EMI students (Hernandez-Nanclares & Jimenez-Munoz, 2017), and higher proficiency learners were found to achieve better academic results than lower proficiency learners (Lin & He, 2019). Other research, on the other hand, has found that EMI is believed to be, and can be, costly in terms of academic outcomes in comparison to L1-medium instruction (Evans & Morrison, 2011; Hellekjær, 2010; Sert, 2008). Therefore, the debate on whether academic outcomes are compromised in EMI relative to L1-medium programs is not yet settled, but it has been shown by several studies that, while offering various benefits, EMI also comes with costs in relation to students' content learning due in particular to proficiency-related issues.

Although tertiary-level EMI programs generally require incoming students to certify their English proficiency to begin their EMI programs (and are offered English preparatory classes and/or support EAP/ESP courses in many institutions), insufficient English proficiency still seems to remain as "a major stumbling block" (Pulcini & Campagna, 2015) in front of content learning – and this is a common issue across EMI programs in many countries (e.g., Costa & Coleman, 2013; Galloway et al., 2017; Galloway & Rose, 2021; Gürtler & Kronewald, 2015; Lasagabaster, 2015b; Söderlundh, 2012; Wang et al., 2018), including Türkiye (Kamaşak, Rose, & Sahan, 2021; Yıldız et al., 2017; Yüksel et al., 2021).

Similarly, the current study revealed that even though students may meet the minimum language requirements, they may still not be able to fully thrive in EMI programs without additional language support. The students in the EMI programs would be expected to have obtained sufficient English language skills given that they had successfully passed English proficiency tests, but they still reported experiencing

difficulties once they were enrolled in their EMI programs. For example, students expected to understand lectures and express themselves easily after passing the language proficiency exam, but some ended up struggling and feeling like they were putting in a lot of effort without proportionate improvement. They expressed frustration with this situation and believed that the entry-level language proficiency standards should be set higher. On the other hand, they viewed the development of their L2-English skills as a benefit of EMI, and it was found that more proficient students were more likely to use the L2 in the content exams within this study. This implies that if they improve their L2-English proficiency as a by-product of their English-medium education, the language-related challenges may be mitigated. The need for and potential value of language support in undergraduate programs is expressed by Kerestecioğlu and Bayyurt (2018), who point out that since one year of English preparatory classes alone is not sufficient for students arriving at HEIs with little or no prior language proficiency, they should be provided with language support throughout their undergraduate studies.

The challenges that were referred to by the participants in the current study are presented in Figure 2. Despite being shown in different boxes for ease of presentation, these factors are interrelated rather than distinct. Knowledge of vocabulary, for example, is instrumental both in comprehension and production, and this relationship is represented with arrows. The difficulty of content may also have to do with the language used, as the use of field-specific terminology may cause the content to be perceived as more difficult by students.

Lack of adequate L2 proficiency, both in terms of comprehension and production, was identified as a common obstacle among the participants. Skepticism about students' L2-English proficiency was detected in three other EMI universities

in Türkiye (Karakaş & Jenkins, 2022). This signals that this may be a widespread issue in the Turkish EMI context, yet this should not be understood as painting all EMI programs with the same brush. There are obviously differences between EMI institutions (Sahan et al., 2021).

The students in Study 2 reported that limited English proficiency hindered their ability to fully understand and express themselves in English. It was noted that it is easier to learn and retain information in the L1. One student's statement that language is "just a tool" aligns with socio-cognitive theory, which posits that language is a cognitive tool that mediates social and mental activities (Wells, 1994), and is "a driving factor for learning" (Tylén, Weed, Wallentin, Roepstorff, & Frith, 2010, p.6). In the context of EMI, if a student has not yet mastered (how to use) this tool effectively, this may lead to challenges with mastery of content – which was reportedly the case for some students in this study.

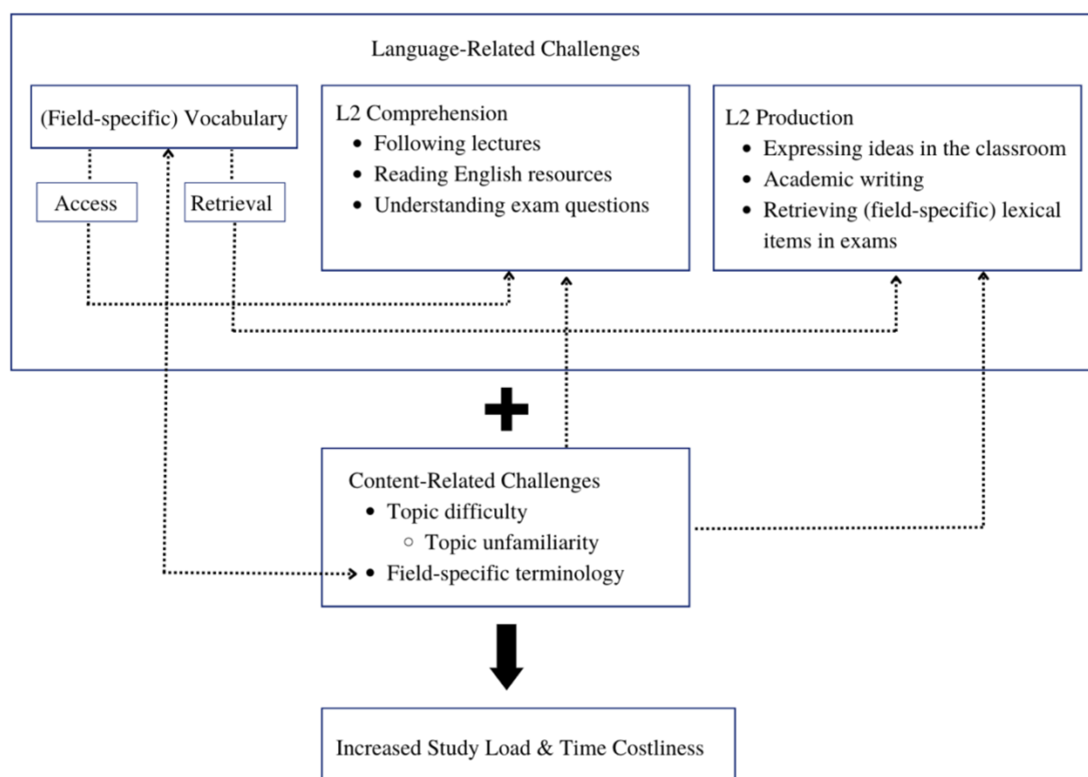


Figure 2. Challenges experienced in EMI programs by the interview participants

Comprehension challenges: It was found that the students at times struggle to understand the content introduced in their EMI courses. Comprehension challenges are not uncommon in EMI settings (e.g., Aizawa & Rose, 2019; Chang, 2010). This can impact students' learning process both in terms of depth and pace, as the student interviews indicate that they believe content to be more quickly and more deeply understood through the L1. However, given the limited number of studies on content learning in EMI (Graham, Choi, Davoodi, Razmeh, & Dixon, 2018) and of those that involve comparison with L1-medium instruction (Tong, Wang, Min, & Tang, 2020), whether this perception accurately represents learning in EMI needs to be empirically analyzed through more research. However, evidently, this was how some participants in the current study felt. One student, who was doing a double-major with a Turkish-medium program, stated that they took the same subjects in English and Turkish, and they reported more easily understanding them in Turkish. In their individual studies, reading academic content in the L2 was reported by a student to make them feel concerned, which indicates that the affective dimension of learning in EMI should also be investigated further. Interviews also showed that within the classroom, instructors are aware of the difficulty felt by their students. In these situations, instructors may choose to use Turkish to facilitate understanding. When students "are stuck" and they "do not understand", the use of Turkish may be felt as a necessity – it becomes a "need". During their individual and group learning activities as well, some students reported using their L1 for better learning of complex topics in particular, as they believed that "everyone thinks in their mother tongue" and "the content can be understood in a pure way" in the L1. That these students reported to understand the same content when presented or studied in the L1

implies that there is a language barrier in EMI for them, and they may require additional language support while in their EMI programs.

Production challenges: Students reported having problems in terms of production, as well. Some students may "have a lot of difficulty and cannot explain [their] thoughts accurately" in English, and resort to Turkish. One student who imagined that they would be able to speak and participate in classes once they passed the proficiency test was disappointed to discover that it did not turn out to be as they expected. This is a familiar scene in various EMI settings (e.g., Alhassan et al., 2021; Söderlundh, 2012). Students' hesitations to express their ideas in English and inclination to use Turkish seem to lead some instructors to attempt to encourage students to use English, by saying, for example, "of course you can form a few sentences [in English]" – a statement which implies that students refrain from forming sentences, i.e., speaking, in the classroom. Regarding writing, a student, who reported having the highest GPA in their program, made an interesting claim: "I can't even write two sentences in an academic way… I don't think anyone [in the course] can write academically." High-proficiency students' challenges with academic literacy including essay writing was also reported by Aizawa and Rose (2019).

Topic difficulty and unfamiliarity: It was found that sometimes comprehension challenges may also be related to the difficulty of the material itself. However, the fact that the participants referred to the deployment of Turkish when they mentioned topic complexity attests to the difficulty of disentangling content from language in EMI. Students referred to topic complexity as a factor which prompts the use of Turkish by both students and instructors. Indeed, research has shown that as content becomes more complex, L1 use as a means to convey ideas

increases among lower L2 proficiency students (Turnbull, Cormier, & Bourque, 2011), and among teachers (Cincotta-Segi, 2011). The participants in Study 2, similarly, reported that some topics are so "complicated" or "difficult" that they "cannot understand", and when dealing with them, brief explanations in Turkish are provided to help students "understand them more comfortably". It was reported that the instructors themselves recognize that some topics are difficult for students, and switch to Turkish "on their own initiative […] so that it could be understood". It was also observed that students view some courses to be more difficult than others, and they are more likely to refer to Turkish resources "depending on the difficulty of the courses". One student, for example, identified history as a "particularly intense" subject, which caused them to "spend extra time" on this course. Based on the student interviews, it appears that the difficulty of a course may be influenced by the novelty or unfamiliarity of the content. If students already have some knowledge about a topic, it is easier for them to understand and learn it in L2-English than if it is a new subject for them.

Limited vocabulary knowledge: Students doubt the adequacy of their English proficiency and, in that respect, limited vocabulary is an area that was referred to by several students. As their "English is not very advanced", there are words they do not know – and these are "generally academic". Lack of adequate vocabulary knowledge, which may mean having to cope with unfamiliar terminology, was identified as a contributing factor to comprehension issues in other EMI universities in Türkiye (Yıldız et al., 2017). Having a large vocabulary, and especially field-specific vocabulary is essential for EMI students, as otherwise they also have to spend time to "very often translate a lot of words". But it should also be added that translation was also reported to save time when done on whole texts on Google

Translate, rather than translating word by word. At this point, it should also be emphasized that the task of an L2-English student in an EMI context in terms of vocabulary learning is enormous. The fact of the matter is "the EMI student is faced with a bewildering range of L2 vocabulary, a range that s/he may not possess even at the receptive level." (Macaro, 2020, p. 267).

Student interviews revealed that due to the challenges they face in their EMI programs, it takes longer and more work to complete academic tasks in English than in the L1. According to the students' responses, the additional time and effort required for EMI compared to L1-medium instruction is a disadvantage. Some students also reported feeling anxious or not feeling "too good" due to the time-intensive (Airey, Lauridsen, Räsänen, Salö, & Schwach, 2017) and laborious (Hua, 2019; Lei & Hu, 2014) nature of EMI.

Of particular importance is the issue of disciplinary literacy – a concept that is equally important in L1-medium university settings (Airey, 2020). As Del Mar Sánchez-Pérez (2021) suggests, the dual goal of developing competence in their respective disciplines and English as an L2 makes "the process of disciplinary literacy development even more challenging" (p. 3). The benefit of providing students with support in terms of disciplinary literacy is emphasized by Breeze and Dafouz (2017), who also point to the limited provision of such support in EMI programs. Given its importance, Airey et al. (2017, p. 572) recommend that EMI programs should have policies that promote conversations among the faculty about disciplinary literacy goals as well as language learning outcomes of EMI courses. The absence of disciplinary literacy support is likely a significant contributor to the language-related challenges experienced by EMI students.

5.7.2 Translanguaging: A fact of life and EMI

The L1 seems like a haven for some students in the current study as it helps alleviate some of the challenges that they experience in their EMI programs. It emerges as a resource used by both students and instructors.

Turkish was reported to be employed by instructors when they realize (or students state) that students are having problems understanding content. The use of the L1 in EMI classrooms has been associated with a facilitative role in content learning in several studies (e.g., Dalziel & Guarda, 2021; Lasagabaster, 2013; Sahan & Rose, 2021; Reilly, 2021). Still, the use of Turkish in the EMI classes was found to vary depending on the individual policies of instructors and the presence of international students – an issue also raised in Macaro (2020). In general, instructors were reported to more strictly follow an English-only policy when there are international students present, indicating that the linguistic dynamics of the classroom are impacted by their presence, and the use of Turkish is minimized.

Turkish is also used by students in the classroom to express themselves when they are unable to do so in English (e.g., Dalziel & Guarda, 2021) and in their out-of-class learning activities to read resources, to take notes, to discuss topics, to review contents (e.g., Hu, Li, & Lei, 2014), or to establish mutual understanding in group work. Some students reported that they use both English and Turkish resources, which indicates that they regularly engage in translanguaging in their individual learning activities. Although argued to be fewer and thus more difficult to obtain, Turkish resources were viewed to be "better" by some students. However, students cannot solely rely on Turkish resources because their classes and assessment tasks are conducted in English. While Turkish resources may assist in their understanding and learning of the material, it is important for these students to have strong English

language skills and knowledge of content in English to effectively communicate their understanding through English in classes as well as in assessment tasks. Therefore, some of them reported using a combination of Turkish and English resources to facilitate both a deeper understanding and a faster pace of learning – in comparison to studying only from English resources, which may present comprehension challenges and require time to decode and translate. Before a lesson or while preparing for exams, students reported doing initial studying in Turkish to "create a foundation in Turkish" and do further studying in English (sometimes within a group). By studying content in Turkish and then reviewing it in English, they reported improving their field-specific English language skills, in addition to facilitating their content learning.

Translanguaging is not limited to the classroom or to using resources in different named languages, but it also occurs through two-way translation, that is, both from the L1 to the L2, and from the L2 to the L1. For example, when they are studying from a textbook in English, they translate unfamiliar words into Turkish or Arabic, and when studying from a textbook in their L1, they translate at least some of the content into English. They also use it while taking notes or writing a course assignment.

Translanguaging is also evident in group activities, such as reading in one language and taking notes and discussing in both languages. During this process, they rely on their full linguistic repertoire to make meaning. However, when there are students with different linguistic backgrounds, the linguistic ambiance within the group changes towards more reliance on ELF.

5.7.3 Content assessment and translanguaging

The previous section showed that the participants actively use both the L1 and the L2 to learn and express information in their EMI programs. However, this may not be an option in exams, and this has various implications.

In addition to struggling with understanding courses and being hesitant to participate verbally in English-medium classes, students reported that they sometimes do not understand exam questions (for a similar finding, see Macaro et al., 2016). This raises concerns about the validity of exams because if their purpose is to assess content knowledge, a student's inability to understand a question due to language barriers would introduce error variance into the assessment (Shohamy, 2011), since a low score would not necessarily indicate a lack of content knowledge, but also a lack of language proficiency.

This issue is not only limited to understanding exam questions, but also includes problems with producing answers. Students reported that writing in English was a challenge for them. Similarly, Arkın and Osam's study (2015) at a Turkish EMI university pointed to lower test performance due to difficulty expressing ideas in written English. Given that open-ended questions are commonly used in EMI programs (Sahan & Şahan, 2022), the importance of L2 production skills cannot be overstated. One student's statement "when I try to load it into my mind, I think in Turkish" suggests that (some) students may feel more comfortable encoding content information in their L1. This may seem counterintuitive in this EMI context. As the university follows an English-only policy in exams, it is important for students to be able to access and express their content knowledge in English. However, students may rely on their L1 for deeper processing and understanding of the content, and then translate the relevant information into L2-English. This means that the process

of translating information from the L1 to the L2 is a crucial part of the learning process, and students can use this same strategy during exams to retrieve relevant information.

Some students reported recalling information and concepts in the L1, but not in English. This means that they may have the content knowledge needed to answer exam questions, but be unable to use the relevant words in the L2 to express those ideas. The difficulties encountered during exams could potentially be related to a lack of field-specific rather than general proficiency in the L2. Whatever the underlying reason, according to student accounts, difficulty in recalling words in the L2 is a common problem in exams. When faced with this difficulty during exams, some students resort to writing in their L1 in the hope that the instructor will accept it, but it was reported that this is typically not accepted due to the university's English-only policy. From an assessment point of view, assuming that assessing content knowledge is the goal, this too raises validity issues. While instructors were not interviewed within this study, research from around the world shows that EMI content instructors believe that language teaching does not fall within their responsibility, so it is usually not on their agenda, and they are oriented to content instead (Airey, 2012; Costa, 2012; Dimova, 2020; Doiz et al., 2019; Duran et al., 2022; Karakaş & Bayyurt, 2019; Otto & Estrada, 2019; Wilkinson, 2013). Li and Wu (2021) state that in EMI, teachers do not usually offer language-based accommodations in assessments as the focus of instruction is not typically on English. They suggest that if students are struggling linguistically in tasks that are primarily designed to evaluate their content knowledge, teachers should consider making assessment accommodations, such as minimizing reliance on English by

using non-verbal forms of presentation, or allowing students to use their L1 as a resource (Li & Wu, 2021, p. 132).

Similarly, it was found in an EMI university in Türkiye that content teachers and students agree that students struggle with answering oral and written questions in English and that exams given in English can hinder their academic success (Akşit & Kahvecioğlu, 2022). In another study, instructors reported not penalizing students' nonstandard language use, but instead focused on whether content was discernible in the responses, and an instructor acknowledged allowing the use of Turkish in exams (Karakaş & Bayyurt, 2019). If this is the case in other EMI university settings in Türkiye, i.e., if content is what matters and Turkish may be allowed, it follows that the implementation of this practice needs to be aligned with the construct and standardized, particularly if there are speakers of other languages who also have to grapple with "the difficulty of studying intellectually demanding courses through English" (Karakaş & Bayyurt, 2019, p. 112).

While allowing the use of other languages in assessments will probably seem like an unlikely option to many stakeholders, research with five content teachers at an EMI university in Türkiye (Sahan & Şahan, 2022) has found different perspectives and practices among them in terms of language of assessments. The practices include (1) allowing the use of Turkish to some extent but deducting points for using Turkish even if the correct response is provided, (2) only permitting the use of English and giving failing grades if students use any Turkish, and (3) being flexible about language use and allowing Turkish in answers.

Apart from permitting Turkish in assessment tasks, teachers were also reported to ask simpler or math-based questions and to translate or paraphrase questions (Sahan & Şahan, 2022). As a matter of fact, I also observed translation by

instructors in the current study. In the History of International Relations course, after the exam papers were delivered, the instructor provided the Turkish translation of the word “urban” as they suspected that students may confuse “urban” with “rural”. In the Organizational Behavior course, I saw two L1-Arabic students talking to each other, and approached them to ask if they had any questions. One of the students was asking for the meaning of the word “satisfaction”. These two instances show that students may have comprehension problems due to language in exams, and that instructors may translate (parts of) exam questions to ensure that students have understood them.

Sahan and Şahan (2022) also found that students believed that having high English proficiency is beneficial for achieving academic success and leads to higher exam scores. Similarly, Yüksel, Soruç, Altay, and Curle (2021) revealed that students English proficiency increased as they progressed in their EMI programs, and more proficient students achieved higher academic outcomes. The finding in the current study that more proficient students were more likely to write in the L2 also implies that they may benefit from being able to more readily express their content knowledge in the L2 and this may allow them to get higher grades in their course assessments.

Pun and Thomas (2020) state that there are two different viewpoints on the use of L1 in EMI: positive and negative. Some believe that L1 use is negative because it might interfere with the goal of teaching both language and content, and therefore students should only be exposed to English – which the authors suggest does not represent the reality within EMI classrooms. Others view L1 use as a positive strategy that can enhance interaction and content engagement. Pun and Thomas (2020) add that there is “the idealized reality” (p. 254) and “the immediate

reality" (p. 255) for those who hold the positive perspective. The former refers to an ideal situation where both teachers and students receive support specifically tailored to EMI, and the latter refers to current practices in EMI, where L1 use may be necessary to address language-related challenges until both teachers and students reach a certain level of proficiency (Pun & Thomas, 2020).

I believe that this argument can be extended to assessment tasks as well, and there are valid reasons for multiple languages to be used in assessment tasks at least as a temporary accommodation in certain EMI settings. First, research has shown that fairness in EMI content assessments is a concern among teachers, especially with regard to long answer responses (Ball & Lindsay, 2013), which require written production skills, which is challenging even for high proficiency students (Aizawa & Rose, 2019). Second, content teachers have been found to ask questions with relatively low levels of cognitive and linguistic complexity (Hu & Duan, 2019; Pun & Macaro, 2019), and even so, students have been observed to remain silent in response to questions (Hu & Li, 2017). Third, content teachers in Turkish EMI universities reported that students struggled to understand exam questions and ultimately failed due to a lack of vocabulary knowledge – even though they attempted to keep the questions simple and sometimes provided key vocabulary in Turkish (Macaro et al., 2016). Fourth, research has established the relationship between proficiency and GPA in that higher proficiency students tend to obtain higher GPAs (Bo, Fu, & Lim, 2022; Schoepp, 2018; Martirosyan et al., 2015; Xie & Curle, 2022). Fifth, while some studies pointed to the CEFR B2 level as a threshold proficiency after which students' EMI success is not hindered due to language-related challenges (Carlsen, 2018; Harsch et al., 2017), others found that linguistic challenges persist even at the B2 or C1 level (Aizawa et al., 2020; Yüksel et al.,

2021). Lastly, taking an assessment in their weaker language has been shown to cause L2 students' exam performance to suffer (Attar et al., 2022; Gablasova, 2014; Otto & Estrada, 2019; Tatzl, 2011), and even more so when linguistically and cognitively more demanding questions are used (Lo & Fung, 2018; Lo, Fung & Qiu, 2021).

With regard to the linguistic demands of questions, I would like to present another observation from the current study: It was interesting to realize that in certain courses, the percentage of students who used the L1-only was relatively higher. Given that an effect of proficiency was determined in terms of language use, it may be that the students in some courses (or EMI programs) were, on average, more proficient. Although statistical analyses could not be carried out due to the very low number of participants in some courses, the average proficiency scores of the participants in each course indicate that proficiency may have played a role in this difference between courses. For example, in Media and Society (N = 38, M = 13.48), Organizational Behavior (N = 14, M = 11.4), Introduction to Business (N = 16, M = 11.79), in which the mean proficiency scores (indicated by M) were relatively low, the percentages the use of L1-only in the content exams were high; on the other hand, the percentages of L1-only students were rather low in Research Development (N = 7, M = 14.32), International Political Economy (N = 4, M = 14), Introduction to Political Science (N = 5, M = 16.85), and Psychology of Learning (N = 8, M = 18.75). However, it also seemed like there were differences between the questions asked in each course in terms of the extent to which their answers required field-specific information. To examine this, I created a Google Forms document with the questions asked in the nine EMI content courses within the study. I shared it with instructors involved in teaching ESP. The following instruction was given:

> Please, rate the questions according to the extent to which their answers require field-specific language.
>
> 1 = requires a small amount of field-specific language.
> 10 = requires a substantial amount of field-specific language
>
> When rating, please try to compare the given questions with each other. For example, if you think Question X requires more field-specific language than Question Y, Question X should get a higher rating, even if both require substantial amounts of field-specific language.

Twelve instructors responded. The correlation between the question ratings and the average percentage of L2 use in each course was calculated, $r(7) = .62$, $p = .075$. The correlation coefficient indicated strong association, yet it was not significant. Given that only nine courses, and hence nine questions, were analyzed, the sample is hardly sufficient to draw meaningful inferences from the statistical results. However, it should be borne in mind that proficiency alone does not tell the whole story. There are other factors at play, which may include the extent of field-specific language required by questions. A participant's statement "While the parts I wanted to be in English were heavy parts, I preferred to write in Turkish the parts that could be expressed in general" also indicates that questions that require more general, rather than field-specific, information may be more likely to be answered in the L1. However, more research is needed on this to be able to drive firm conclusions.

Before I conclude this section, it should also be noted that students' failure to recall information and terminology in English while remembering them in the L1 may have something to do with their dependence on the L1 while studying for their classes. In that sense, relying too heavily on the L1 may result in students' diversion from the EMI program's goal of teaching content in English, and also limit the development of L2 knowledge and of the ability to express content knowledge in English. One student in this study, for example, reported that they recognized they were using too much Turkish in their group learning activities and then decided to

prioritize studying in English over Turkish. In other words, more research is needed to understand what the principled use of translanguaging may involve and how this could be operationalized in different EMI contexts.

5.7.4 Assessment accommodations: Translanguaging as an alternative tool

Given proficiency-related problems in EMI programs, it may be that "many students are simply being set up to fail" (Soruç & Griffiths, 2018, p. 46). To help mitigate the challenges attributable to students' English proficiency, different strategies have been reported to be employed. One institution-level strategy whose implementation has gained momentum recently is collaboration between content and language specialists to offer language support in EMI classrooms (e.g., Barrios et al., 2016). More micro-level strategies include simplifying content and adapting content delivery (Pulcini & Campagna, 2015) in addition to switching to the learners' L1 (Hu et al., 2014) for purposes such as explaining unfamiliar vocabulary (Tien & Li, 2013), explaining complex topics (Kim et al., 2017), and providing feedback (Macaro et al., 2020).

When it comes to assessment, linguistic simplification, testing in the L1, and the integration of the L1 have been shown to offer benefits. Particularly lower proficiency learners benefit from linguistically simplified versions of tests (Abedi & Lord, 2001). Canz et al. (2021) pointed out that using the common language as the language for content-based tests may more accurately reflect students' content knowledge in settings where students have similar foreign language and bilingual learning experiences. When provided with support in the L1, students in a bilingual university program showed better reading comprehension performance (Van der Walt & Kidd, 2013), and allowing students to utilize multiple languages in their

writing in an EMI university course was found to lead to greater emotional engagement (Luckett & Hurst-Harosh, 2021). In fact, as explained previously, research has revealed that teachers in EMI university settings may not be penalizing linguistic errors (Mancho-Barés & Aguilar-Pérez, 2020) and allowing the use of L1 in assessment tasks (Costa & Coleman, 2013; Li & Wu, 2018; Sahan & Şahan, 2022).

While translanguaging in assessments, and in particular in written assessments, is an area where there is only limited research, a recent study (Rafi & Morgan, 2022) conducted in an anthropology department found that out of the six participants, who were offered the chance to translanguage in a writing task asking them to describe their family and their feelings about them, four translanguaged, one wrote in the L1, and two used only English. In the current study, as well, some students were found to use the L1 only, some the L2 only, and others both the L1 and the L2.

Additional support for allowing the use of multiple languages in (timed) exams comes from research on memory access and recall. Three related principles of human memory suggest that the successful recall of memories is influenced by the similarity between the circumstances in which information is initially perceived and processed (encoding) and the circumstances in which it is later accessed (retrieval). These theories are the encoding specificity principle, language dependent recall, and TAP.

Initial support for encoding specificity and language dependent recall came from studies into episodic, or autobiographical memory, which showed that bilinguals' access to memories and words is facilitated by a match between the linguistic context of encoding and that of retrieval (Marian & Neisser, 2000; Carroll

& Luna, 2011). This means that mismatch between the language of encoding and that of retrieval produces an L2 recall cost. This cost has been shown in access to semantic memory, as well. Research has shown that when students are required to solve arithmetic problems in the language of training, they show better performance (Hahn et al., 2019; Van Rinsveld et al., 2015), and experience language-switching costs particularly when the switch is from the dominant language in the training phase to the non-dominant language in the test phase (Volmer et al., 2018). That switch costs were lower in switches from the non-dominant to the dominant language is attributed partly to unbalanced bilinguals' processing of information via the dominant language when learning information in the non-dominant language (Saalbach et al., 2013). Similar results have been obtained in studies on conceptual knowledge. When tested in the language in which information was encoded (match condition), the performance of balanced bilinguals was better, in comparison to the mismatch condition; but in the case of unbalanced bilinguals, the effect was weaker for information encoded in the non-dominant language, which is attributed to presence of internal translations to the dominant language and less rehearsal of information in the non-dominant language (Marian & Fausey, 2006; Marian & Kaushanskaya, 2007). For assessment in EMI settings, these findings imply that when tested in the L2, students who are proficient in English will benefit from answering in English (rather than in the L1); but less proficient students, who may be depending on the L1 when processing information delivered in their EMI classes, may take advantage of responding in the L1. It was also found within the current study that there may be students who use course materials in the L1 and have group discussions in the L1. Based on the studies reported here, studying in the L1 and taking exams in the L2 may produce costs in terms of exam performance for them.

Vander Beken et al. (2018) and Vander Beken and Brysbaert (2018) found that irrespective of whether the participants (Dutch-English psychology students) studied the given texts in the L1 or the L2, their performance on the recognition test (composed of True-False questions) did not differ, but recall cost was found in the free-recall test (Vander Beken & Brysbaert, 2018). To test this implication, Vander Beken et al. (2020) compared three conditions: learning and being tested in the L1 (L1-L1), learning in the L2 and being tested in the L1 (L2-L1), and learning and being tested in the L2 (L2-L2), and this produced the following result: L1–L1>L2–L1>L2–L2. Encoding specificity effect was not observed in this study, as according to the predictions of encoding specificity, L2-L2 would be expected to produce better performance than L2-L1.

Combining the findings of the reviewed studies on encoding specificity (language dependent recall) and L2 recall cost, the following predictions could be made: In the case of balanced bilinguals who are highly proficient in both languages, the match between encoding and retrieval (i.e., L1-L1 and L2-L2) will produce better performance than mismatch (i.e., L1-L2 and L2-L1). In the case of unbalanced bilinguals, (a) an advantage for the L1 will be observed in retrieval, (b) language switching from the dominant language (in encoding) to the non-dominant language (in retrieval) will be more costly, and (c) performance will be worst when both encoding and retrieval are done in the non-dominant L2 (producing the following order: L1-L1 > L2-L1 > L1-L2 > L2-L2). However, it should also be noted at this point that although an advantage is indicated for L1 (which is also the dominant language for the participants in the current study), giving assessments in the L1 may not be an appropriate strategy. As emphasized by Shiron, Liu, and de Bruin (2021), "L2 proficiency and use are not global and topic-independent" (p. 9) given that

"because bilinguals use and experience certain words more frequently in their L2 (e.g., words related to studying at an English-speaking University), their lexical processing of these words might be facilitated." (p. 10). This means that students who have received education in their L2 and learned content-specific vocabulary in that language may not be familiar with corresponding terms in the L1 (Coyle et al., 2010; Gallagher & Colohan, 2017). That would put them at a disadvantage in an L1-only exam. Additionally, Vander Beken et al. (2020) pointed out that apart from proficiency, several factors may affect L2 cost, including text difficulty, the type of test, the cost of L2 production, and the amount of effort put into studying.

Given "the immediate reality" of EMI programs, (e.g., students are faced with language-related challenges; we do not yet know what level of L2 proficiency can serve as the threshold level for such challenges to be minimized; given that proficiency levels of students differ in EMI programs, it is not yet clear assessment tasks in which language would better represent true content knowledge), an intermediary strategy may be to allow the use of students' whole linguistic repertoire, until students have sufficient levels of L2 competence through language support courses and collaboration between content and language instructors, which may be relatively longer-term/institution-level strategies. Study 2, by investigating the viability of allowing the use of multiple languages in a content exam, helped uncover the reasons why students may choose to use the L1, the L2, or both in a recall test that targeted their content knowledge in their EMI courses.

5.7.4.1 Reasons for using the L1

Students' reasons for using the L1 had to do with their relative language proficiency in the L1 vs L2. Superior facility with the L1 was connected to their feeling more

comfortable expressing themselves in the L1, having doubts about their ability to express themselves in the L2, and perceiving their L1 production as more efficient (i.e., happening faster).

Students believed that they would be able to express their knowledge more effectively in the L1, as it is more "comfortable" and "easier" for them compared to the L2. The familiarity and easy accessibility of the L1 was also reported to enable them to produce higher quality responses in terms of content, as they were able to "explain it better." The stronger competence in the L1 was seen to lead to a sense of ease and better expression. Additionally, students' self-perceived lack of English proficiency and its impact on their ability to produce in the L2 also prompted their use of the L1 in the content exams.

In exams, students are often required to complete tasks quickly. This was also the case in the current study, where students had to write impromptu responses to content questions under timed conditions. This can be especially challenging for L2 students because they not only have to remember relevant information, but also express it in a language in which they may not be as proficient. In the current study, some students reported that they used the L1 because they thought they were able to write faster in it. One student mentioned not wanting to "deal with translation" and instead wanting to "write straight out of [their] head", implying that they believed their L1 processing was faster than their L2 processing. Another student mentioned having to "constantly translate in [their] head", which slowed them down. These statements suggest that these students believed that there was a difference in the speed of processing, and production, in their L1 vs L2.

These feelings and perceptions are in line with previous research findings. For example, it has been observed that students experienced less anxiety and were

able to access and retrieve words in the L1 more easily (Mohsen, 2021). Similarly, Chenoweth and Hayes (2001) compared writing in the L1 vs L2 and found that undergraduate students wrote fewer words per minute in the L2 (a finding also reported by Breeze & Dafouz, 2017). Regarding the relationship between experience in the L2 and writing fluency, they found a positive correlation; in fact, even just two semesters of study was found to lead to a noticeable improvement in writing fluency. They suggest that given that inexperienced writers frequently pause to revise text, students should be trained to use strategies like "write it down and revise later" (which may also involve writing some words in the L1), which can improve fluency in the L2 writing by minimizing interruptions for revision (Chenoweth & Hayes, 2001). Other research has also shown that as proficiency improves, so does learners' written L2 production and fluency (Barkaoui, 2019; Kim, Nam, & Lee, 2016; Xu & Xia, 2021). The amount of time it takes for high and low proficiency students to compose L2 texts varies, with low proficiency students spending more time as they frequently pause to, for example, consider their ideas and translate concepts into language (Tiryakioglu, Peters, & Verschaffel, 2019). Increasing proficiency has also been shown to be associated with the quality of the text produced (Gánem-Gutiérrez & Gilmore, 2018). As Tiryakioglu et al. (2019) suggest, "[a]n increase in language proficiency results in better expression of meaning." (p. 229) given that "lack of linguistic knowledge seems to constrain the students' expression of meaning" (p. 230).

5.7.4.2 Reasons for using the L2

The use of the L2 in the content exams was found to be associated with encoding-retrieval match and compartmentalization of languages.

A major factor which students argued influenced their use of English as the primary language in their content exam responses is the fact that almost all lectures and course materials are already presented in English. Some students reported that their use of English-only in the content exam was associated with the limited use of Turkish and extensive use of English in their program. The students cited listening to lessons in English, studying in English (e.g., reading English resources and taking notes in English) as factors that influenced their L2 use in the content exam. This suggests that the language of encoding and the cognitive processes engaged in during encoding may have played a role in their use of English only while composing their responses. English emerged as the more readily available and appropriate language choice for these students. More proficient students were more likely to write in the L2, and it is likely that more proficient students depend more on L2 resources while studying (although the interviews provide some evidence in that direction, this needs to be confirmed with a bigger data set and preferably through an ethnographic, longitudinal study). This encoding-retrieval match was observed by Marian and Fausey (2006), who taught Spanish-English bilinguals on various academic subjects in both Spanish and English and found that their recall was more accurate and quicker when the language used to retrieve the information matched the language in which it was originally taught. More proficient students in the current study might have used the L2 to enjoy a similar benefit in their test performance.

The linguistic ambiance at the time of the exam was also relevant, as reported by a student who had just left an English-medium class and continued to operate in that language. Marian (1999) found that when the language in which the event was experienced and the language of the ambiance at the time of retrieval were the same, more memories were accessed, pointing to the effect of the “congruity between …

language ambiance at encoding and at retrieval" (p. 357). Gabriel, Lilla, Zander, and Hannover (2014) showed that students who spoke a different language at home than the school language were more likely to include school-related descriptions of themselves when completing "I am..." sentences in the L2, i.e., the school language, in comparison to those who used the same language in both school and home. As they were in a different language ambiance than at home, they were more likely to recall school-related self-contents when completing the task in the L2. Gabriel et al. (2014), too, points to the effect of language ambiance on retrieval.

The other reason for the use of the L2-only was the idea of compartmentalization of languages, which refers to the belief that two languages should be kept separate and distinct, without any features of one language crossing over into the other. Some students avoided using both languages in the same response, even though they were allowed to do so, because they thought it would not be appropriate. The avoidance was at the expense of not fully conveying their knowledge on the exam in the case of two students. They might have been able to provide a more comprehensive response if they had included some Turkish, but they avoided doing so because they felt that academic texts should not include different languages. This is reminiscent of linguistic purism, which can take many forms, including, at a more radical end, even an unwelcoming stance against loanwords (Hansen, Wypych, Bańko, & Bilewicz, 2018). The idea of homogeneous languages has been influential in the design of language education programs, such that even in different kinds of bilingual education, the languages are kept separate (Baker, 2010). Given that this idea is so ingrained into institutional settings, evidently it was not so easy for these participants to exercise "deviation from the fictional monolingual norm" (Lüpke, 2016, p. 35), but they operated within "the 'monolingual,

compartmentalising habitus' of Western theories of bilingualism" (Van der Walt, 2013, p. 5).

5.7.4.3 Reasons for using both languages in the same response

Reasons for using both languages in the same response included encoding-retrieval match, lack of (access to) L1 equivalents and inefficient lexical retrieval in the L2.

Some students reported that they naturally switched between languages when composing their response – it was "like switching by reflex". They had a positive attitude towards writing in their L1, but they were unable to write completely in the L1 because they had not studied the topic in that language. They needed to use some terminology in the L2 because they had repeatedly studied the topic in the L2, and it became automatic for them to use those L2 words. This relates to the finding in previous research that frequency can affect the accessibility of words in the bilingual lexicon. As Bartolotti and Marian (2012) note, "[t]he relative frequency of words within an individual bilingual lexicon determines their accessibility and may be sensitive to the strength with which those items are encoded in memory." (p. 22).

Participants also reported that while making explanations in the L1 in their studies for their exams, they used academic terminology in the L2. Similarly, when taking the content exam, some students primarily used their L1 but also incorporated L2 academic terminology. In addition, students reported that they were able to express general ideas in their L1, but had to use the L2 for more specific information, such as terminology and names of theories and constructs. This demonstrates encoding-retrieval match, as their language behavior during the exam mirrored how they studied for the exam, i.e., using L2 terms while explaining the subject in their L1. They also mentioned that they had studied certain sentences directly in English,

which made those sentences more accessible to them in that language. As Grosjean (2013) suggests, "the next time you try to remember something, and you can't seem to do it in one of your languages, try changing language." These students took advantage of both their languages to express their content knowledge.

Some students who wrote mainly in the L1 were found to use a few L2 words. L2-English students in EMI programs are often exposed to content that they have not studied in their L1. This means that they may learn field-specific terms in their L2, but not in the L1. This can make some lexical items inaccessible to them in the L1, and they may not even realize that there are L1 equivalents for these terms. When students need to use academic terms that are not accessible to them in their L1, they may resort to using them in their L2 when writing in their L1. Some other students, on the other hand, wrote mainly in the L2 but used some words in the L1. Students' English language skills may not be advanced, so there may be certain words that they are unfamiliar with in their L2. They may know the word in the L1, but struggle to recall the English equivalent. As a result, they may need to use L1 words while writing in English during exams. For example, Airey's (2010) study with physics undergraduates at two Swedish universities revealed that code-switching to Swedish was common when describing physics concepts in English, and code-switching to English also occurred when giving descriptions in Swedish, albeit to a lesser extent and only if the concept was learned through English. Additionally, as Macaro et al. (2020) illustrate with the word "the Bar", some terms may not have direct equivalents in the L1.

Research on L2 writing has also revealed that students at various proficiency levels make use of the L1 while composing texts in the L2. The use of the L1 has been shown to decrease as proficiency increases (Kim & Yoon, 2014; Van Weijen et

al., 2009; Wang & Wen, 2002). While lower proficiency students were more likely to translate from the L1 to the L2 and were challenged by lexical retrieval (Wolfersberger, 2003), higher proficiency students used the L1 for planning and revision purposes (Woodall, 2002). Yet, even higher proficiency students (English Language and Literature graduates) were found to have challenges in retrieving lexical items (Murphy & de Larios, 2010).

To conclude, if L2 students are not allowed to use their full range of language skills, they may do poorly on exams and feel negative emotions. Allowing students to use multiple languages, or "translanguaging", in assessments may be beneficial for both their academic success and their emotional state. This is particularly important for students who may struggle in their L2-English.

There are also a number of caveats to be borne in mind when using L1 tests or allowing the use of multiple languages in assessment tasks: it may be impractical, challenging or impossible to implement in classrooms where there are international students with various language backgrounds (Coyle et al., 2010; De Angelis, 2021), and it may be difficult to decide how much language mixing will be allowed and how performances will be rated (De Angelis, 2021). The bottom-line, again, is to consider contextual needs and characteristics when making decisions about and designing assessment tasks that cater to the test purpose, to ensure that it does not create bias against certain sub-groups of students and that it contributes to, and not hampers, test validity.

CHAPTER 6

STUDY 3

6.1 Introduction

Study 1 and Study 2 involved offering students in CLIL courses and those in EMI courses, respectively, the opportunity to draw upon their whole linguistic repertoire when answering questions that were intended to assess their content knowledge. That is, they were offered the chance to translanguage in their written responses, i.e., in production. Study 3, on the other hand, involved providing input in different languages vs in the same language, and comparing student performance on an L2 writing task that required students in the EPP to understand and convey information from the input texts.

This study was motivated by Schissel et al. (2018), in which pre-service English teachers were asked to write an e-mail providing advice about type II diabetes (Task 1), and a letter to provide recommendations about a litter cleanup program (Task 2), after reading three source materials related to the topics. In Task 1, one text was in Spanish, while the other two were in English; and in Task 2, all three texts were in English. A similar study design was used in the current study to answer the following research question.

> RQ5- How does learner performance compare in a writing test when the input is given (a) only in the L2 or (b) in the L1 and L2?

The following sections present the design of the study, including the setting, participants, and data collection tools and procedures, as well as data analysis and the results.

6.2 The setting

This study took place within the same university, the GPU, in the same EPP as in Study 1. Study 1 targeted classes that were conducted on Friday, which had a dual focus on content and language. Study 3 does not involve a specific focus on the program-specific content that is delivered in Friday CLIL classes.

The GPU and EPP settings were described in detail under Study 1. To avoid repetition, the same information will not be presented here. To explain briefly, students are taught English as an L2, and the aim is to prepare them for their EMI programs. There are classes for different proficiency levels. The classes that are conducted Monday to Thursday can be categorized as EAP classes, in which a skills-based curriculum is followed. Additionally, there are also grammar classes, which aim to improve students' accuracy in English. The courses are delivered by Turkish and international instructors who have at least a B.A. degree in ELT or a related field, or a CELTA (Certificate in Teaching English to Speakers of Other Languages) or DELTA (Diploma in Teaching English to Speakers of Other Languages). The coursebooks are internationally published prestigious books that are aligned with the CEFR, and that have been developed in cooperation with tertiary-level English teachers from around the world by getting feedback from them in an iterative manner.

6.3 Participants

A total of 66 students participated in the study. The participants were students in the EPP at the GPU. At the time of data collection, there were four groups of proficiency level courses. A1 and A2 levels were merged into the same course. There were three other courses for B1, B2, and above-B2 students. Students were placed into levels

based on a Placement test, but given that validation and reliability studies had not been conducted on the test, the placement of students into the levels may have some inherent error variance. The course objectives were based on the CEFR, and the books used in each level were aligned with the course objectives. Only the students in B2 classes were invited to take part in the study. Above-B2 students were not included, because their number was rather limited. This decision to include B2 students, but not those below B2, was made mainly for two reasons:

i. In this study, academic texts were used as input. According to the CEFR (2018) global scale:

    - At the A2 level, users "[c]an understand sentences and frequently used expressions related to areas of most immediate relevance (e.g., very basic personal and family information, shopping, local geography, employment)."
    - At the B1 level, users "[c]an understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc."
    - At the B2 level, users "[c]an understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation." (p. 24)

    In terms of overall reading comprehension,

    - At the A2 level, users "[c]an understand short, simple texts on familiar matters of a concrete type which consist of high frequency everyday or job-related language."

- At the B1 level, users "[c]an read straightforward factual texts on subjects related to his/her field and interest with a satisfactory level of comprehension."
- At the B2 level, users "[c]an read with a large degree of independence, adapting style and speed of reading to different texts and purposes, and using appropriate reference sources selectively. Has a broad active reading vocabulary, but may experience some difficulty with low frequency idioms." (p. 69)

As is clear from these descriptors, given that the texts to be read in the study revolved around academic topics, students at the A1 and A2 levels would find it very difficult, if not impossible, to manage the task at hand. That is why they were not targeted in this study.

ii. The purpose of the study was to investigate how learners at relatively higher, rather than lower, proficiency levels would perform in a monolingual vs bilingual task. Many HEIs in Türkiye that offer EMI require a minimum level of B2 English proficiency. Minimum TOEFL scores required to be exempt from English preparatory classes usually range between 72 and 79. It is important to understand how bilingual learners at this level may perform in L2 writing when they are allowed to use texts only in their L2 vs texts in both their L1 and L2. An unpublished study that we conducted with colleagues as part of one of the classes we took during my PhD studies and Study 2 of this thesis indicate that students enrolled in EMI programs use not only English resources but also Turkish ones since they believe that doing so contributes to their understanding of course content. As I was able to obtain access to participants in the EPP, I conducted the current study there. I aim to conduct

a similar study in EMI programs as well. Due to time constraints, I have not been able to conduct it in time to include it in this thesis. Although the EPP is a different setting than EMI programs, since the participants in this study are students who are close to passing their in-house proficiency exam (they were in B2 classes), this study should provide valuable information as to the deployment of bilingual input texts in assessment. For the study, the participants were randomly assigned to two groups, with 33 students in each.

6.4 Tools and procedures

To answer RQ5, two writing tasks were created: one on diabetes and one on depression. The tasks were created in consultation with two instructors teaching the participating B2 classes. The EPP administers its in-house proficiency test. In this test, there are two writing tasks. In the first task, students are given a topic and some ideas, and are asked to write an essay on the given topic. The essay topic may require one of the following essay types:

- Cause & Effect Essay
- Advantage & Disadvantage Essay
- Compare & Contrast Essay
- Argumentative Essay
- Problem Solution Essay

In the second task, students are provided with a graph and a text, and they are asked to understand the graph and the text and then relay that information in their own words. This task was reported to be introduced into the test to increase authenticity and validity. Indeed, impromptu essay task per se has been argued to be inauthentic when testing academic writing (Weigle, 2004; Plakans, 2008).

At the time of the study, the students in the participating classes had just covered the problem solution essay. They had also practiced reading and writing about solutions as part of their preparation for the second task in the in-house proficiency test.

To align the tasks with the course objectives, two topics that could function as problem solution topics were selected: diabetes and depression. The reading texts (see Appendix I) were adopted from authentic sources, i.e., theconversation.com. Written permission was obtained from the website editors as well as text writers to re-print and translate the texts for the purposes of the current study.

Two different topics were selected because the students would be tested two times, with an interval of 7 days. Having two topics helped make sure that performances during the second time would not be affected by having already read and summarized the same text previously.

The tasks required students to read two texts on the given topic and then write two or three paragraphs responding to the task instructions. The task instructions were as follows:

> Task 1:
> Imagine that you are writing a paper on diabetes. Using the given texts, write two or three paragraphs in which you provide information about the following:
>
> - the increasing rates of diabetes,
> - the connection between COVID and diabetes,
> - solutions for diabetes.
>
> Do not copy and paste from the source texts; instead, you need to paraphrase relevant information. You should write around 200 words.

Task 2:
Imagine that you are writing a paper on depression. Using the given texts, write two or three paragraphs in which you provide information about the following:

- the increasing rates of depression,
- the connection between COVID and depression,
- solutions for depression.

Do not copy and paste from the source texts; instead, you need to paraphrase relevant information. You should write around 200 words.

The texts used were at comparable levels of difficulty (see Table 20). Flesch-Kincaid scores indicated that they were at the college level. The Flesch reading-ease scores that are between 30-50 are interpreted as college-level texts. The texts were also analyzed through Pearson's Global Scale of English (GSE) Text Analyzer. Below is the correspondence between the GSE scale and the CEFR:

- 10-22: <A1
- 22-30: A1
- 30-36: A2
- 36-43: A2+
- 43-51: B1
- 51-59: B1+
- 59-67: B2
- 67-76: B2+
- 76-85: C1
- 85-90: C2

The GSE analysis showed that all texts were at the B2+ level, which is also the level that is targeted in the EPP's in-house proficiency test.

Table 20. Comparison of the Difficulty of the Texts Used in Study 3

Text	Flesch-Kincaid Grade Level*	Flesch Reading Ease Score*	Reading Level*	Pearson Global Scale of English Level**	CEFR Level**
Diabetes 1	13.6	39.2	College	67 - 71	B2+
Diabetes 2	11.7	49.6	College	66 - 70	B2+
Depression 1	10.7	46.7	College	67 - 71	B2+
Depression 2	13.3	40	College	66 - 70	B2+

Note: * https://goodcalculators.com/flesch-kincaid-calculator/
** https://www.english.com/gse/teacher-toolkit/user/lo (https://www.pearson.com/english/about-us/global-scale-of-english.html)

The second texts (Diabetes 2 and Depression 2) were translated into Turkish by the researcher (Appendix I). In the first week, both groups took the Diabetes Task. In Group 1, both reading texts were in English (E-E), but in Group 2, one text was in English and the other in Turkish (E-T). In the following week, both groups took the Depression Task. This time, Group 1 read one text in English and one in Turkish (E-T), while both texts were in English (E-E) for Group 2.

The performances were rated by two raters using a rubric (See Appendix J) that included the following categories: Content, Organization and Coherence, Grammar Use, and Vocabulary Use. The rubric was adapted from the rubric that was used in the EPP to rate the second task in their in-house proficiency test. The raters, who were instructors in the EPP at the time of the study, had experience in using the rubric. After the rating was completed, the average of the scores given by the two raters was assigned as the final score for each performance. Next, the performances were compared to see if there was any potential effect of input language on students' task performance.

6.5 Data analysis

As was explained above, the current study was motivated by Schissel et al. (2018) and used a similar design. In the current study, two groups within the same proficiency level were employed to counterbalance the two conditions (E-E vs E-T) at the two times the tests were given.

Once the student performances were rated and the final scores obtained, the first statistical analysis involved comparing task performances within each group. Given the measures taken to make the tasks as similar as possible, task topic (Depression vs Diabetes) was not treated as a variable. As the tasks were scored

based on four categories (Content, Organization, Grammar Use, and Vocabulary Use), which together yielded a Total score, separate paired samples t-tests were conducted on the scores of Group 1 on all five categories (including the Total score) to analyze whether their performances on the E-E vs E-T conditions differed. Effect size (Cohen's d) values were also calculated for each category. The same analyses were then conducted on the scores of Group 2.

The next analysis involved comparing the two conditions (E-E vs E-T) by merging the two groups. As both groups were composed of students at the same proficiency level classes as was determined by the EPP, the students were assumed to have similar levels of proficiency. Separate paired samples t-tests were conducted on Content, Organization, Grammar Use, Vocabulary Use, and Total scores of all participants to analyze whether they performed differently on the E-E vs E-T conditions.

6.6 Results

Huck (2012) suggests that the distribution of scores whose skewness and kurtosis values are within the -1.0 to +1.0 range are considered to be "approximately normal" (p. 27). Given this criterion, normality assumption was not violated either for total scores or sub-scores. Since multiple comparisons were made on the participants' performance, a Bonferroni adjustment was applied to the p-value, which resulted in a significance level of .01 (.05 / 5 = .01).

First, the two conditions were compared within Group 1. The results for this group are presented in Table 21.

Table 21. Comparison of the Performances of the Students in Group 1 in the English-English vs English-Turkish Task Conditions

	E-E		E-T				
	M	SD	M	SD	t-value	p-value	Cohen's d
Content	1.63	.78	1.37	.69	2.23	.033	0.39
Organization	1.50	.77	1.27	.71	1.81	.079	0.32
Grammar Use	1.40	.57	1.13	.47	3.76	.001	0.66
Vocabulary Use	1.63	.66	1.37	.57	2.57	.015	0.45
Total	6.18	2.56	5.16	2.15	2.95	.006	0.51

Note: N = 33, E-E = English-English, E-T = English-Turkish

The results show that the students' scores on all categories are higher in the E-E task than the E-T task, but the difference reaches significance only in the Grammar Use and Total categories. Cohen's d values of 0.66 and 0.51 for these categories suggest that the difference between the two task performances is moderate to large in size. In all the other categories, the difference is not statistically significant, and the effect size is small or moderate.

The next analysis involved comparing the two conditions within Group 2. The results for this group, which are presented in Table 22, show that the students' scores on all categories are higher in the E-E task than the E-T task, but the difference does not reach significance in any category.

Table 22. Comparison of the Performances of the Students in Group 2 in the English-English vs English-Turkish Task Conditions

	E-T		E-E				
	M	SD	M	SD	t-value	p-value	Cohen's d
Content	1.51	.60	1.77	.62	-2.41	.022	-0.42
Organization	1.72	.61	1.81	.69	-.79	.431	-0.14
Grammar Use	1.28	.45	1.40	.55	-1.48	.147	-0.26
Vocabulary Use	1.53	.54	1.69	.58	-1.82	.078	-0.32
Total	6.06	1.88	6.69	2.14	-2.28	.029	-0.40

Note: N = 33, E-E = English-English, E-T = English-Turkish

The difference in the results obtained from Group 1 and Group 2 implies that despite being enrolled in the same proficiency level classes, there may be differences between the groups. As a proficiency test was not employed in this study, this assumption could not be verified. Another possibility is that there was a different effect of task topic on the performance of each group. Despite the efforts to choose two texts that were comparable in terms of content representation and difficulty, the texts (Diabetes vs Depression) may have also affected the results.

In the last analysis, the two groups were merged and repeated-measure T-tests were run to compare the two conditions (E-E vs E-T) on the scores of all 66 participants. Since multiple comparisons were made on the participants' performance, a Bonferroni adjustment was applied to the p-value, which resulted in a significance level of .01 (.05/ 5= .01) The results are provided in Table 23.

Table 23. Comparison of the Performances of All Students in Group 2 in the English-English vs English-Turkish Task Conditions

	EE		ET				
	M	SD	M	SD	t-value	p-value	Cohen's d
Content	1.70	.70	1.44	.65	3.30	.002	0.41
Organization	1.65	.74	1.50	.70	1.88	.064	0.23
Grammar Use	1.40	.56	1.21	.46	3.58	.001	0.44
Vocabulary Use	1.66	.62	1.45	.55	3.14	.003	0.30
Total	6.43	2.35	5.61	2.06	3.74	.000	0.46

Note: N = 66, E-E = English-English, E-T = English-Turkish

These findings suggest that there is a significant difference in student performances between the E-E and E-T conditions in all categories except for Organization. Specifically, the mean scores in the E-E condition were significantly higher than the mean scores in the E-T condition for Content, Grammar Use, Vocabulary Use, and

Total scores. The size of the difference, as indicated by Cohen's d, was moderate to large for Content, Grammar Use, and Total scores, and small for Vocabulary Use.

6.7 Discussion

Study 3 set out to investigate how the provision of input text in their L1 would influence writing performances of students in an EPP. The results showed that students performed better when given two input texts in English than when given one text in English and one in Turkish.

This difference may have resulted from the English texts functioning as models which students took advantage of while writing their responses. Language mining, which Han (2021) defines as "extracting language constructions from input for meaning expression" (p. 506) is a relevant concept. Discussed as a pedagogical strategy that can be used in L2 teaching to older learners (Han, 2021), language mining might also serve as a strategy for learners in reading-to-write tasks. Indeed, Han's (2021) mention of studies in which model texts are used as a form of feedback as examples of language mining confirms this latter interpretation. Indeed, research has shown that students benefit from input reading texts in their written productions, by incorporating relevant information and language features such as vocabulary from the source text (Soltani & Kheirzadeh, 2017; Cho & Kim, 2021).

Although students seem to borrow from the input texts, the extent of borrowing may vary depending on factors such as proficiency and task type. Weigle and Parker (2012) found only a limited amount of borrowing from the source texts, but they state that this may have to do with the task they used, which required students to come up with their own ideas. However, others such as Cumming et al. (2005) showed more borrowing, which included frequent use of verbatim phrases

among lower proficiency learners. Abrams (2019) too found that while lower proficiency learners frequently resort to borrowing verbatim texts, those with higher proficiency use source texts for borrowing ideas.

Studies comparing integrated writing tasks and independent (i.e., no-source text provided) writing tasks found that students perform better in the former. Abrams (2019) found that texts produced through integrated writing tasks had significantly better scores in terms of grammatical accuracy, lexical range and accuracy as well as written fluency, showing that L2 learners produce texts with higher linguistic quality when provided with input in comparison to when they have to generate their own ideas and language output. Plakans and Gebril (2012) also point out that input texts may help examinees perform better in terms of language use, as they can use the texts as a reference tool for proper vocabulary, spelling, and organization. In Cumming et al. (2005), as well, the examinees' vocabulary range was wider in the integrated task than the independent task, which is attributed partly to borrowing words from the source texts.

Model texts have also been used as a form of feedback in several studies. These studies show that students benefit from source texts mainly in terms of lexical accuracy and range, but also of content and grammar. Kang (2020), for example, studied the usefulness of model texts as a form of feedback and found that the use of model texts was effective in helping learners focus on various aspects of writing. Participants were found to benefit from model texts in terms of identifying gaps in their vocabulary knowledge and grammatical problems in their argumentative essays, as well as strengthening their arguments by integrating relevant facts from the model texts. Likewise, Abe (2008) found that the participants tended to focus most on lexical features, followed by content and grammar. Similar results were reported by

Saeidi and Sahebkheir (2011), who found that learners' noticing of lexicon in model texts was the most frequent, followed by content, form, and discourse, respectively.

A similar finding to those of the current study was reported by Zhang (2017). Zhang's study involved comparing one group that read and wrote in English (EE) and another group that read in Chinese and wrote in English (CE). It was found that the EE group performed better in terms of language accuracy compared to the CE group as the EE group made fewer errors. It was also revealed that the more content that was borrowed from the original reading text, the fewer mistakes were made. Zhang (2017) states that the CE group struggled with language accuracy possibly due to a lack of target language input and may have made more errors due to transfer from the L1. However, there were no significant differences between the two groups in terms of content and organization scores. The lack of difference in the organization scores is attributed to the relative ease of organization and both input texts serving as models for organization, regardless of the input language. Zhang (2017) suggests, "Unlike language use, knowledge of organization is easy for learners to grasp and apply in their writing." (p. 236). In terms of content, lack of difference between the two conditions is attributed to the input texts presenting the same content. In a similar vein, Altınmakas and Bayyurt (2019) found that undergraduate students in an EMI program recognize that "L1 and L2 texts require similar organizational structures" (p. 93).

These studies suggest that source texts are particularly useful for students as a lexical reference tool, but they also use them for borrowing and monitoring grammar and content. In the current study, it may be that the source text in Turkish was less useful in this regard. The Turkish text provides the same content and organization as the English text, but students cannot use it as a reference tool for vocabulary and

grammar. This may explain why they achieved better grammar and vocabulary scores in the E-E task than the E-T task. As is argued by Zhang (2017) and Altınmakas and Bayyurt (2019), both texts may have served as similarly good models for organization for the participants. It may also be that since the students had already covered paragraph and essay organization in their classes (and if organization is easier as Zhang, 2017, suggests), they may have not needed the model texts for achieving successful organization in their responses. Still, one question remains (and it is where the results of the current research conflict with those of Zhang, 2017): why did the students obtain higher Content scores in the E-E-task?

In the E-E task, ideas that students borrow from the source text come with the linguistic features that can be used to express those ideas; in the E-T task, however, ideas from the Turkish text have to be reformed and translated into English, and students may not have the lexical (or grammatical) resources to express those ideas in English. Indeed, research has shown that translating from the L1 to the L2 is challenging. Francis and Gallard (2005) showed that trilinguals' translation from a more dominant to a less dominant language was less efficient and involved more errors. Similar results were reported by Francis, Tokowicz, and Kroll (2014), who found that bilinguals with high levels of proficiency in both languages performed similarly irrespective of the direction of translation; but those who were more proficient in their L1 displayed translation asymmetry in that L1-to-L2 translation was less efficient and precise than L2-to-L1 translation. The E-T task required students to collect ideas from the source text in Turkish (L1) and express them in English (L2). In other words, it required translation from the participants' L1 to the

L2, which might have been difficult for them and influenced their performance in the test.

One might argue that the E-E task also presents a similar challenge in that students have to paraphrase the source text. However, paraphrasing may be relatively less challenging. It has been found that translation typically takes more time, and thus results in slower text creation, than paraphrasing since it requires more mental effort due to the added cognitive load caused by the need to control and process information in two languages simultaneously (Whyatt, Stachowiak, & Kajzer-Wietrzny, 2016). Other research has corroborated this finding, showing that translation, which involves cross-language transfer, is associated with different cognitive operations and more cognitive effort compared to paraphrasing (Kajzer-Wietrzny, Whyatt, & Stachowiak, 2016; Ma, Han, & Li, 2022).

Results from Study 1 and Study 2 showed that students may take advantage of the opportunity to use their L1 (alone or in combination with the L2) when responding to questions assessing their content knowledge. Study 3, conducted with students in an EPP, indicates that students' writing performance is better when provided with input texts in the L2 only in comparison to the provision of texts in each of their languages. The L2 texts did not seem to cause comprehension problems (likely because their linguistic complexity was appropriate to the participants' level of proficiency), but they also seemed to contribute to students' task performance.

"The fundamental role of input" is presented as one of the "irrefutable observations about second language acquisition" (Lichtman & VanPatten, 2021). VanPatten and Williams (2015) refer to observations regarding L2 learning, one of which is that without exposure to input, L2 learners will not be able to acquire the language. They present this as one of the observations that SLA theories need to

account for. Indeed, several hypotheses and theories have pointed to the importance of input, including but not limited to the Comprehensible Input Hypothesis (Krashen, 1982), the Input/Interaction Hypotheses (Gass, 1997), the Integrated Theory of Instructed L2 Learning (Ellis, 1990), and usage-based theories (Ellis & Wulff, 2015). Put briefly, "input is absolutely necessary for L2 development" (Loewen, 2021, p. 312). Lichtman and VanPatten (2021) emphasize that all input can be beneficial if the learner attends to meaning. The input does not necessarily have to be simplified, as is usually the case in EFL materials, but elaborated input can also be just as comprehensible "with various forms of redundancy in the elaboration process compensating for the higher linguistic burden that elaborated materials present (Long, 2016, p. 16). As Ellis (2005) suggests, teachers need to ensure maximization of L2 input in the classroom and offer means of exposure outside of the classroom. Another observation from L2 acquisition is that incidental learning is an important part of the process (VanPatten & Williams, 2015). For example, Durrant and Schmitt's (2010) study with adult L2 learners showed that they were able to remember collocations they encountered in input, even after only one or two exposures and in the absence of input enhancement. And lastly, it has been shown that students may experience challenges recalling lexical or grammatical items that they are able to recognize, "as comprehension precedes production" (Ruiz, Rebuschat, & Meurers, 2021, p. 520).

Just as EFL students need extensive input, so do students in CLIL and EMI programs if these programs are to "kill two birds with one stone" (Rose et al., 2020, p. 2150). While the contribution of EMI to language learning is yet to be confirmed by further research, it is evident that such a contribution is much less likely in the absence of substantial amounts of L2 input. When analyzed together, the results from

the three studies within the current thesis imply that while it may be a good idea to incorporate flexibility in terms of students' language use in content exams at least as a temporary accommodation (particularly in initial semesters), it is also a good idea to persist in the provision of input in the L2, as it may contribute to their L2 proficiency and ultimately lead to a level where students are able to, and choose to, express their content knowledge in the L2 without considerable language-related hindrance. As Kamaşak et al. (2021) suggest in their study in EMI programs in Türkiye, there is a need to "provide support structures for first-year students to facilitate the transition to EMI departmental classes." (p. 207) – a suggestion that points to the necessity of findings ways to improve, and not undermine, students' experiences of EMI.

CHAPTER 7

CONCLUSION

7.1 Summary of the thesis

This thesis was motivated partly by my personal observations as an L2-English student in an EMI university and then as an English language teacher who prepared students for their EMI programs in addition to delivering EAP and ESP courses in EMI programs. In a study we conducted in two state universities in Türkiye as part of an M.A. course I took (Gülle, Özata, & Bayyurt, 2015), we found that although there were several differences between the two universities we examined, including students' self-reported L2 proficiencies, students and teachers in both universities pointed to L2-related challenges (albeit to varying degrees). When I encountered the translanguaging perspective, which was at the time discussed more in relation to emerging bilinguals in North America than EMI in non-anglophone settings, I thought it could be relevant to tertiary-level EMI programs in Türkiye as well, given that L2 students in EMI universities face L2-related challenges, just like emerging bilinguals in mainstream U.S. classrooms do. While there was not much discussion around the relevance of translanguaging to assessment at that time, it has become a promising (and challenging) research topic recently.

Another area of research that has extended its reach in recent years is research on EMI. This is only natural considering the substantial increase in the number of EMI programs across the world, and Türkiye is no exception. However, when driven by pursuit of financial gains and (international) prestige, the rapid implementation of EMI programs may come without adequate preparation (Dearden, 2015), which raises questions about their effectiveness in terms of language and

content learning (Macaro et al., 2016). In addition, as students progress into their EMI programs after only one year of English preparatory classes, "[t]he languages that they bring with them and which may have helped them gain access to HE disappear." (van der Walt, 2013, p. 7). As is expressed in Kerestecioğlu and Bayyurt (2018), "it seems almost impossible for an adult to acquire foreign language skills at the B2 level within 7–8 months or a year, starting from scratch." (p. 16); however, that is what is expected of students in EMI programs in Türkiye.

Upon this background, this thesis was an investigation into students' language use in CLIL and EMI content assessment tasks that exercised no constraints language-wise; the relationship between proficiency and language use, and potential functions of translanguaging in these assessment tasks; and the impact of providing input texts in the students' L1 on their written production in an L2 writing task. It also explored challenges faced by students in EMI courses and documented aspects of students' experiences, as these were also informative in terms of their language use in the content exams they took as part of the current research.

Study 1, which was conducted in CLIL courses, revealed that when given the freedom to answer questions without language constraints, students engaged in both monolingual (using only the L1 or only the L2) and translingual practices (using elements from more than one language). Students' L2-English proficiency was related to their language use, with a tendency to use the L2 more and the L1 less at higher proficiency levels. This suggests that as students gain content and language knowledge in their L2, they are more likely to use the L2, possibly because they are willing to demonstrate their content knowledge in the L2, or because their content knowledge becomes more easily accessible in the L2. Additionally, students were observed to engage in translanguaging at roughly the same rate across all proficiency

levels. This suggests that allowing students to use both languages can help at least some students to express their content knowledge more fully, and imposing a one-language-only requirement may hinder their ability to do so, particularly in exams with time limitations.

Study 2 was more comprehensive than Study 1. In Study 2, which was conducted in EMI courses, students reported that their limited English proficiency hindered their ability to fully understand content and express themselves in their EMI classes. Some students were observed to hold the belief that it is easier to learn and retain information in the L1. Students referred to comprehension challenges in following lectures, reading course materials, as well as in exam questions. They also had difficulties with production, e.g., expressing their ideas in English and struggling with academic literacy, such as essay writing, including in exams. The difficulty of course content itself and limited (field-specific) vocabulary knowledge were also identified as contributing factors to students' challenges in their EMI courses. They also reported that it takes more time and more effort to complete academic tasks in English compared to their L1, leading to feelings of anxiety and frustration in some students.

Study 2 also revealed that translanguaging is a fact of EMI in the programs involved in this thesis. Turkish is used by teachers and students in the classroom when students are having difficulty understanding content or expressing themselves in English. However, both instructors and students try to stick to English only when there are international students present. The study also included L1-Arabic participants. It was revealed that the L1 (Arabic or Turkish) is used during out-of-class learning activities, for reading resources in the L1, taking notes, reviewing material, translating lexical items or larger texts, discussing topics, and when

working with others. These indicate that students regularly engage in translanguaging.

In terms of language use in content exams, the results were similar to those obtained in Study 1. While some students used the L1 only or the L2 only, others used both within the same response. Statistical analyses showed that students' tendency to use the L2 was associated with proficiency.

Interviews with students were conducted to examine why they used language the way they did in the content assessments. The following were found:

Use of the L1 only was mainly associated with relative proficiency in the L1 vs L2. The students who used the L1 reported doing so because they (a) felt more comfortable expressing themselves in the L1 and believed they could produce higher quality responses in terms of content; (b) thought they were able to write faster in the L1 as it was more familiar and easier for them, and (c) felt that their limited proficiency in the L2 hindered their ability to produce responses in the L2.

Use of the L2 only was associated with two factors. The first one is encoding-retrieval match. Some students reported that their primary use of English in these exams was due to the fact that their lectures and course materials were presented in English. They cited their extensive use of English in their program, including listening to lessons and studying resources in English, as contributing to their L2 use in the content exam. It appears that the language in which information is initially encoded and the cognitive processes involved might have played a role in use of the L2, particularly among those with higher proficiency. The second factor was compartmentalization of languages, the belief that different named languages should not be mixed. Two of the participants seemed to believe that (academic) texts should

not include multiple languages, leading them to exclude Turkish from their responses even though it might have enhanced the content of their responses.

Use of both languages in the same response was associated with three factors. The first one is encoding-retrieval match, in that students' language use during the exam reflects the way they use language while studying for their courses. For example, they reported that while studying, they used the L1 for general ideas but switched to the L2 for more specific, field-related concepts; the same was observed in their exam responses. The second factor is the lack of (access to) the L1 equivalents of certain academic terms which students may have only learned in the L2. Third, some students may struggle to recall certain L2 words during exams and resort to using words from their L1 instead, which could be due to limited proficiency in the L2 or unfamiliarity with certain words in their L2.

Study 3 compared students' writing performance in English under two conditions: one involving input texts in English only, and the other involving input texts in the participants' two languages. The participants performed better in the former condition. This was attributed to the English input texts serving as model texts from which students can mine linguistic features, and to the difficulty of translation relative to paraphrasing. This result points to the potential benefit of the provision of L2 input to students, which is essential for the development of L2 proficiency.

7.2 Implications for practice

This section presents implications that the study findings suggest particularly for CLIL and EMI settings.

7.2.1 Recognition of students' language repertoire in content assessments

As is pointed out by Ushioda (2017), even when students and teachers do not have many shared language resources, it is important to encourage the use and integration of different semiotic resources, including mixing languages, for communication and understanding, rather than discourage it. I would like to report an anecdote, which does not come from the studies in this thesis but is relevant. One time, I prepared a short worksheet to review vocabulary in the last ten minutes of one of my classes and I included an exercise which required students to match translation equivalents. As there was an L1-Arabic student in my class as well, I got help from Google Translate to prepare the same exercise with Arabic-English word pairs. After the lesson, he expressed his gratitude, as he felt recognized and valued. It proved to be a simple yet powerful act. Similar adaptations may prove useful in assessments, too. This thesis shows that students both in CLIL and EMI programs take advantage of their whole linguistic repertoire while responding to questions that assess their content knowledge.

Schissel, De Korne, and López-Gopar (2018) point to the "(in)congruency of language use in assessments with translanguaging in instruction". Wei (2016) writes that "human beings have a natural Translanguaging Instinct, an innate capacity to draw on as many different cognitive and semiotic resources as are available to them to interpret meaning intentions and to design actions accordingly" (p. 7). Integrating translanguaging in assessment as an accommodation strategy may be a step towards reducing this incongruency – at least in certain contexts where "the immediate reality" of EMI classrooms, i.e., L2-related challenges and the presence of L1 in the classroom, is being experienced (Pun & Thomas, 2020, p. 255).

However, contextual factors need to be considered in decisions about assessment accommodations, just as in most any decision in educational settings. While translanguaging may have many advantages to offer, this does not readily imply that it can and should be put into practice in any setting. One of the researchers who acknowledge this is Ruecker (2014), who points to the necessity to incorporate students' perspectives into the curricular and practical decisions made within school systems about the implementation of translingual practices. Provided that students choose to engage in translingual practices, they should be allowed and taught to do that; yet, if they want to learn and exercise monolingual practices, this too should be respected and approached accordingly (Ruecker, 2014). The presence of various and dominant factors that urge students to write within so-called standard English, such as educational and language policies at schools, societal expectations, or standardized testing practices, should also be acknowledged. These then can be practiced or challenged on account of local and global factors in play in an educational setting. For example, Matsuda (2014) proposes in these lines that if the teacher is a monolingual speaker of the standard variety of English, then it follows that asking students to engage in codemeshing would not work out well, since in such a case the audience, i.e., the teacher, does not share the resources that are brought to the writing task by the students. As has been emphasized several times in this thesis, there is need for more research in different settings to arrive at more robust conclusions. However, the reality of EMI settings with relatively lower L2 proficiency students requires steps so that these students are not "simply being set up to fail" (Soruç & Griffiths, 2018, p. 46).

7.2.2 Provision of language support in EMI programs

Several studies have shown that students in EMI programs experience L2-related challenges, in terms of both comprehension and production – a finding corroborated by the current thesis. Coupled with the cognitive and informative load of tertiary-level education, insufficient L2 proficiency may cause student learning to be harder than it should be. This thesis showed that the students' likelihood to use the L2 in the content assessments was higher at higher proficiency levels. This means that students are more able and/or more willing to express their content knowledge in the L2 when they have developed the L2 skills that do not limit their expression of their knowledge. This also shows that those students go for the L2 in expressing their content knowledge even when they are given the option to use the L1. This may have to do with encoding-retrieval match – another research area which could prove rather informative for CLIL and EMI settings and which has yet only been little studied. On the other hand, lower proficiency students tended to respond in the L1, and to refer to course-related materials in their L1 while studying for their courses. With ongoing L2 support, these students can develop efficiency in the L2, and depend more on the L2 both when studying (encoding) and when expressing their knowledge in content exams (retrieval). As a matter of fact, in ideal conditions, students would arrive at EMI institutions having already obtained a higher level of L2-English proficiency, but this does not seem to be the case. As long as EMI universities continue to have to cater to students who may have little or no English proficiency at the time of entry into the university, provision of English language courses in EPPs as well as support courses in EMI programs will remain as a much-needed component of EMI.

In addition, given that many graduates of EMI programs in Türkiye work in the Turkish context, they may need to be competent in using Turkish for professional

and academic purposes. This means that these students may benefit from learning field-specific Turkish in these programs. While offering field-specific language support to facilitate disciplinary literacy in the L1 may be quite a challenge in contexts where students from various linguistic background are offered EMI, an analysis into the language needs of graduates would be helpful in determining what kind of support would best serve their needs. After all, with respect to the Turkish context, some of the international students whose L1 is not Turkish may work in Türkiye in Turkish-speaking environments and thus they too may find support in terms of disciplinary literacy in Turkish helpful for their future careers.

7.2.3 Collaboration between content and language specialists

In the EPP where part of the data for the current thesis came from, students are provided with classes that are specifically designed for each EMI program, i.e., the CLIL courses that are held on Friday, in addition to EAP courses that are delivered on the other weekdays. The EPP's provision of CLIL courses can be argued to be one of its strengths. However, despite the care taken to equip students with language knowledge and skills they will need in their respective EMI programs, students still reported being challenged language-wise, particularly in the first year. Remember that regardless of the efforts of EPPs, students who arrive at these programs with no knowledge of English may still be unable to reach the B2 level, which is widely accepted as the minimum proficiency requirement in EMI universities, because one year of English preparatory classes alone may not be sufficient for these students (Kerestecioğlu & Bayyurt, 2018).

Some of the instructors who prepared materials for the CLIL courses reported consulting with EMI content instructors, but this was not done by all material

developers. Active collaboration between language and content instructors is important in determining the language needs of students in EMI programs and content instructors' expectations, and in the development of course materials. However, there should also be further collaboration between the two after students leave the EPP and begin their EMI programs. As research has shown, content teachers' practices may vary considerably. Some grade students' products (e.g., assignments, exam responses) based on content and ignore language mistakes if the content is discernible, others grade language, too. Some allow students to use their L1 in exam papers, some strictly follow an English-only policy and penalize L1 use. Some provide translations of (parts of) exam questions, some do not. Some try to ask what they perceive to be simpler questions, others may not. Although these are issues that need to be addressed by EMI programs, assigning this task to content instructors only would not be a good policy decision. Instead, they should receive support from language specialists in terms of both setting disciplinary literacy goals and establishing classroom practices that can help achieve these goals. On paper, EMI is English-only, in reality it is not; rather, it is multilingual and translingual. Without relevant guidelines, content teachers' practices to accommodate for students' limited proficiency may not be well-informed, and this is one area where collaboration between language and content teachers may prove fruitful.

7.3 Limitations of the study and future directions

The current study was conducted in the EPP and EMI programs of a private (foundation) university in Türkiye. That is, it represents a case. Although similar results have been reported in other EMI settings in Türkiye and elsewhere in terms of students' challenges and the multilingual nature of EMI programs, to my knowledge,

no other study has researched EMI students' language behavior in content exams that do not impose any linguistic constraints in Türkiye and only a few have done so in other countries. Given the differences between EMI programs not only across the world but also across Turkish HEIs, the generalizability of the implications that arise from the current thesis needs verification.

This thesis has revealed that students may respond in the L1, the L2, or both in content exams where there are no linguistic constraints. However, whether language freedom affords superior performance in terms of content needs to be investigated through studies that compare students' performances in different conditions: one allowing freedom in terms of language and the other requiring them to respond in the L2 only. Although several studies have pointed to language-related challenges in terms of comprehension and production, a comparison of these two conditions can help more accurately reveal whether the one-language-only condition incurs costs in terms of the expression of content knowledge.

It should also be stated that the students did not receive marks for their performance in the exams they took as part of the current thesis. If their performance had affected their course grade, they might have performed differently. The lack of such an incentive might have made the participants attach relatively less importance to the quality of their responses. On the other hand, if their performance had affected their course grade, it could have somewhat distorted the purpose of the study, because in this case the participants might have inclined more to responding in English only as this is what is expected of them in their programs. This poses a conundrum, and the findings should be interpreted accordingly.

This study indicates that after a certain level of proficiency students tend not to use the L1 – exactly what level of proficiency this is remains to be further

investigated. Although research has been conducted to reveal if there is a threshold level of proficiency after which EMI students' learning and expression of content knowledge is not constrained by language-related challenges, results have been varied. Additionally, as research has shown that proficiency tests that are aligned with the same CEFR level may not be assessing the same construct, the question of the (construct) validity of in-house proficiency tests conducted by EPPs in different EMI universities in Türkiye is of substantial significance. A related important question that needs to be addressed is what pedagogical and assessment practices are most useful for EMI students studying in EPPs or receiving language support courses, to ensure that (a) they arrive at EMI programs with a sufficient command of English and (b) they are receiving appropriate and quality instruction that truly supports their discipline-specific language needs.

One of the main issues regarding multilingual assessment, or translanguaging in assessment, is practicality, particularly in settings where there are students from diverse lingua-cultural backgrounds. While it seems more readily applicable in bilingual teaching contexts where the student body shares a common L1, the integration of technology into instruction and assessment may come with affordances that help better serve the needs and align better with the capabilities of students from various backgrounds. The resources available within each institution as well as other related variables such as the student composition and students' language proficiency and linguistic needs are key considerations in whether to introduce linguistic accommodations into content assessments. Studies into where graduates work and the linguistic requirements of their workplaces need to be encouraged, supported and/or conducted by EMI institutions to better prepare their students for their future careers in terms of their language needs. Language policies of universities should be

based on the needs not only of students but also of the job market, as well as a thorough analysis of potential costs and benefits in terms of learning, teaching, and engagement.

Future research into EMI (in Türkiye), (pedagogical) translanguaging, and multilingual assessment is sure to offer valuable insights, not least because our knowledge in each is only limited, let alone the intersection of these three areas. In other words, more research is needed to understand the potential role and contribution of translanguaging in assessment in tertiary-level EMI content classes.

APPENDIX A

ETHICAL APPROVAL FOR THE STUDY

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ
SOSYAL VE BEŞERİ BİLİMLER YÜKSEK LİSANS VE DOKTORA TEZLERİ ETİK İNCELEME KOMİSYONU
TOPLANTI TUTANAĞI

Toplantı Sayısı	:	11
Toplantı Tarihi	:	31.12.2020
Toplantı Saati	:	13:00
Toplantı Yeri	:	Zoom Sanal Toplantı
Bulunanlar	:	Prof. Ebru Kaya, Prof. Dr. Fatma Nevra Seggie, Dr. Öğr. Üyesi Yasemin Sohtorik İlkmen
Bulunmayanlar	:	Prof. Dr. Özlem Hesapçı Karaca

Talip Gülle
Yabancı Diller Eğitimi

Sayın Araştırmacı,

"Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool" başlıklı projeniz ile ilgili olarak yaptığınız SBB-EAK 2020/60 sayılı başvuru komisyonumuz tarafından 31 Aralık 2020 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

Bu karar tüm üyelerin toplantıya çevrimiçi olarak katılımı ve oybirliği ile alınmıştır. COVID-19 önlemleri kapsamında kurul üyelerinden ıslak imza alınamadığı için bu onam mektubu üye ve raportör olarak Yasemin Sohtorik İlkmen tarafından bütün üyeler adına e-imzalanmıştır.

Saygılarımızla, bilgilerinizi rica ederiz.

Dr. Öğr. Üyesi Yasemin
SOHTORİK İLKMEN
ÜYE

e-imzalıdır
Dr. Öğr. Üyesi Yasemin Sohtorik
İlkmen
Öğretim Üyesi
Raportör

SOBETİK 11 31.12.2020

Bu belge 5070 sayılı Elektronik İmza Kanununun 5. Maddesi gereğince güvenli elektronik imza ile imzalanmıştır.

APPENDIX B

CONSENT FORMS

PARTICIPANT INFORMATION AND CONSENT FORM

(FOR CONTENT EXAMS)

The Institution Supporting the Study: Boğaziçi University
The name of the study: Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool
Project Manager: Prof. Yasemin Bayyurt
E-mail address:
Phone:
Researcher's name: Talip Gülle
E-mail address:
Phone:

Dear student,

Boğaziçi University Foreign Language Education Department academic staff member Prof. Yasemin Bayyurt and her doctoral student Talip Gülle are conducting a scientific research project titled "Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool". This study has two main objectives. One of these is to reveal the experiences of students studying in higher education institutions/departments where the medium of instruction is English, and the potential challenges that may result from studying in their second language; the other is to examine how multilingual students will perform in an exam that allows for the use of multiple languages in the same text (i.e., translanguaging). Your institution has given consent for students to participate in this study. We invite you participate in our project to help us in this research. We would like to inform you about the research before you decide whether or not to participate in the study. If you want to participate in the study after reading this information, please sign this form and send it to the researcher.

If you agree to participate in this study, we will ask you to take an exam with open-ended questions that tests your knowledge in a course you are taking in your department at the university. The time given to you to complete the exam will be 30 minutes. Exam questions will be in English. However, you do not have to give your answers in English; you can use any language you know, and if you want, you can mix all the languages you know. In other words, you can use the languages in a way that allows you to express your knowledge best and most comfortably. The important thing in this exam is to allow you to express what you know without any language restrictions. Your performance in this exam will in no way affect your grade in the course. Your participation in the study is completely on a voluntary basis. We will not give you any rewards or make any payments.

This research study is conducted for a scientific purpose and confidentiality of participant information is essential. The collected data will be stored on the researcher's computer in an encrypted document or in a locked cabinet during our project, and will be deleted when the research is completed. The findings obtained can be used in other scientific studies and scientific presentations by keeping the participant information confidential.

Participation in this research study is completely voluntary. If you participate, you also have the right to withdraw your consent at any stage of the study without giving any reason. If you withdraw your consent from the study, any data you are involved in will be destroyed immediately and will not be used in the study under any circumstances. Our research is not expected to pose any risk to you.

If you want to get additional information about the research project, please contact Boğaziçi University Foreign Language Education Faculty Member Yasemin Bayyurt or the researcher Talip Gülle. You can consult Boğaziçi University Social and Humanities Graduate and Doctorate Theses Ethical Review Commission (SOBETIK) (sbe-ethics@boun.edu.tr) regarding your rights regarding the research.

If you agree to participate in this research project, please sign this form electronically and send it to the researcher.

I, (name of participant) .... , I have read the text above and fully understood the scope and purpose of the study I was asked to participate in, and my voluntary responsibilities. I had the opportunity to ask questions about the study. I realize that I can quit this study at any time and without giving any reason, and if I quit I would not encounter any negativity.

Under these circumstances, I agree to participate in the research study in question of my own free will, without any pressure or coercion.

I want to / do not want to receive a sample of the form (in this case the researcher keeps this copy).

Participant's Name-Surname: ....
Signature: ....
Address (Telephone Number, Fax Number, if available)

PARTICIPANT INFORMATION AND CONSENT FORM

(FOR LANGUAGE TESTS)

The Institution Supporting the Study: Boğaziçi University
The name of the study: Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool
Project Manager: Prof. Yasemin Bayyurt
E-mail address:
Phone:
Researcher's name: Talip Gülle
E-mail address:
Phone:

Dear student,

Boğaziçi University Foreign Language Education Department academic staff member Prof. Yasemin Bayyurt and her doctoral student Talip Gülle are conducting a scientific research project titled "Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool". This study has two main objectives. One of these is to reveal the experiences of students studying in higher education institutions/departments where the medium of instruction is English, and the potential challenges that may result from studying in their second language; the other is to examine how multilingual students will perform in an exam that allows for the use of multiple languages in the same text (i.e., translanguaging). Your institution has given consent for students to participate in this study. We invite you participate in our project to help us in this research. We would like to inform you about the research before you decide whether or not to participate in the study. If you want to participate in the study after reading this information, please sign this form electronically and send it to the researcher.

If you agree to participate in this study, we will ask you to take an exam that tests your knowledge in a course you are taking in your department at the university. The time given to you to complete the exam will be 30 minutes. Exam questions will be in English. This research study is conducted for a scientific purpose and confidentiality of participant information is essential. The collected data will be stored on the researcher's computer in an encrypted document or in a locked cabinet during our project, and will be deleted when the research is completed. The findings obtained can be used in other scientific studies and scientific presentations by keeping the participant information confidential.

Participation in this research study is completely voluntary. If you participate, you also have the right to withdraw your consent at any stage of the study without giving any reason. If you withdraw your consent from the study, any data you are involved in will be destroyed immediately and will not be used in the study under any circumstances. Our research is not expected to pose any risk to you.

If you want to get additional information about the research project, please contact Boğaziçi University Foreign Language Education Faculty Member Yasemin Bayyurt or the researcher Talip Gülle. You can consult Boğaziçi University Social and Humanities Graduate and Doctorate Theses Ethical Review Commission (SOBETIK) (sbe-ethics@boun.edu.tr) regarding your rights regarding the research.

If you agree to participate in this research project, please sign this form electronically and send it to the researcher.

I, (name of participant) .... , I have read the text above and fully understood the scope and purpose of the study I was asked to participate in, and my voluntary responsibilities. I had the opportunity to ask questions about the study. I realize that I can quit this study at any time and without giving any reason, and if I quit I would not encounter any negativity.

Under these circumstances, I agree to participate in the research study in question of my own free will, without any pressure or coercion.

I want to / do not want to receive a sample of the form (in this case the researcher keeps this copy).

Participant's Name-Surname: ....
Signature: ....
Address (Telephone Number, Fax Number, if available)

PARTICIPANT INFORMATION AND CONSENT FORM

(FOR THE INTERVIEW)

The Institution Supporting the Study: Boğaziçi University
The name of the study: Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool
Project Manager: Prof. Yasemin Bayyurt
E-mail address:
Phone:
Researcher's name: Talip Gülle
E-mail address:
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Dear student,

Boğaziçi University Foreign Language Education Department academic staff member Prof. Yasemin Bayyurt and her doctoral student Talip Gülle are conducting a scientific research project titled "Language Challenges in English Medium Higher Education and Translingual Assessment as An Alternative Tool". This study has two main objectives. One of these is to reveal the experiences of students studying in higher education institutions/departments where the medium of instruction is English, and the potential challenges that may result from studying in their second language; the other is to examine how multilingual students will perform in an exam that allows for the use of multiple languages in the same text (i.e., translanguaging). Your institution has given consent for students to participate in this study. We invite you participate in our project to help us in this research. We would like to inform you about the research before you decide whether or not to participate in the study. If you want to participate in the study after reading this information, please sign this form and send it to the researcher.

If you agree to participate in this research study, you will participate in an interview that will take approximately 30 minutes. In this interview, you will be asked around 10 questions about the use of English as the language of instruction, your preferences as to the language of instruction, and your language preferences in the exam you have previously taken within the scope of the same research study. The interview will be voice-recorded. Your participation in the study is completely on a voluntary basis. We will not give you any rewards or make any payments. Participating in the interview will not affect your course grade in any way.

This research study is conducted for a scientific purpose and confidentiality of participant information is essential. The collected data will be stored on the researcher's computer in an encrypted document or in a locked cabinet during our project, and will be deleted when the research is completed. The findings obtained can be used in other scientific studies and scientific presentations by keeping the participant information confidential.

Participation in this research study is completely voluntary. If you participate, you also have the right to withdraw your consent at any stage of the study without giving any reason. If you withdraw your consent from the study, any data you are involved in will be destroyed immediately and will not be used in the study under any circumstances. Our research is not expected to pose any risk to you.

If you want to get additional information about the research project, please contact Boğaziçi University Foreign Language Education Faculty Member Yasemin Bayyurt or the researcher Talip Gülle. You can consult Boğaziçi University Social and Humanities Graduate and Doctorate Theses Ethical Review Commission (SOBETIK) (sbe-ethics@boun.edu.tr) regarding your rights regarding the research.

If you agree to participate in this research project, please sign this form electronically and send it to the researcher.

I, (name of participant) .... , I have read the text above and fully understood the scope and purpose of the study I was asked to participate in, and my voluntary responsibilities. I had the opportunity to ask questions about the study. I realize that I can quit this study at any time and without giving any reason, and if I quit I will not encounter any negativity.

Under these circumstances, I agree to participate in the research study in question of my own free will, without any pressure or coercion.

I want to / do not want to receive a sample of the form (in this case the researcher keeps this copy).

Participant’s Name-Surname: ....
Signature: ....
Address (Telephone Number, Fax Number, if available)

APPENDIX C

JUSTIFICATION FOR THE USE OF THE TERM "CLIL"

Definition of CLIL:

Marsch (2002) defines CLIL as "any dual-focused educational context in which an additional language, thus not usually the first language of the learners involved, is used as a medium in the teaching and learning of non-language content" (p. 15), which characterizes CLIL as an umbrella term for educational contexts that have a dual focus on language and content. A similar definition is offered by Coyle et al. (2010), who state that it is "a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language", and add that in this approach content and language are "interwoven, even if the emphasis is greater on one or the other at a given time." (p.1). Graddol (2006) focuses specifically on English as an L2, and define CLIL as "an approach to bilingual education in which both curriculum content— such as science or geography—and English are taught together." (p. 86). Along the same lines, Lin (2015) states that ideally CLIL should target both content topics and related language, such as introduction of the imperative structure in relation to writing the procedures involved in an experiment in a science class.

CLIL, EMI, ESP, or EAP?

These are obviously broad definitions that encompass various manifestations of CLIL. Commenting on the conceptualization of CLIL as an umbrella term, Cenoz, Genesee, and Gorter (2013) called for the refinement of the definition of CLIL, pointing out that, being such a broad category, CLIL is understood and defined in

different ways by CLIL researchers, e.g., while some present it as distinct from immersion and other forms of CBI, for others CLIL and CBI are synonymous and thus are used interchangeably. In response, Dalton-Puffer, Llinares, Lorenzo, and Nikula (2014) focus on the historicity and emergence of CLIL within the European tradition, which distinguishes it from immersion. However, they agree that given the various contextual factors and thus different practices, not only is it a challenge to understand each context but also making generalizations is not a straightforward endeavor. And while acknowledging variations in implementation, they argue for "the need for an overarching concept" (p. 217), which they suggest could be "additive bilingual programs" as is used in existing taxonomies, or CLIL as well. To delineate what CLIL encompasses, they present three defining characteristics of CLIL: (1) target languages are mostly lingua francas, and English is the dominant target language in CLIL programs, (2) CLIL does not replace foreign language teaching, but rather accompanies it, and (3) CLIL lessons are taught by teachers trained in the respective content area and what is assessed is content, not language.

Labeling the practices in a particular setting becomes even more complicated when we consider other categorizations. For example, Airey (2016) suggests that there is a continuum of approaches in CLIL. Courses with language learning objectives only are categorized as English for Academic Purposes (EAP); those whose learning objectives that have to do with content only are categorized as EMI; and in between are courses with both language and content learning outcomes, which are categorized as CLIL. Airey points out that in EAP courses "academic language may be viewed as a generic set of skills that can be acquired more or less independently of the content area where they will be used" (p. 73). Airey suggests that in CLIL courses there may be three different scenarios: both content and

language can be taught (1) by language teachers or (2) by content teachers, or (3) there can be collaboration with language and content teachers. In the case of higher education, however, he argues that the first option is unfeasible because only disciplinary experts, rather than language teachers, can teach content at the tertiary level.

There is another line of research on ESP. Paltridge and Starfield (2013) define ESP as “the teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a particular domain” (pp. 2), and state that orienting the content of the course to the learner’s need is one of fundamental aspects of ESP. ESP and EAP are closely related: As Hyland and Shaw (2016) state, “EAP has emerged from the fringes of the English for specific purposes (ESP) movement” (p. 1), where the content is geared towards teaching academic language.

The novelty with CLIL lies in the fact that, as opposed to earlier language teaching approaches, the teaching and learning of content come to the foreground. Tarnopolsky (2013) draws a distinction between “traditional ESP teaching” and “integrated ESP learning”, in that while in the former learning of content is not a learning objective in itself but content matter provides the source material for language learning, in the latter both learning of language and that of disciplinary content are aimed for. In that sense, CLIL can be considered as integrated ESP learning, but this does not do justice to CLIL given the fact that, as opposed to English for specific purposes, in CLIL the emphasis on content may be more substantial than on English, that is, language. As a matter of fact, more recently, Francomacaro (2019) suggested that the distinction between CLIL and ESP is not clear-cut and that “the main purpose of ESP remains the learning of the English

language appropriate for certain situations, while CLIL aims at improving subject learning too", viewing this as "maybe the only relevant difference" (p. 57).

Greere and Räsänen (2008) suggest a classification that includes a broad range of course types from those that lack an integration of language and content to full integration. These include the following:

- Non-CLIL (which involves limited exposure to English, less than 25%, and is not concerned with language learning)
- Language for Specific Purposes/Discipline-Based Language Teaching (in which language teachers choose materials to teach discipline specific content with no collaboration between language and content teachers)
- Pre-CLIL with LAP focus (in which language and content teachers often but not always collaborate to develop students' language learning outcomes in accordance with content learning needs to prepare students for future content courses)
- Pre-CLIL with content focus (in which the learning objective is content mastery with incidental language learning; and teaching is provided by subject specialists)
- Adjunct-CLIL (in which language instruction is provided to support content learning through collaborative planning of language and content teachers)
- CLIL (which involves team-teaching with a focus on both content and language)

All this implies that, although there have been attempts to define CLIL and lay out its distinctive characteristics, in practice, similar practices seem to be labeled differently by different researchers, (e.g., immersion, CBI, and CLIL), and likewise, what two different researchers call CLIL, for example, may not refer to the same practices.

Graddol (2006) makes an observation, which, to this date, remains a precise description: “There is no orthodoxy as to how, exactly, CLIL should be implemented and diverse practices have evolved.” (p. 86).

To recap, CLIL has a dual focus of improving content and language learning, but how much emphasis each gets may vary from one setting to another. ESP courses, on the other hand, aim to equip learners with language skills that are relevant to a particular domain. Although the content is derived from the target domain, and hence learners will also be exposed to and learn about domain-specific content, the main focus is on developing learners’ language skills. EAP can be considered as a type of ESP with a focus on the use of language in academic contexts. And lastly, EMI is largely to do with the teaching of content.

For the current thesis, to have a thorough understanding of the approach used in the Friday classes of the EPP, I asked a series of questions to (1) the material writers, who decide on the content and language to be covered in EAP classes, and (2) the course instructors in the EPP who teach those EAP classes. I sent them two separate questionnaires with the following seven questions in each (4 of the questions are the same in both questionnaires). Note that the Friday courses are referred to with another name in the EPP, but the name has been changed here to “EPP Friday Courses”. In the original questionnaire the name used in the EPP was preferred. This change here is in order to protect the confidentiality of the EPP.

Material writers:

1. What are the aims/objectives of EPP Friday Courses?

2. How do you decide what content to include in EPP Friday Course materials? Do you collaborate with instructors from relevant departments and if so in what ways do you collaborate with them?

3. Do EPP Friday Courses aim to teach content/disciplinary knowledge? If so, how/why is the learning of content/disciplinary knowledge important?

4. On a scale of 1 to 10, how would you rate the importance of learning of content/disciplinary knowledge in EPP Friday Courses?

5. How do you decide on language learning objectives while developing EPP Friday Course materials?

6. Do you begin material design based on language learning objectives or content learning objectives or both? Do you pay more attention to one or the other in material design and development?

7. On a scale of 1 to 10, how would you rate the importance of learning of academic language in EPP Friday Courses?

Course instructors:

1. What are the aims/objectives of EPP Friday Courses?

2. Do EPP Friday Courses aim to teach content/disciplinary knowledge? If so, how/why is the learning of content/disciplinary knowledge important?

3. On a scale of 1 to 10, how would you rate the importance of learning of content/disciplinary knowledge in EPP Friday Courses?

4. Do you use other languages than English in your EPP Friday Courses? If so, for what purposes or in which situations?

5. Do your students use other languages than English in EPP Friday Courses? If so, for what purposes or in which situations?

6. Is assessment in EPP Friday Courses based on language learning objectives or content learning objectives or both? Do you pay more attention to one or the other in assessment/test design and development?

7. On a scale of 1 to 10, how would you rate the importance of learning of academic language in EPP Friday Courses?

Six materials writers and 12 course instructors answered the questionnaire. I present substantial points from their answers that shed light on the characteristics of the Friday classes.

What are the aims/objectives of EPP Friday Courses?

In the answers, there was particular focus on using content that is related to students' field of study in order to familiarize them with basic disciplinary knowledge and concepts, while at the same time, contributing to their English language skills. Below are excerpts from teacher and material writer questionnaires in relation to this question:

- The main aim is to familiarize students with the terminology related to their departments and enrich their vocabulary knowledge. We also use their departmental content to improve their English skills, such as reading.
- The aim of these classes is mainly to use the content of the materials to teach English. Yet, there are many other objectives. They are also designed to help students study the language through a familiar content, thus creating a more meaningful language learning environment. These courses also allow students to get familiar with their departments.
- To teach the concepts that the students will see when they start their departments in English.
- To have students learn and use English in a content-based manner which will provide them the necessary tools for their future progress in the field.
- To get the students familiar with their field of study in English.
- To prepare the students for the technical terms of their departments.

How do you decide what content to include in EPP Friday Course materials? Do you collaborate with instructors from relevant programs and if so, in what ways do you collaborate with them?

There was only limited collaboration with EMI programs during the preparation of course materials. However, 2 of the 5 material writers said that they communicated with instructors from the relevant programs. Another said that they were already

sufficiently familiar with the content because they had their B.A. and M.A. in the program for whose students they developed the materials. The others themselves studied the curricula and courses of the relevant programs and wrote the materials based on them. Although not all material writers consulted with instructors from EMI programs, they all went through a preparation process in which they researched for related academic resources, read/watched them, and then began writing the materials.

- I checked their department courses and also asked one of the instructors in their department and decided on the most important and preliminary content the students need to learn to be able to adapt their lesson in the first year.
- I talked with an instructor at Management Department before starting to prepare the units about "Management". He gave me some ideas about what to include and how to order the topics. He recommended a book like "Introduction to Management" that I can read to get some information about management. I read it and it was really beneficial for me to learn the topics before preparing the units. Then, I started to write the units thanks to the knowledge I learned from this book.
- Mostly we go over their departmental schedule and see what they cover in their departments. For example, in pharmacy faculty they have courses like chemistry, biochemistry, and pharmacy basics, and we have included similar topics in our units. I haven't collaborated with any instructors from their departments.
- I haven't done so, because the material that I developed was already my BA and MA Degree.
- I designed the materials with my colleagues. We did not get much help from relevant departments. However, we still carried out an analysis to find out what the department classes were about.
- We can collaborate but I did not, instead I researched.

Do EPP Friday Courses aim to teach content/disciplinary knowledge? If so, how/why is the learning of content/disciplinary knowledge important?

All participants except three stated that the EPP Friday courses aimed to teach disciplinary knowledge, mainly because having such knowledge will be of great use to students once they have started their EMI programs.

- I think yes. It is important to help students get used to their departments and they can use the prerequisite knowledge which will be necessary for their upcoming courses.

- Yes, it does. It is important because even L2 prep-school students can get the chance to learn preliminary knowledge about their major based on the EPP Friday course contents.
- Students will be able to adapt faster and complete their work successfully in their future studies.
- They have been designed to teach content knowledge within such contexts as to make the students learn their field much better.
- Two of the participants stated that they do not really aim to teach disciplinary knowledge while one said they do “to some extent”.
- We don’t aim to teach content knowledge because we are not knowledgeable enough to do so. We aim to teach English with the help of specific content.
- To some extent, those classes does aim to teach disciplinary knowledge. Learning disciplinary knowledge is important as it is the context through which the language is presented.

How do you decide on language learning objectives while developing EPP Friday Course materials?

Responses to this question showed that all material writers begin by finding the disciplinary content to be included in the materials. They analyze relevant resources, write texts or find open-source audio-visual content that fit their learning objectives. Next, they study these resources more closely and carefully in order to determine the language features that can be extracted from them. These language features are also separately introduced and practiced at the end of each unit.

- Language learning objectives are decided among the most frequent language structures that appear through the material. We also pay close attention to the grading of the language structures, and make sure that the language structures are in line with the language level of the students.
- I mostly decided based on the content I used in my units, basically based on the reading and the listening texts.
- We decide on the language learning objectives according to the students’ level of English. The units are prepared in a way that will be in accordance with their academic English courses.

Do you begin material design based on language learning objectives or content learning objectives or both? Do you pay more attention to one or the other in material design and development?

The participant material writers stated that although they focus on both content and language learning objectives, content receives more attention relative to language features during the development of materials.

- We focus on both. We want to present them content, but at the same time aim to develop their language skills. Maybe we pay more attention to the content in these units because they also have other lessons in which they use academic or general English books to acquire other skills.
- We paid more attention to content learning objectives. Language Learning objectives received less attention.
- I mostly paid attention to the content objectives although I tried to keep in mind the language objectives.
- I take both factors into consideration while preparing the units. Both language and content objectives should be appropriate for students.

The instructor questionnaire also included questions related to potential translanguaging practices through the inclusion of students' other language(s) in classes. The instructors were asked whether they themselves and their students take advantage of other languages.

Do you use other languages than English in your EPP Friday Courses? If so, for what purposes or in which situations?

Out of 12 instructors who responded to the questionnaire, half stated that they do not use other languages, while the other half said that they do. Those who stated that they use other languages stated that they use Turkish, particularly when the content is too challenging for students or when they need to explain the meaning of a word that is too difficult for students to grasp in English and that is fundamental to the learning of the content. One of the instructors stated that they also use Latin as the content of the lessons include Latin words.

- I use Turkish for a clear instruction, and I think that if all the students know Turkish, it is a good thing for them to learn the Turkish versions of some terminologies. Ve tabi mesleki ingilizcenin challenging olduğu da unutulmamalı [And of course it should not be forgotten that vocational English is challenging.]

- Sometimes I use Turkish when they have difficulty understanding the text or video. Sometimes these vocabulary items are quite difficult to explain in English, and it becomes easier when they understand what they mean in Turkish. In a sense, if we are talking about a difficult concept or complicated vocabulary items, I use Turkish. But, this also depends on the students' proficiency level.
- Sometimes I use Turkish to make the concepts more understandable for my students. I also used Latin sometimes as it was in the content of my units.
- I sometimes use Turkish when the students don't know the meaning of a word which is necessary for them to grasp the topic or when they can't understand what I mean in English and ask for clarification.
- Rarely. I always worked with students with decent language proficiency. As the materials were designed according to the level of the students, there was little to no use of using other languages in Unique classes.

Do your students use other languages than English in EPP Friday Courses? If so, for what purposes or in which situations?

Similar to the previous question, half of the participant instructors stated that students do not use other languages in their EPP Friday classes, while the other half said that they do. With regards to the reasons why students take advantage of Turkish, they stated that they use it mainly to express themselves when they believe that they cannot adequately do so in English, or to translate words. One teacher's comment that that the use of students' L1 makes it easier for them to comprehend the content reflects the belief that the L1 is more effective for learning than the L2 for L2 users.

- Türkçeyi çok kullanıyorlar, bazen anlamı kolaylaştırmak ve bazen de kolaya kaçmak için. [They use Turkish a lot, sometimes to make the meaning easier and sometimes to take the easy way out.]
- Students also use Turkish when they cannot explain themselves in English.
- Sometimes when students try to summarize a text or get the meaning of the text through quickly, they might resort to using languages other than English. Also, they use it from time to time to translate the words that they have just learned.
- Yes, but just to make the topic easier for everybody else to understand.
- They also sometimes use Turkish when they explain a concept or answer a question, when they have hard time explaining it in English.
- When they can't explain what they are trying to say in English, they use Turkish.

Is assessment in EPP Friday Courses based on language learning objectives or content learning objectives or both? Do you pay more attention to one or the other in assessment/test design and development?

The majority of the instructors (8 out of 12) stated that assessing students' content knowledge is attached more importance in their EPP Friday classes. The main purpose of these classes is seen as preparing students for their EMI programs; for this reason, the learning and assessment of disciplinary knowledge is given more importance. As one of the instructors stated, students are assessed only on their knowledge of language in other courses and EPP Friday courses are allocated to familiarizing students with their future EMI courses. However, since language and content knowledge are inextricably intertwined and since the exams are to be held in English, the importance of L2 knowledge cannot be overstated.

- It is based on both language and content learning objectives. The test design of these classes requires more attention because there are different disciplines to be tested for the instructor in the exam.
- It is based on both, but again I believe I pay more attention to the content and related vocabulary items.
- 60% on content and 40% on language objectives. Content classes mainly aim to teach content, yet there is some focus on language objectives. That is why there is a greater focus on assessing content.
- It is mostly based on content learning objectives because our aim is to teach the concepts they will encounter in their department lessons.
- I consider both but content learning objectives outweigh the other because introduction of the content is the main objective for the course. Language leaning objectives support content learning but it is not the pure focus in our EPP-EAP assessment.
- Content knowledge is more important in EPP-EAP exams. The students' level of English is already assessed in their academic English exams. The points that they get from grammar part is low when it's compared with the other parts. So, the focus is on content in those exams.

On a scale of 1 to 10, how would you rate the importance of learning of content/disciplinary knowledge in EPP Friday Courses?

The ratings varied between 7 and 10, and the average answer to this question was 8,5. This indicates that both material writers and instructors believed that students' learning of disciplinary content was attached considerable significance in their EAP courses.

On a scale of 1 to 10, how would you rate the importance of learning of academic language in EPP Friday Courses?

The ratings for this question varied between 4 and 10, and the average answer was 7,7. When compared with the previous question, it becomes clear that in EAP classes the instructors place more importance on students' learning of disciplinary knowledge.

Based on the responses to the questionnaire, it turned out that CLIL would be an appropriate categorization for EPP Friday courses. Evidently, although both language and content are targeted, content occupies relatively more space in these courses. Given the dual focus, these courses are considered to fall under the category of CLIL within this thesis.

APPENDIX D

SAMPLE EXAM USED IN STUDY 1

Below is a sample test used in the Architecture Department (Since the students had covered 10 of the units, only these were included in the test for the Architecture Department.)

THE FRIDAY CLIL TEST NAME SURNAME: LEVEL: Below is a list of the units covered in your classes this term. Select at least 3 of the units. Explain what you learned in these units in as much detail as possible. Your answer should provide a summary of the content of the unit and include the important terminology and definitions. You can use English or Turkish or both in your answers. Your answers will be evaluated based on the content, not on language. Use the language in any way you are comfortable with. *** Aşağıda bu dönem derslerinizde işlenen ünitelerin bir listesi verilmiştir. Ünitelerden en az 3 tanesini seçiniz ve bu ünitelerde öğrendiklerinizi mümkün olduğunca detaylı bir şekilde açıklayınız. Cevabınız ünite içeriğinin bir özetini sunmalı ve önemli terimleri ve tanımları içermelidir. Cevaplarınızda İngilizce veya Türkçe veya her ikisini de kullanabilirsiniz. Cevaplarınız kullandığınız dile göre değil, içeriğe göre değerlendirilecektir. Dili, en rahat hissettiğiniz şekilde kullanınız. *** Aşağıda bu dönem derslerinizde cover edilen ünitelerin bir listesi verilmiştir. Select at least 3 of the units. Bu ünitelerde öğrendiklerinizi açıklayınız – in as much detail as possible. Cevabınız ünite contentinin bir summarysini sunmalı ve önemli terminoloji ve tanımları içermelidir.

You can use English or Turkish or both in your answers. Cevaplarınız kullandığınız dile göre değil, contente göre değerlendirilecektir. Dili, en rahat hissettiğiniz şekilde kullanınız.

LIST OF THE UNITS:

Terms and Concepts

An Architect's Tool Bag

Colors in Architecture

Interior Design

Landscape

Urban and Regional Planning

Structure Types

Architectural Projects

Architectural Design Standards

Architecture and Culture

APPENDIX E

SAMPLE RESPONSE EXCERPTS FROM STUDY 1

Pharmacy & Molecular Biology and Genetics

- There was an example in the unit. Someone calls hospital and she says that she is sister of the patient and she asks for hastanın durumu. Hasta gizliliği gereği bu bilginin kimseye verilmemesi gerekir.

- In this unit, I've learned that different species live in the same habitat. Also this habitat provides community, population, balance for different group of living things which have limited with a zone. Ecology studies for; canlı varlıkların cansız varlıklarla etkileşimi, canlı varlıkları etkileyen çeşitli faktörler.

- Bitkilerin bölümleri:
    - root: to absorbe water from soil
    - stem: to carry minerals ve bitkinin dik durmasını sağlar
    - bud: içinde tohumlar bulundurur

- Coal and diamond are different substances. Both of the are contain C (carbon) and they need pressure but elmas daha çok ve daha uzun süre basınç gerektirir.

- Confidentiality (Güvenilirlik): Hastanın kişisel bilgileri istisnai durumlar dışında verilmemelidir.

Health Sciences

- Hospital equipment: This unit about hospital eguipment. For example; wheelchair, stretcher, gloves, defililatör, syringe, kol değnekleri, dezenfektan, forceps, nester, kürtaj bıçağı, zımba, kan durdurucu.

- Bu ünitede ilaç kullanmadan nasıl iyileşebileceğimiz yöntemleri öğrendik. Örneğin,
  Hydrotherapy: Bu uygulamada su kullanılıyordu
  Aromatherapy: Bitkilerin kokularını kullanarak

- Over the counter drug: Bu doktora gitmeden kullanılan ilaçlardır. Örneğin başımız ağrıdığı zaman andığımız ağrı kesicileri.

Medicine

- Crohn’s Disease Semptomları: İshal, rektal kanama, kilo kaybı, ateş
  Hemorrhoid: İshal, kabız, az lifli yemek yemek
  Diverticulitis: Ateş, abdominal pain
  IBS: Diarrhea, loose watery bloating
  Celiac Disease: severe sensitivity to gluten,
  Semptomları (children): abdominal pain, diarrhea, vomiting
  Semptom (adult): anemia, fatigue, depression, seizure

- Gastrointestinal disorders: GERD, Celiac disease, Hemorrhoids, Ulcerative colitis, IBS, Crohn’s disease
  Respiratory system disorders: Chronic bronchitis, Sinusitis, Asthma, Emphysema
  Urinary system disorders: Kidney stones, bedwetting, chronic renal failure, irritable bowel
  GERD semptomları: göğüs kafesinde yanma hissi, kötü nefes, diş erozyonu
  Celiac disease semptomları: karın ağrısı, ishal, kusma
  Crohn’s disease semptomları: ishal, kilo kaybı, rektal kanama, ateş

- Eyes, noses, forehead, mouth, leg, arm, finger, ears, hair, feet, teeth, çene, yanak vb. vücut parçalarımız

- I learned system’s diseases. Hastalığın kalıtsal ya da çevresel etkenlerden oluşup oluşmadığını öğrendik. Diseases names, for example, kidney stones, chronic renal failure, bladder control problems, celiac disease, hemorrhoids.

Computer Engineering

- Ayrıca robotların nasıl görüp duyduğunu, yani hangi parçalarıyla bunları yaptığını bulduk. Mesela, light sensor = eyes, chemical sensor = nose gibi.

- Machine learning bilgisayarın algılayıcısı ya da veritabanları gibi veri türlerine dayalı, öğrenimi olanaklı kılan algoritmaların tasarım ve geliştirme süreçlerini konu edinen bir bilim dalıdır. Deep learning ve tıpta önemli rol oynamaktadır.

- After industrial revolutions, insanlar şehirlere akın etmeye başladı. Technology was developed. Therefor, people can easily communicate other people. Ve burjuva sınıfı ortaya çıktı.

- Bu ünitede ise malware, trojans, social engineering ve phishing gibi kötü amaçla dijital ortamlarda kullanılan yazılım ve manipüle yetenekleri hakkında bilgi edindim.

- Sınıflandırmaları öğrendik.
  Tokenization: Kelimeleri teker teker sayma

Parsing: Cümle ögeleri
Lemmatization: Cümlenin formları
Part of speech tagging: adj., noun, etc.

- Language detection: identify language

Electrical Engineering

- Tesla ve Edison arasındaki anlaşmazlığı konuştuk. Tesla alternating current'ı savunuyordu, Edison ise direct current'ı savunuyordu.

Civil Engineering

- Adobe is made from wet soil and Adobe is sıvamak v3 (yine unuttum) by people.

Industrial Engineering

- Robotlar space exploration, manufacturing, assembly, surgery, transportation, warehousing gibi alanlarda kullanılırlar.

- Inbound new materials ile ilgileniyor, outbound finished materials ile ilgileniyor.

Psychology

- Değişik akılda tutma yöntemleri
  Music mnemonic: Şarkıyla akılda tutma. Örn = ABC song
  Name mnemonic: Bir kelimenin her harfine bir şey kodlama
  Expression or word: Kelimeyi hikayeleştirme. Örn = periyodik tablo
  Model mnemonic: tablo oluşturma – pie chart
  Connection: Birbiriyle bağlantılı kelimelerle akılda kodlama

Business Management

- Secondly, as democratic style is a system between rules and democracy, everyone can share ideas even argue them. Nobody can karışmak to their ideas.

- Örneğin, hand-off yönetim şeklinde bir kurumdaki tüm çalışanlara herhangi bir karar alırken fikirleri sorulur.

International Relations

- Coercive power: “If you don’t work hard, you get fired.”
  Zorlayıcı bir güç çeşididir. Bir şeyi yapmazsan sonuçlarının kötü olacağını söyler ve yapmaya zorlar.

  Legitimate power: “I’m a president. You have to follow my rules” kişinin bulunduğu mevkiden dolayı saygı duyulması ve kurallarına uyulması gerekir.

- Power kendi içinde “Formal” ve “Personal” olmak üzere ikiye ayrılır. Daha sonra “Formal” kendi içinde “Coercive P., Legitimate P., Reward P.” olarak; “Personal” de kendi içinde “Expert ve Referent” olarak ikiye ayrılır.

Architecture

- Bu ünitede seneye kullanacağımız materials gördük. Hangi amaçla nerede kullanacağımızı ve isimlerini öğrendik. Mesela, t-square, markers, compass, etc.

- Eskiden kullanılan malzemeler ve yenileşen, modernleşen building materials gördük. Hatırladıklarım straw, concrete, steel.

Radio, Television and Cinema

- Green symbolizing nature, wealth and rebirth because it’s the colour of nature and grass that’s why we can comfortably use it for showing life and grow. Brown is colour of solidarity because it’s colour of ağaç gövdesi but is is also colour of dirt so that’s why we can also use it for showing the unethical things, bad situations.

New Media

- Cybercrimes, footprint (digital), identity theft gibi altbaşlıkları gördük ve cybercrime ile karşılaşmamak için neler yapmalıyız bunları öğrendik.

- Bu konuya birkaç örnekle başlayacak olursak, ilk olarak cyberbullying’den konuşabiliriz.

- If we write our personal informations to the websites we use, dangerous people can easily erişebilir and they may tehdit edebilirler.

APPENDIX F

SAMPLE RESPONSES FROM STUDY 2

Introduction to Political Science

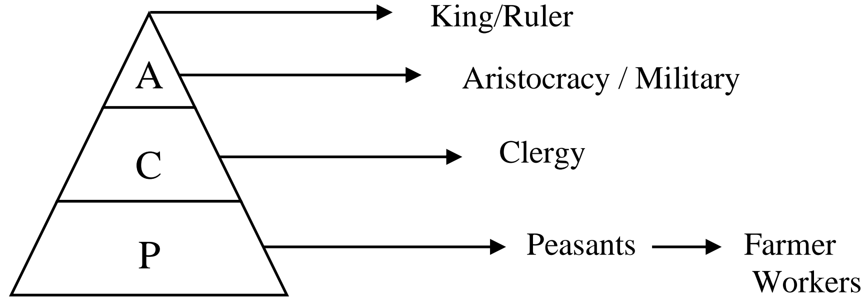
Sample Response 1:
Realpolitik: Bir siyasi hareket olarak savaşın haklı çıkarılmaya ihtiyacı yoktur.
Just War Theory: When it conforms the moral principles war can be justify. War can be used as last resort but if waiting until the end causes more deaths, it can be used in the right time. Not declaring war when it is necessary may give enough time to the other country to get stronger, and it may be the cause of more deaths.
We can also search for the ways to limit the devastating effects of war
Pacifism: war is the evil and we can't and shouldn't use it ever.

Sample Response 2:
There are realpolitik, just war theory, and pacifism. Realpolitik, war as a political act, needs no moral justification. They think liberal things caused to the war.
Just war theory, war can be justified, matters of war and peace are beyond morality, in that they are and should be determined.
Pacifism, war as an unnecessary evil, can never be justified. A war that in its purpose and conduct meets certain ethical standards, and so is morally justified. The purpose of war must be to reestablish peace and justice.

History of International Relations

Sample Response 1:
Ortaçağ Avrupasında, kırsal alandaki sosyal yapı 3 ayrı sınıftan oluşur. Yapının en üst kısmında aristokrat sınıfı yer alır. Aristokrat sınıfı belli bir alana sahiptir ve bu alanda köylüleri çalıştırıp para kazanırlar. Bir diğer sınıf olan ruhban sınıfı köydeki dinsel faaliyetlerden sorumludur. Halka ümit vererek ayakta tutmaya çalışırlar. En alt sınıf olarak köylüler yer alır. Köylülerin hiçbir sosyal hakkı yoktur ve çalışmakla yükümlüdür.

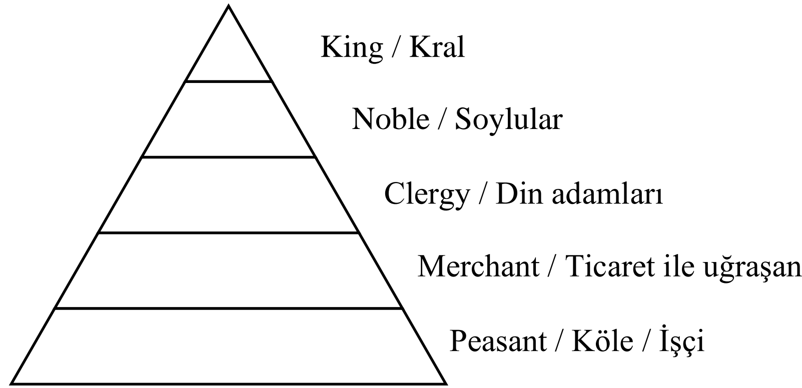
Sample Response 2:



Krallar yönetiyor. Aristokratlar da, ruhbanlar, peasantlar hepsi krala bağlı. Militaryler güvenlik sağlıyorlar. Ruhbanlar din işleriyle uğraşıyor. Peasantlar, krala bağlı ve her şey kralın, topraklar, evler vs. Peasantlar krallar için çalışıyor, güvenlik ve barınak için.

Sample Response 3:

O dönemlerin Avrupasında şehirde ve kırsalda çok farklı yaşam standartları vardı. Her ikisine de bakacak olursak, şehirdeki yaşamın kalite standartları çok daha iyiydi çünkü o zamanlarda var olan sosyal sınıf statüsü gereği en ağır şartlarda yaşayan sınıf, kırsalda yaşayan köle/işçi sınıfı idi. Bu feodal istemin bir parçası olan. Sosyal sınıf piramidi ise şu şekildeydi:



Bu feodal sisteme göre soylular ülkedeki toprak sahipleridir. Bu sınıf topraklarını en alt sınıfta yer alan köle/işçilere işletirlerdi. Ve bu köle/işçiler kırsalda bu topraklarda çalışarak ve karşılığında çok az bir kısım alarak geçimlerini sağlamaya çalılıyorlardı. Bu yüzden kırsalda yaşam kalitesi çok düşüktü.

International Political Economy

Sample Response 1:
Actually Wallerstein defines world-system theory in 2 types. World empires and world economy. World empire sisteminde empire olan devlet kendisine bir tributary seçer ve bu tributary devleti sömürmeye başlar. And after all this, the wealth, the resources are distributed based on their political decisions. And the other is world economy. In this system, there is a capitalist global economy. Ve buradaki varlık, free market'in oluşturmuş olduğu ortamda devletlerin pazarı ne kadar iyi control edebildiğine göre dağıtılır. Bu sistemde 3'lü hiyerarşi sistemi vardır. These are core countries, semi-periphery and periphery countries. Core countries can be considered as world powers like USA, Russia, and their economies are quite well. They buy raw materials in periphery countries in cheaper prices and they sell much more expensive. Çünkü hammaddeyi işleyemeyen gelişmemiş ülkeler bu ürünleri almak zorunda. Ve periphery ülkeler gelişmemiş ülkelerdir ve geçimlerini hammadde satışı ve tarımla sağlarlar. Ve son olarak bölge gücü olabilecek semi-periphery devletler var. Bu devletler ortalama ekonomik güce sahiptirler ve denge politikası izlerler. 3 devlet türü birbirine bağımlıdır ve birbirleri olmadan geçimlerini sağlayamazlar.

Sample Response 2:
Theories explain our order, policy, structure. Why do we need theories? Because we need to understand what happened around, why politicians take decisions – good or bad? What is important? And today we know theories include domestic or internal reasons and Immanuel Wallerstein explain world system theory. World System theory has three parts of country: core countries, periphery countries, and semi periphery countries. System includes here different part of countries because core countries are developed countries. There are included industry, materials, money, system, structure, and they have marketplace in bigger areas than semi-peripheral and periphery countries. Semi-peripherence is between the core and peripherence. And finally peripherence countries have raw materials but they did not have industry so didn't use and make raw materials. They sell it and then core countries use raw materials and sell back, semi-peripherence country trades this product.

Research Development

Sample Response 1:
Writing a literature review is one of the most important processes of doing the actual research. Before the literature review, researchers should find the resources and the ideas that they are going to use and the question of the research should be set. While writing the literature review, it is the first place the ideas and resources come together. That's why it is really important to make an effort to write it decently or your final research is going to suffer. It is also a test drive to see how you ideas and questions relate. Or contrast with each other. While writing it most researchers find new ideas and points that they can use in their finalized research. Changing things, rearranging them, getting rid of the bloated points and general process of elimination. That's why it is essential to start the research with literature review to see how you and your actual research capable of.

Sample Response 2:
Akademik bir araştırmaya başlamadan ya da başlarken literature review yapmak çok önemli bir durumdur. Araştırmanın başlangıcında kişinin fikrinin de belirginleşmesinde yardımcı bir etkendir. Literature review aynı zamanda araştırma başlangıcında elde edilen yabancı ve anadildeki kaynakların derli toplu bir şekilde research'ün başlangıcında belirlenmesine yardımcı olur. Böylece araştırmacı bir bilgi havuzu içinde boğulmaz. İstediği bilgileri derlenip, toplanmış bir şekilde alabilir ve kullanır. Literature review ile birlike araştırmacı research sorusunu da belirgin bir şekilde belirler. Elde edilen bilgileri derleyip topladığı için daha geniş perspecktiften research konusuna bakabilir. Sorusunu daha kolay bir şekilde ele alır. Araştırma metnini yazmaya başladığında oluşacak bilgi ve soru karmaşasını en aza indirir. Literature review yazmak aynı zamanda research'ü okuyacak kişiler için önemlidir. Cite yapacak kişiler veya araştırmanın genel hattını ve nerelere bakıldığını öğrenmek isteyen kişiler kaynakça gibi yere bakmaktansa literature review kısmını okuyarak daha derli toplu bilgi elde edebilirler.

Sample Response 3:

الهدف من literature review بالنسبة الي هو معرفة ما سيتم البحث عنه خلال مرحلة ال research من حيث تترتب الأفكار, اختيار المصادر الأساسية وقراءتها بشكل دقيق وواضح, معرفة الخطوات الأساسية للبحث والتي من خلالها تجعل الباحث يعلم ماهية الطريقة التي سيبحث بها بشكل او باخر يرى النتيجة النهائية للبحث الذي يعمل عليه. من الممكن أيضا ان يكتشف طريقه أخرى وأسئلة استفساريه أخرى ومن خلالها يفتح له مجال أسئلة أخرى وطرق بحث أكبر ومن الممكن ان يكتشف أشياء ليست في الحسبان وبالتالي يصبح البحث الخاص به اكثر تميزا وقوة من غيره من البحوث الأخرى. لماذا يجب ان يتم عمل literature review قبل البدء بالبحث في الحقيقة لأكثر من سبب واهمهم اخذ فكره اكبر عن البحث واكتشاف ما اذا كان هناك نقاط قوه او نقاط ضعف وبالتالي التحسين منها او الاستغناء منها لجعل البحث اكثر قوه وتميزا من غيره.

The purpose behind the literature review for me is knowing what you will search for at the research stage to have organized thoughts, choosing main resources and reading it very carefully, knowing the main steps in the research in which through them the researcher will know how to do his research and how to see the results of his research. Also, he may discover new ways and new questions which may lead him to better questions and maybe better ways in doing the research which may result in unique research and a strong one. Why it is important to start with the literature review before starting the research, in fact there is more than on reason, the most important one is to take a better and a bigger idea about the research and to find out whether there is some strength points or weak points which could be improved or ignored to make the research a strong one and unique when compared to other research.

Psychology of Learning

Sample Response 1:
In long term memory, we have two categories. One of them is called semantic memory and the other one is episodic memory. Semantic memory is about meaning whereas episodic memory is about the event. So, that basically means that when we remember a episodic memory, we are thinking about how the thing go that particular day, for example, I went to a mall with my friend. However, when we think it in semantic memory, we focus on the meaning of that day for us, what it meant for us in terms of our feelings, the way we think, etc. In autobiographical memory, we use both of these. So with the help of two, we can have more deep and detailed memory.

Sample Response 2:
Long-term memory kategorileri demantic ve episodic memory olarak ikiye ayrılır. Bunlardan semantic olanı knowledge ve informational memoryleri depolamak ve gerektiğinde hatırlamak için kullanılırken, episodic memory bizim hatıralarımızı ve autobiographical memory'mizi depolayan kısımdır. Örnek vermek gerekirse, semantic memoryde siyasi bir olayın patlak verdiği tarihi depolarken, episodic memoryde o olayın patlak verdiği tarihi hatırlamak için 'hani akşam yemeğinde …'ye gitmiştik, oradan dönerken telefon gelmişti' gibi cümleler yardımı ile hatırlamak kolaylaşır.

Sample Response 3:
Uzun süreli bellek kategorileri arasında episodic ve semantic memory bulunmaktadır. Episodic memory kişisel deneyimlerimiz, hatıralarımızdan oluşur. Semantic memory ise genel bilgilerimiz ve toplum tarafından yaşanılan deneyimlerimizdir. Otobiyografik hafıza daha çok episodic memory kategorisine girer çünkü bireysel yaşantılarımız odaklıdır. Semantic memory daha az bulunmaktadır. Sensory ve short-term memory, long-term hafızanın ilk basamaklarıdır. Bu ikisinde semantic ve episodic hafızalar eşit oranda kullanılabilir. Bazı beyin hasarlarında bu ikisinin biri zarar görebilir fakat duruma göre diğerinin fonksiyonu hala çalışabilir düzeydedir.

Introduction to Business

Sample Response 1:
Yönetici ve lider bakıldığında aynı terimler gibi gözükse de aralarında belirli farklılıklar bulunur. Actually, the leader can organize a group, team or something like that. And other ones follow the leader without eleştiri. I think, other persons should abide by the leader's rules without rejecting. That is why, the leader has more hierarchy power, influence, and authority than the manager. Lider ve yönetici kıyaslandığında, yönetici, bir grup çalışanı, belirli bir düzende ancak onların da görüş ve isteklerine saygı duyarak yönetmeye, işler başarmaya çalışan kişidir. Tabii ki diğer çalışanlara dediklerini yaptırma gücü ve yüksek bir pozisyonu vardır ancak diğerlerinin benliğini de düşünmek zorundadır. Çalışanlar yöneticilerini eleştirebilir,

onlarla yeni fikirler ile ilgili kolayca iletişime geçebilir ancak lider ile bu diyaloglar biraz daha kısıtlıdır.

Sample Response 2:
The difference between manager and leader is that, leader he/she the one who lead the [project] المشروع), also he is the [responsible] مسؤل of the work, for example, a player can lead the team but he can`t be the manager. Manger is the [responsible] مسؤل for the all work for every employe or workers and he has the responsibility to get the target of the company. For example, like I said, player can lead the team but if he didn`t do well in a game the responsible are going to be on the manager because he didn`t mange it right.
In my opinion, motivation and work satisfaction are same. Because motivation make the workers do better so it can work satisfied about the work. There is a lot of ways to motivate the employers. For example, you can give him/her extra credits and "money" to motivate them and you rank everyone and give the good fiction for their good performance.

Organizational Behavior

Sample Response 1:
A way to motivate the employees is we can make a small combition between the employees and whoever win will get a bonus or a 3 payed days off on this way all the employees will work hard and try there best in work so that one of them win the bonus or the days off and in the same time the employees will cover work satisfaction and they will be happy in work and the important thing is the company will improve more and gain more profit.

Sample Response 2:
Motivation and job satisfaction are not same I think. When motivation is something about encouraging employees to work more and proper, job satisfaction, yaptığın, ortaya çıkardığın işten memnun olmaktır.

To make employees motivated, there are tangible and intangible factors. Bir çalışan için yöneticisinden alacağı küçük bir compliment bile çalışanı motive eder. Yöneticinin çalışanlara ve fikirlerine saygı göstermesi, onları anlayışla dinlemesi önemli motivasyon faktörleridir. That are intangible motivation factors. Beside these, there are tangible factors like money, reward or an certificate. When an employee has one of them, he/she can feel herself/himself more motivated. In my opinion the most effective way to motivate employee, çalışanı tebrik etmek in front of other employees with verbal but non-written communication, and it should be immediately.

Sample Response 3:
The motivation and the work satisfaction are not the same thing, but there is (common points نقاط مشتركة) between them; the motivation is something push the workers and make them more likely to work and love what they do and give them more (motivation تحفيز/ bigger ability قابلية اكبر/ higher talent موهبة اعلى) and it comes from (work environment أجواء العمل), leader and workers.

The satisfaction is how much comfortable with the work and (on a person`s psychology his comfort at work and also his way to accomplishing things على نفسية الشخص وراحته في العمل وأيضا طريقة انجازه).

Media and Society

Sample Response 1:
People fear the media and it's influence for a couple of reasons, firstly because common ideas are dwelled upon by many people and therefore is called the "unspoken rules". Media's influence might change your opinion or point of view on anything, it has the power to do so. So as an example when a certain company or someone famous gets on the bad side of a certain race by commercials or a movie or a line in a song or even a certain phrase, they get looked down on or attacked on social media and therefore the quantity of losses become incredibly high.

Another example is cyber-bullying, a person can easily be bullied because of an opinion that's not common. Going against basic opinions may be very dangerous on social media, people bully because they're not afraid of the outcome or because they don't know how the person they're bullying will react.

Also another reason is if you have an opinion, you can easily be biased to another opinion because someone's point of view is convincing enough or even it's more likely that you've gotten the wrong idea of something so you start to question your own beliefs.

Media's influence is very powerful and would always be powerful because a lot of important companies and buissnesses rely on it. Simply for the reason that there's a product that's bound to be sold and you'll be convinced to buy. Or because of upcoming match or a new style, it's a reality that this generation must go on by.

Sample Response 2:

لان ال media فتحت افاق جديده في العالم لم نكن نتخيل ان نصل اليها في يوم من الأيام وذلك جعل عالمنا اصغر حجما وقصر المسافات فتخيل معي انك تتصفح مواقع التواصل الاجتماعي وتبدأ في الظهور لك إعلان مدفوع الثمن لشركة سيارات تعرض سياراتها الجديدة بالكامل و مميزاتها وانت تمتلك نفس السيارة لكن النسخة القديمة واستمر ذلك الإعلان بالظهور لك باستمرار فمع الزمن سوف تشعر باحتياجك لامتلاك هذه السيارة بطريقة لاإرادية بذلك استطاعت الشركة بتلاعب افكارك واقناعك باحتياجك للامتلاك شيء انت غير محتاج له أو أنك تملك من الأساس.
ولك انت تتخيل إنك جالس مع اصحابك وهاتفك الخلوي مغلق لكنه على الطاولة التي أمامك وكنت انت واصدقائك تتناقشون حول الخروج الى التخييم في عطلة نهاية الأسبوع وبعد ان انتهيتم من النقاش امسكت هاتفك المحمول وابتدأت ظهور إعلانات عن التخييم او أفضل أماكن التخييم فأول ما سيخطر على بالك هل انت مراقب وهل انا فعلا املك خصوصية.
فكانت ال media بوابة ضخمه للعالم ولا أتوقع نحن جاهزين لكل هذه الافاق الجديدة.

Because the media opened new horizon to the world, we did not imagine we will reach one day and that made our world smaller and our distance shorter. Imagine with me you are browsing social media and then paid ads start appearing to you, ads

about a car and its features, you have the same car but the old model. The ads will keep appearing to you and by time you will feel that you need this new car. The company who paid for the ad or the add itself was able to control your mind and play with your thoughts and they convinced you that you need to buy something you do not need or something that you already have.
Also imagine you are sitting with your friends and your phone is closed and is on the table Infront of you. You and your friends were talking and discussing a plan to go camping on the weekend. After you finished you discussion, you grabbed your cellphone and then some ads about camping and the best places to do camping at start appearing to you. The first thing will pop into your head is: Am I being watched? And do I really have privacy?
So, media was a huge gate to the world, and I do not think we are ready to all this new horizon.

Sample Response 3:

الناس تخاف من تأثير الأوساط لان

- تنشر المعتقدات الزائفة والخاطئة للناس بشكل سهل ومستمر
- تجعل الناس تشك بمعتقداتها وآرائها حتى لو كانت صحيحه
- تكمم افواه الأقليات من الناس نسبة لعرقهم او جنسياتهم او دينهم او انتمائهم لمجموعة معينه او حتى توجهاتهم السياسية.
- الفكر السائد حاليا في العالم يصنع نماذج معينه مبنيه على أفكار سياسيه واقتصاديه بحته وينشرها للناس ليخدعهم بانه الصحيح واي شيء غير هذا النموذج يعتبر شاذا او خطأ وكله لمصالح ماديه او مراتب اجتماعيه وسياسيه.
- كل ما كان للشخص رتبة سياسيه او اجتماعيه اعلى كلما زاد قدرة تأثيره على الناس باستخدام شتى الوسائط واهمها مواقع التواصل الاجتماعي.
- استخدام فكرة " الحرية المطلقة" الذي يلغي الاخلاقيات الأساسية والآداب التي يجب ان يتحلى بها وينشر الأفكار على أساس انها حرية رأي حتى لو كانت ضد المنطق والفطرة البشرية السليمة.

People are afraid of social media because

- It spreads false beliefs and wrong info to people in an easy way and continues
- It makes people doubt their beliefs and their opinion even if they were true.
- Silencing the voices of minority according to their race, nationality, religion, or belonging to a specific group or even their political views.
- The mainstream thought nowadays creates specifics political and economic ideas and then spread them to people by deceiving to believe that these ideas true and other than these ideas are not correct and it is wrong.

Sample Response 4:

اعتقد ان من يهاب او يخاف من تأثير الميديا هم الأشخاص الغير قادرين على فهم المحيط او ما يحيط بهم من احداث وتغييرات جديده فالأشخاص الأقل قراءه هم الغير قادرين على انشاء وعيهم وقراراتهم الخاصة وانما يصبحون سهل المنال لمدعين الحقائق والبروبجاندا. الخائف الأكبر في هذه المعادلة هو الحكومات الديكتاتورية هي الأكثر قلقلا من تأثير الميديا على الشعوب اكثر من الشعوب انفسهم, كمثل الذي حدث في مصر سنة ٢٠١١ قامت ثورة كامله على النظام بسبب ما فعله احدى الشباب المصري , والذي قام بعمل صفحة على موقع التواصل فيس بوك ما ادى الى صحوة وتفاعل كبير بين أبناء الشعب لاحقا أطاحوا بالنظام الحكم.

فالشاهد من الكلام ان للقدرة على الميديا تحطيم اسوار الجهل و نشر الحقيقة والمعرفة ولكنها مسائل صعبه حيث انه لا يمكن التحكم ممن يقدر على نشرها قد يكون عدو, فكر متطرف حكومة او غيرها.
فلهذا السبب قد يخش الناس التواجد على الميديا وغيره من الأشياء المعروفة كالتعرض للتهكير او القرصنة او سرقة البيانات الشخصية والمعلومات الأخرى.

I think who fears the effect of social media are the people who are not able to understand the surrounding or what surrounds them from different events and new changes, people who don`t reach much are the one who are unable to establish their awareness and their own decision, but they become an easy target for those who fake facts and propagandas. The one who fears the most in this equation is the dictatorial governments they worry more about the effect of social media on people than the people themselves, as an example what happened in Egypt in 2011 where an revolution took place against the regime because of the action of one of the Egyptian youth, he created a page on Facebook which led to a huge interaction among the people and later they were able to take down the regime.
The point of this is that media can take down the walls of ignorance and spread the knowledge and facts, but they are difficult matters in which it is hard to control who can spread them, it might be the enemy, an extremist idea from the government or something else. That`s why people might fear being on media and other known things like being hacked or stealing personal data or other information.

New Media and Communication

Sample Response 1:
a. Digital Hikaye anlatımı, geleneksel olandan farklı olup insanların kendilerini sınır tanımadan açıklamalarına yardımcı olur. Daha açık konuşmak gerekirse geleneksel hikaye anlatıcılığı belli başlı kalıplar ile sınırlı kalmıştır. Ama Digital hikaye anlatıcılığı internetin bütün nimetlerinden faydalanır o yüzden sınır tanımaz.

b. 1- Bir fikir ile ortaya çıkmak
2- Yazılması gereken bir metin varsa o yazılır
3- Storyboard oluşturmak

Bir fikriniz varsa bunu önce belirleyip onun üzerinden gitmeniz gerekir.
Daha sonra yazılması gereken bir metin varsa bunu yazmaya başlanması gerekir.
Storyboard oluşturarak yaptığımız işin çizme dönüşmesini sağlarız.

c. Kadına şiddeti konu alan bir kurgu senaryosu oluştururdum çünkü insanların bu başlık adı altında daha çok düşünmeye ve davranışlarına dikkat etmeleri gerekiyor.

Sample Response 2:
القصص الرقمية: هي اننا نحكي قصة عن طريق وسيلة رقمية زي الفيديو او الصور او الصوت,الفرق بينها وبين القصص القديمة, القصص القديمه تعتمد على الكتابه او القراءه وبتعتمد بشكل كبير على الخيال, اما القصص الرقمية بتعتمد على عوامل تانية زي الصورة والصوت والمزيكا.
تلات مراحل لصناعة القصة الرقمية: ١- الفكرة ٢- التخطيط ٣- التنفيذ (الفكرة: ماذا لو ؟), (التخطيط: رسم ستوري بورد واضافة الشخصيات), (التنفيذ: تجميع الصور والموسيقى والاصوات لعمل الفيديو).

الحرية في مصر: هتكون قصة عن واحد نزل مضاهرة واتسجن ومات في السجن, هتكون قصة خياله لكن هي تعتبر وثائقية في نفس الوقت لانها بتحكي عن واقع حاصل في مصر.

Digital stories: this means we will tell a story through a digital tool like a video or photo or sound, the difference between them and the old stories is that the old stories depend on the writing or reading and it highly depends on imagination, while the digital stories depend on other factors like the picture, the sound, and the music.
Three stages to make the digital stories: 1- the idea 2- the planning 3- the execution (the idea: what if ?), (the planning: drawing or sketching the storyboard and adding the characters), (the execution: collecting the photos, music, and the sounds to make the video).
Freedom in Egypt: the story will be about a person who went out in the demonstration and got imprisoned and he died in the jail, the story will be imaginary, but it is considered a documentary at the same time because it talks about a reality that happened in Egypt

APPENDIX G

RUBRIC USED IN STUDY 2

CONTENT, ORGANIZATION & COHERENCE (12 pts)

Paragraphing	1 pts
Introduction of the Topic	1 pts
Thesis Statement	1 pts
Topic Sentences (one for each body paragraph)	2 pts
Supporting Ideas with Relevant Examples and Explanations	4 pts
A Brief/Effective Conclusion	1 pts
Coherence	2 pts

USE OF LANGUAGE (13 pts)

Grammatical Range and Accuracy	6 pts
Lexical Range and Accuracy	6 pts
Punctuation and Spelling	1 pts

DETAILED EXPLANATIONS

CONTENT AND ORGANIZATION

Paragraphing:

uses paragraphing appropriately to logically organize and separate ideas throughout the essay	1 pts
uses paragraphing to separate ideas, with it may not always be logical and appropriate	0,5 pts
does not use paragraphing to organize ideas	0 pts

Introduction of the Topic:

introduces the essay topic in a clear, specific, and adequate manner	1 pts
introduces the essay topic in an overly general or vague manner.	0,5 pts
does not address the essay topic	0 pts

Thesis Statement:

clearly and concisely states the main argument of the essay with a focused thesis statement	1 pts
attempts to present a thesis statement related to the essay question, but it lacks clarity and specificity	0,5 pts
does not provide a thesis statement	0 pts

Topic Sentences (one for each body paragraph):

writes a clear and focused topic sentence that effectively expresses the main idea of the paragraph and is directly related to the thesis statement	2 pts (e.g., 1 pts for each topic sentence if there are two body paragraphs)
attempts to write a topic sentence that expresses the main idea of the paragraph, but it may not be fully clear, focused or closely related to the thesis statement	1 pts (e.g., 0.5 pts for each topic sentence if there are two body paragraphs)
does not write topic sentences	0 pts

Supporting Ideas with Relevant Examples and Explanations:

includes relevant supporting ideas that effectively explain their position and that are well-developed with relevant examples, explanations, and details.	3/4 pts
includes some relevant supporting ideas, which are not sufficiently developed with relevant examples, explanations, and details.	1/2 pts
does not include relevant supporting ideas and examples, explanations, and details to develop the argument.	0 pts

A Brief/Effective Conclusion:

includes a conclusion that effectively summarizes the main ideas and provides closure	1 pts
includes a conclusion, but it fails to effectively summarize the main ideas or introduces new ideas	0,5 pts
does not include a conclusion, or the one provided is ineffective and contains irrelevant details	0 pts

Coherence:

presents information logically and clearly, demonstrating a strong command of cohesive devices to connect both paragraphs and sentences effectively	2 pts
presents information with some organization, but the overall progression may be lacking, and the use of cohesive devices may be inadequate, inaccurate, or excessive	1 pts
lacks control of organizational features and cohesive devices	0 pts

USE OF LANGUAGE

Grammatical Range and Accuracy:

effectively uses a broad range of simple and complex grammatical forms with high accuracy, and minor errors, if any, do not impede meaning	5/6 pts
uses a variety of simple and complex grammatical forms with mostly accurate grammar, but errors occur when attempting to use complex forms, which may at times impede meaning	3/4 pts
a limited range of grammatical forms and frequently makes errors that impede meaning	1/2 pts
is unable to use grammatical forms at all	0 pts

Lexical Range and Accuracy:

uses a broad range of vocabulary correctly and appropriately, exhibiting precision to avoid inaccuracies or misunderstandings	5/6 pts
uses an acceptable range of vocabulary and attempts to use more advanced vocabulary, but with some inaccuracies, which may occasionally cause inaccuracy or ambiguity	3/4 pts
uses a limited range of vocabulary for the task, relying on basic vocabulary that may be used repetitively or may be inappropriate/inadequate	1/2 pts
uses an extremely limited range of vocabulary and/or the vocabulary used is inaccurate/inappropriate	0 pts

Punctuation and Spelling:

demonstrates excellent command of punctuation and spelling, with no errors	2 pts
demonstrates adequate command of punctuation and spelling, with some errors	1 pts
demonstrates inadequate control of punctuation and spelling, with many errors	0 pts

APPENDIX H

INTERVIEW QUESTIONS

1. Which language or languages are used in your lessons?

2. Are any languages other than the official language of instruction used in your lessons? If so, for what purposes?

3. Resources in which languages do you use while studying for your lessons (or exams)?

4. Which language or languages do you use in your individual and group learning activities outside of the classroom? Why?

5. Are there any advantages of having English as the language of instruction? If so, please explain them.

6. Are there any difficulties or disadvantages of having English as the language of instruction? If so, please explain them.

7. Why did you prefer to use (the language preferred by the student in the exam previously held within the scope of the study will be stated here) ………. in the exam you took within the scope of this study?

8. (If the students used different languages together in their answers in the exam previously held within the study) I have noticed that you switched between different languages in certain parts in your answers. I will show you these parts in your answers. Please indicate why you switched languages in these parts.

APPENDIX I

TEXTS USED IN STUDY 3

The texts used in the Diabetes task were adopted from https://gcp.theconversation.com/, with written permission from the writers to include the texts in the current study.

The first text was Brakenridge and Dunstan (2021, December 6), which is available on the following page:

> https://gcp.theconversation.com/covid-saw-us-sitting-longer-and-diabetes-rose-globally-by-16-in-2-years-time-to-get-moving-171945
>
> Reference: Brakenridge, C. & Dunstan, D. (2021, December 6). COVID saw us sitting longer – and diabetes rose globally by 16% in 2 years: Time to get moving. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

The second text was Paing and Chastin (2021, May 11), which is available on the following page:

> https://theconversation.com/type-2-diabetes-sitting-can-cause-problems-with-blood-sugar-levels-so-get-up-and-move-160391
>
> Reference: Paing, A. C. & Chastin, S. (2021, May 11). Type 2 diabetes: sitting can cause problems with blood sugar levels, so get up and move. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

The Turkish translation of the second text was used in the E-T task. The translated version is provided on the next page.

THE CONVERSATION

Yazarlar: Aye Chan Paing & Sebastien Chastin
Tarih: 11 Mayıs, 2021
https://theconversation.com'dan alınmıştır.

Tip 2 diyabet: oturmak kan şekeri seviyelerinde sorunlara neden olabilir, bu yüzden kalkın ve hareket edin

Birçok insan günün büyük bir bölümünü oturarak geçirir ve bu da bir dizi sağlık sorununa neden olabilir. Ancak çoğu kişi, çok fazla oturmanın tip 2 diyabet gibi bazı sağlık sorunlarını daha da kötüleştirebileceğini fark etmeyebilir. Araştırmalar, oturarak çok fazla zaman geçirmenin kan şekeri seviyelerinde sorunlara neden olabileceğini ve tip 2 diyabetlilerin gün içinde bol miktarda fiziksel aktivite yapmalarını daha da önemli hale getirdiğini gösteriyor.

Tip 2 diyabet, kandaki şeker (glikoz) seviyesinin çok yükselmesine neden olur. Kandaki yüksek şeker seviyeleri, kalp, böbrekler, gözler, ayaklar ve sinirler dahil olmak üzere diyabetli birinin vücudunda ciddi hasara neden olabilir. Kan şekeri seviyelerini kontrol etmek, ciddi sağlık sorunları riskinden kaçınmak için önemlidir.

Diyet ve fiziksel aktiviteyi düzenlemek gibi yaşam tarzı değişiklikleri ve metformin veya gliptin gibi diyabet ilaçları kan şekeri düzeylerini düşürmek için kullanılır. Yine de, araştırmamızın da bulduğu gibi, önerilen diyetleri takip etmek ve diyabet ilaçları almak, kan şekeri seviyelerini kontrol etmede her zaman etkili değildir. Bu bize diyabet bakımını ve yönetimini yeniden düşünmeye ihtiyaç olduğunu gösteriyor.

Tip 2 diyabet herkes için farklı olabileceğinden, bir kişinin kan şekerini ne kadar iyi kontrol ettiği yaş, cinsiyet, aktivite düzeyleri, diyet ve kilo gibi farklı faktörlerden etkilenebilir. Bu, oturmak için ne kadar zaman harcandığı gibi yeni, değiştirilebilir yaşam tarzı faktörlerini hedeflemeyi önemli hale getiriyor.

Tip 2 diyabetli 37 yetişkin üzerinde yaptığımız araştırma ortaya koydu ki uzun süre oturmak, iki haftanın ardından, yüksek kan şekeri seviyeleri ile ilişkili hale geliyor. Ancak aynı zamanda, oturma periyotları arasında ayağa kalkan veya etrafta dolaşan insanların kan şekeri düzeylerinin daha düşük olduğunu da bulduk. Diğer çalışmalarda da benzer sonuçlar elde edilmiştir.

Araştırmamız ayrıca, daha az oturmanın veya oturma periyotlarına aktivitelerle ara vermenin, kan şekeri düzeylerini yönetmenin basit bir yolu olabileceğini gösterdi – buna, tip 2 diyabetli kişilerde yaygın bir sorun olan, kahvaltıdan önce ve sonra ortaya çıkan yüksek şeker seviyeleri de dahil. Sadece daha sık yürümenin gün boyunca kan şekeri kontrolüne faydalı olabileceğini bulduk.

Aslında, her 15 dakikada bir, normal hızda üç dakika kadar kısa bir yürüyüş, insanların kan şekerini kontrol etmelerine yardımcı olmak için yeterli olabilir ve hatta standart diyabet ilaçları kadar etkili olabilir. Diğer araştırmalar, oturma nöbetlerini 15 dakikadan kısa tutmanın kan şekeri seviyeleri için daha iyi olduğunu göstermiştir.

Yürümenin ve diğer egzersiz türlerinin kan şekerini düzenlemekte çok iyi olmasının nedeni, vücudun kaslarını çalıştırmalarıdır. Hareket, kasların kasılmasına neden olur ve bu da kandaki şekerin hücrelere girmesini ve vücudu beslemesini sağlayan mekanizmaları çalıştırır. Bu, sonuç olarak kan şekeri seviyelerini azaltır.

Birçok insan evden çalışırken günlerinin büyük bir bölümünü oturarak geçirmeye devam ediyor. Tip 2 diyabetli kişilerin sık sık ayakta durması ve yürümesi önemli. Tabii ki, bunu yapmak bazen söylendiği kadar kolay değildir. Ancak gün boyunca oturma düzenindeki küçük değişiklikler bile kişinin kan şekeri kontrolünde faydalı olabilir. Örneğin, su almak veya çay yapmak için mutfağa gitmek, birkaç dakika dolaşmak için harika bir fırsat olabilir. Arama yaparken veya toplantılar sırasında ayakta durmak veya yürümek bile iyi bir fikir olabilir.

The texts used in the Depression task were adopted from https://gcp.theconversation.com/, with written permission from the writers to include the texts in the current study.

The first text was Santini, Thygesen, and Ekholm (2021, October 13), which is available on the following page:

> https://gcp.theconversation.com/mental-health-declined-during-the-pandemic-but-some-people-with-depression-improved-new-research-168772
>
> Reference: Santini, Z. I., Thygesen, L. C., & Ekholm, O. (2021, October 13). Mental health declined during the pandemic but some people with depression improved – new research. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

The second text was McCabe (2021, February 11), which is available on the following page:

> https://theconversation.com/the-science-behind-why-hobbies-can-improve-our-mental-health-153828
>
> Reference: McCabe, C. (2021, February 11). The science behind why hobbies can improve our mental health. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

The Turkish translation of the second text was used in the E-T task. The translated version is provided on the next page.

THE CONVERSATION

Yazar: Ciara McCabe
Tarih: 11 Şubat, 2021
https://theconversation.com'dan alınmıştır.

Hobilerin neden zihinsel sağlığımızı iyileştirebileceğini gösteren bilim

Salgın birçok insanın ruh sağlığına zarar verdi. Virüs korkusu ve hükümetin seyahat kısıtlamaları göz önüne alındığında, pek çok insan anlaşılır bir şekilde normalden daha yalnız, endişeli ve depresif hissediyor olabilir. Dünya Sağlık Örgütü (WHO), bu zor zamanlarda insanların ruh sağlıklarına nasıl bakabilecekleri konusunda bir kılavuz bile yayınladı. Temel tavsiyeler düzenli yeme, uyku, hijyen ve egzersiz rutini korumaya çalışmayı içeriyor.

Ancak daha az belirgin bir tavsiye ise şu: zevk aldığınız şeyleri yapmak için hâlâ zaman bulduğunuzdan emin olun. Aslında araştırmalar, bir hobiye sahip olmanın daha düşük depresyon seviyeleriyle bağlantılı olduğunu ve hatta bazılarında depresyonu önleyebileceğini gösteriyor.

Normalde yapmaktan hoşlandığınız şeylere olan ilginizi ve bunları yaparken aldığınız keyfi kaybetmek, zayıf zihinsel sağlığın bir belirtisidir. Anhedoni olarak bilinen bu durum, depresyonun yaygın bir semptomudur ve hastaların en çok kurtulmak istediklerini söyledikleri şeydir – muhtemelen depresyonu tedavi etmek için kullanılan ilaçlar diğer semptomları hedef aldığı ve bu semptomu hafifletmedikleri için.

Bazı insanlar için anhedoni, depresyonun ilk belirtilerinden biridir ve hatta bir kişinin yaşayabileceği depresyonun şiddetini tahmin etmek için kullanılabilir.

Bu nedenle, karantina sırasında hobileriniz gibi ilgi alanlarınız ve zevkleriniz için zaman bulmak, anhedoni ve depresyondan kaçınmanın bir yolu olabilir. Aslında sosyal reçete, doktorların hafif ila orta derecede depresyonu olan hastalardan zihinsel sağlıklarını iyileştirmek için tıbbi olmayan bir müdahaleye (hobi gibi) başlamalarını isteyebilecekleri bir tedavi yöntemidir. Hafif depresyonu olanlarda antidepresanlar daha az etkili olabileceğinden, bu tedavi stratejisi depresyonlu hastaların semptomlarından kurtulmalarına yardımcı olabilir.

Şimdiye kadar, bazı araştırmalar, hastalardan bahçecilik veya sanat gibi hobiler edinmelerini isteyen sosyal reçete programlarının ruh sağlığı ve esenlik için faydalı olduğunu göstermiştir.

Kanıtlar ayrıca, klinik depresyonu olanlar için bile, hastaların kendilerine zevk ve neşe veren şeyleri planlamasını gerektiren davranışsal aktivasyon gibi bazı psikolojik tedavilerin, depresyon semptomlarını iyileştirdiğini göstermektedir. Egzersiz yapmak, enstrüman çalmak, çizim yapmak, okumak veya el sanatları gibi çok çeşitli aktiviteler ve hobiler sosyal reçete ve davranışsal aktivasyonda rol oynayabilir.

Ödül sistemi

Hobiler için zaman bulmanın işe yaramasının nedeni, hobilerin beyindeki ödül sistemini nasıl etkiledikleriyle ilgilidir. Zevk aldığımız bir hobiye katıldığımızda,

beyindeki kimyasal haberciler (nörotransmiterler olarak bilinir) salınır - örneğin, keyif hissetmemize yardımcı olan bir kimyasal olan dopamin. Bu iyi hissettiren kimyasallar daha sonra hobiyi tekrar yapmak istememize ve bunu yapmak için daha motive hissetmemize neden olabilir.

Bu nedenle, başlangıçta bir hobiye zaman harcamak için motive hissetmesek de, bir kez başladığımızda ve bununla ilişkili zevki hissettiğimizde, bu ödül sistemimizi ve ardından da tekrar yapmak için motivasyonumuzu harekete geçirecektir.

Zevk ve motivasyonun yanı sıra hobiler başka faydalar da sağlayabilir. Fiziksel hobiler elbette zindeliğinizi artırabilir ve başka hobiler beyin fonksiyonunuzu bile iyileştirebilir. Araştırmalar, müzik aleti çalmak gibi bazı hobilerin hafızanızı iyileştirebileceğini, sanatsal hobilerin (okuma veya tahta üzerinde oynana oyunlar, bulmacalar gibi) ileriki yaşlarda bunamayı önlediğini gösteriyor.

Bu nedenle, salgın sırasında kendinizi normalden daha kötü hissediyorsanız, belki geçmişte keyif aldığınız bazı hobilerle yeniden ilgilenmek için zaman bulmaya çalışın – veya yenilerini deneyin.

APPENDIX J

RUBRIC USED IN STUDY 3

CONTENT	
3	- Each paragraph contains a clearly and logically stated main idea. - The essay includes all significant details from the texts.
2	- Each paragraph contains a main idea, but it may be too general. - The essay includes important details from the texts, but some may be missing.
1	- Each paragraph attempts to present a main idea, but it lacks clarity and specificity. - The essay only includes a few details, and many significant ones are missing.
0	- The paragraphs do not contain main ideas. - The essay does not include relevant details from the texts.

ORGANIZATION AND COHERENCE	
3	- The essay displays a clear, coherent, and logical structure - A wide range of cohesive devices are used effectively and appropriately
2	- The essay displays some degree of organization, but the structure may not be consistently logical - A range of cohesive devices are used, but a few may be used inappropriately
1	- The essay displays limited organization and lacks clarity in its progression - A limited range of cohesive devices is limited, and some are used inappropriately
0	- The essay displays very little control over organizational features, and the progression is unclear. - Cohesive devices are either not used or used inappropriately

LANGUAGE USE	
3	- The essay displays correct use of a broad range of simple and complex structures - Only minor errors are present, which do not impede meaning. - The essay showcases good command of punctuation and spelling.
2	- The essay displays a combination of simple and complex structures. - Some grammar errors are present, particularly in complex sentences, which may at times impede meaning. - The essay contains only a few punctuation and spelling errors.
1	- The essay displays a limited range of structures. - Frequent grammar errors are present, which may impede meaning. - The essay contains some punctuation and spelling errors.
0	- The essay displays an extremely limited range of simple structures. - The essay contains many punctuation and spelling errors.

VOCABULARY USE	
3	- The essay displays a wide range of vocabulary that is used accurately and appropriately, effectively conveying intended meaning without inaccuracies.
2	- The essay displays an adequate range of vocabulary, including attempts to use more advanced vocabulary, but with some inaccuracy.
1	- The essay displays a limited range of vocabulary, with basic words used repetitively or inappropriately
0	- The essay displays an extremely limited range of vocabulary.

REFERENCES

Abe, M. (2008). *Exploring the role of model essays in the IELTS writing test: A feedback tool*. (Unpublished master's thesis). University of Queensland, Australia.

Abedi, J., & Lord, C. (2001). The language factor in mathematics tests. *Applied Measurement in Education, 14*(3), 219-234. https://doi.org/10.1207/S15324818AME1403_2

Abedi, J., Hofstetter, C. H., & Lord, C. (2004). Assessment accommodations for English language learners: Implications for policy-based empirical research. *Review of Educational Research, 74*(1), 1-28. https://doi.org/10.3102/00346543074001001

Abrams, Z. I. (2019). The effects of integrated writing on linguistic complexity in L2 writing and task-complexity. *System, 81*, 110-121. https://doi.org/10.1016/j.system.2019.01.009

Adamson, J. L., & Fujimoto-Adamson, N. (2021). Translanguaging in EMI in the Japanese tertiary context: Pedagogical challenges and opportunities. In Paulsrud, B. A., Tian, Z., & Toth, J. (Eds.), *English-medium instruction and translanguaging* (pp. 43-61). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-006

Airey, J. (2010). The ability of students to explain science concepts in two languages. *HERMES - Journal of Language and Communication in Business, 45*, 35-49. https://doi.org/10.7146/hjlcb.v23i45.97344

Airey, J. (2012). “I don’t teach language”: The linguistic attitudes of physics lecturers in Sweden. *AILA Review, 25*, 64-79. https://doi.org/10.1075/aila.25.05air

Airey, J. (2015). From stimulated recall to disciplinary literacy: Summarizing ten years of research into teaching and learning in English. In S. Dimova, A. K. Hultgren, & C. Jensen (Eds.), *English-medium instruction in higher education in Europe* (pp. 157–176). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614515272-009

Airey, J. (2016). EAP, EMI or CLIL? In K. Hyland & P. Shaw (Eds.), *The Routledge handbook of English for academic purposes* (pp. 95-107). New York, NY: Routledge.

Airey, J. (2020). The content lecturer and English-medium instruction (EMI): epilogue to the special issue on EMI in higher education. *International Journal of Bilingual Education and Bilingualism, 23*(3), 340-346. https://doi.org/10.1080/13670050.2020.1732290

Airey, J., Lauridsen, K. M., Räsänen, A., Salö, L., & Schwach, V. (2017). The expansion of English-medium instruction in the Nordic countries: Can top-down university language policies encourage bottom-up disciplinary literacy goals? *Higher Education, 73*(4), 561-576. https://doi.org/10.1007/s10734-015-9950-2

Aizawa, I., & Rose, H. (2019). An analysis of Japan's English as medium of instruction initiatives within higher education: the gap between meso-level policy and micro-level practice. *Higher Education, 77*(6), 1125-1142. https://doi.org/10.1007/s10734-018-0323-5

Aizawa, I., Rose, H., Thompson, G., & Curle, S. (2020). Beyond the threshold: Exploring English language proficiency and linguistic challenges experienced by Japanese students in an English Medium Instruction programme. *Language Teaching Research*, 1–25. https://doi.org/10.1177/1362168820965510

Akşit, T., & Kahvecioğlu, A. S. (2022). Stakeholder perspectives on the use of English-medium instruction (EMI) in Turkish universities. In Y. Kırkgöz & A. Karakaş (Eds.), *English as the medium of instruction in Turkish higher education* (pp. 87-106). Springer, Cham. https://doi.org/10.1007/978-3-030-88597-7_5

Alemi, M., Daftarifard, P., & Pashmforoosh, R. (2011). The impact of language anxiety and language proficiency on WTC in EFL context. *Cross-Cultural Communication, 7*(3), 150-166. https://doi.org/10.3968/J.CCC.1923670020110703.152

Alhassan, A., Ali, N. A., & Ali, H. I. H. (2021). EFL students' challenges in English-medium business programmes: Perspectives from students and content teachers. *Cogent Education, 8*(1). https://doi.org/10.1080/2331186X.2021.1888671

Altınmakas, D., & Bayyurt, Y. (2019). An exploratory study on factors influencing undergraduate students' academic writing practices in Turkey. *Journal of English for Academic Purposes, 37*, 88-103. https://doi.org/10.1016/j.jeap.2018.11.006

Arkın, E., & Osam, N. (2015). English-medium higher education. A case study in a Turkish university context. In S. Dimova, A. K. Hultgren, & C. Jensen (Eds.), *English-medium instruction in higher education in Europe* (pp. 177–199). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614515272-010

Attar, Z., Blom, E., & Le Pichon, E. (2022). Towards more multilingual practices in the mathematics assessment of young refugee students: effects of testing language and validity of parental assessment. *International Journal of Bilingual Education and Bilingualism, 25*(4), 1546-1561. https://doi.org/10.1080/13670050.2020.1779648

Babacan, A. (2022, December 17). *Ali Babacan ile bi' kahve, bölüm 6, konuk İlber Ortaylı* [Video]. YouTube. https://www.youtube.com/watch?v=SO1Pg5nweO4&ab_channel=AliBabacan

Bailey, B. (2007). Heteroglossia and boundaries. In M. Heller (Ed.), *Bilingualism: A social approach* (pp. 257–274). New York, NY: Palgrave. https://doi.org/10.1057/9780230596047_12

Bailey, B. (2012). Heteroglossia. In M. Martin-Jones, A. Blackledge, & A. Creese (Eds.), *The Routledge handbook of multilingualism* (pp. 499-507). London, England: Routledge.

Baker, B., & Hope, A. (2019). Incorporating translanguaging in language assessment: The case of a test for university professors. *Language Assessment Quarterly, 16*(4-5), 408-425. https://doi.org/10.1080/15434303.2019.1671392

Baker, C. (2001). *Foundations of bilingual education and bilingualism* (3rd ed.). Clevedon, UK: Multilingual Matters.

Baker, C. (2010). Increasing bilingualism in bilingual education. In D. Morris (Ed.), *Welsh in the 21st Century* (pp. 61–79). Cardiff, UK: University of Wales Press.

Baker, C. (2011). *Foundations of bilingual education and bilingualism* (5th ed.). Clevedon, UK: Multilingual Matters.

Ball, P., & Lindsay, D. (2013). Language demands and support for English-medium instruction in tertiary education. Learning from a specific context. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.) *English-medium instruction at universities: Global challenges* (pp. 44-61). Bristol: Multilingual Matters. https://doi.org/10.21832/9781847698162-007

Barkaoui, K. (2019). What can L2 writers' pausing behavior tell us about their L2 writing processes? *Studies in Second Language Acquisition, 41*, 529–554. https://doi.org/10.1017/S027226311900010X

Barrios, E., & Acosta-Manzano, I. (2021). Factors predicting classroom WTC in English and French as foreign languages among adult learners in Spain. *Language Teaching Research*, 1-24. https://doi.org/10.1177/136216882110540

Barrios, E., López-Gutiérrez, A., & Lechuga, C. (2016). Facing challenges in English Medium Instruction through engaging in an innovation project. *Procedia-Social and Behavioral Sciences, 228,* 209-214. https://doi.org/10.1016/J.SBSPRO.2016.07.031

Bartolotti, J., & Marian, V. (2012). Bilingual memory: Structure, access, and processing. In J. Altarriba & L. Isurin (Eds.), *Memory, language, and bilingualism: Theoretical and applied approaches* (pp. 7–47). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139035279.002

Baynham, M. (2020). Comment on Part 1: Collaborative Relationships. In E. Moore, J. Bradley, & J. Simpson (Eds.), *Translanguaging as transformation: The collaborative construction of new linguistic realities* (pp. 15-22). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788928052-005

Behizadeh, N. (2017). "Everybody have their own ways of talking": Designing writing instruction that honors linguistic diversity. *Voices from the Middle, 24*(3), 56–64.

Belhiah, H., & Elhami, M. (2015). English as a medium of instruction in the Gulf: When students and teachers speak. *Language Policy, 14*(1), 3-23. https://doi.org/10.1007/s10993-014-9336-9

Bialystok, E. (2010). Bilingualism. *Wiley Interdisciplinary Reviews Cognitive Science, 1*, 559–572. https://doi.org/10.1002/wcs.43

Bialystok, E. (2009). Bilingualism: The good, the bad, and the indifferent. *Bilingualism: Language and Cognition, 12*(1), 3-11. https://doi.org/10.1017/S1366728908003477

Birdsong, D. (2004). Second language acquisition and ultimate attainment. In A. Davies & C. Elder (Eds.), *The handbook of applied linguistics* (pp. 82–105). Oxford: Blackwell.

Blaxton, T.A. (1989). Investigating dissociations among memory measures: Support for a transfer-appropriate processing framework. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 15*, 657–668. https://doi.org/10.1037/0278-7393.15.4.657

Bo, W. V., Fu, M., & Lim, W. Y. (2022). Revisiting English language proficiency and its impact on the academic performance of domestic university students in Singapore. *Language Testing*, 1-20. https://doi.org/10.1177/02655322221106462

Bonacina-Pugh, F., da Costa Cabral, I., & Huang, J. (2021). Translanguaging in education. *Language Teaching, 54*(4), 439-471. https://doi.org/10.1017/S0261444821000173

Boun, S. & Wright, W. E. (2021). Translanguaging in a graduate education programme at a Cambodian university. In Paulsrud, B. A., Tian, Z., & Toth, J. (Eds.), *English-medium instruction and translanguaging* (pp. 108-123). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-012

Brakenridge, C. & Dunstan, D. (2021, December 6). COVID saw us sitting longer – and diabetes rose globally by 16% in 2 years: Time to get moving. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

Breeze, R., & Dafouz, E. (2017). Constructing complex cognitive discourse functions in higher education: An exploratory study of exam answers in Spanish-and English-medium instruction settings. *System, 70*, 81-91. https://doi.org/10.1016/j.system.2017.09.024

British Council & TEPAV. (2015). *The state of English in higher education in Turkey*. Ankara: TEPAV.

British Educational Research Association [BERA] (2018) *Ethical guidelines for educational research* (4th ed.). London. https://www.bera.ac.uk/researchers-resources/publications/ethicalguidelines-for-educational-research-2018

Brown, C. L. (2005). Equity of literacy-based math performance assessments for English language learners. *Bilingual Research Journal, 29*(2), 337-363. https://doi.org/10.1080/15235882.2005.10162839

Brumfit, C. (2004). Language and higher education: Two current challenges. *Arts and Humanities in Higher Education, 3*(2), 163-173. https://doi.org/10.1177/1474022204042685

Butler, A. C. (2010). Repeated testing produces superior transfer of learning relative to repeated studying. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 36*, 1118–1133. https://doi.org/10.1037/A0019902

Byun, K., Chu, H., Kim, M., Park, I., Kim, S., & Jung, J. (2011). English-medium teaching in Korean higher education: Policy debates and reality. *Higher Education, 62*(4), 431-449. https://doi.org/10.1007/s10734-010-9397-4

Calvillo, D. P., & Mills, N. V. (2020). Bilingual witnesses are more susceptible to the misinformation effect in their less proficient language. *Current Psychology, 39*(2), 673-680. https://doi.org/10.1007/s12144-018-9787-9

Canagarajah S. (Ed.) (2004b). *Reclaiming the local in language policy and practice*. Mahwah, NJ: Lawrence Erlbaum.

Canagarajah, S. (2011a). Codemeshing in academic writing: Identifying teachable strategies of translanguaging. *Modern Language Journal, 95*(3), 401–417. https://doi.org/10.1111/j.1540-4781.2011.01207.x

Canagarajah, S. (2011b). Translanguaging in the classroom: Emerging issues for research and pedagogy. *Applied Linguistics Review, 2*, 1–28. https://doi.org/10.1515/9783110239331.1

Canagarajah, S. (2013). *Translingual practice: Global Englishes and cosmopolitan relations*. New York: Routledge.

Canagarajah, S. (2015). Clarifying the relationship between translingual practice and L2 writing: Addressing learner identities. *Applied Linguistics Review, 6*(4), 415-440. https://doi.org/10.1515/applirev-2015-0020

Canagarajah, S. (Ed.). (2005). *Reclaiming the local in language policy and practice*. Mahwah, NJ: Lawrence Erlbaum.

Canz, T., Piesche, N., Dallinger, S., & Jonkmann, K. (2021). Test-language effects in bilingual education: Evidence from CLIL classes in Germany. *Learning and Instruction, 75*, 101499. https://doi.org/10.1016/j.learninstruc.2021.101499

Carlsen, C. H. (2018). The adequacy of the B2 level as university entrance requirement. *Language Assessment Quarterly, 15*(1), 75-89. https://doi.org/10.1080/15434303.2017.1405962

Carroll, K. S., & Mazak, C. M. (2017). Language policy in Puerto Rico's higher education: Opening the door for translanguaging practices. *Anthropology & Education Quarterly, 48*(1), 4-22. https://doi.org/10.1111/aeq.12180

Carroll, R. & Luna, D. (2011). The other meaning of fluency: Content accessibility and language in advertising to bilinguals. *Journal of Advertising, 40*(3), 73–84. https://doi.org/10.2753/JOA0091-3367400306

Cavalli, M. (2020). Building disciplinary knowledge in two languages: a model of bi-/plurilingual education. In E. Le Pichon-Vorstman, H. Siarova & E. Szőnyi (Eds.), *The future of language education in Europe: case studies of innovative practices* (pp. 61-69). Luxembourg: European Commission and Directorate-General for Education, Youth, Sport and Culture, Publications Office.

Cenoz, J., & Gorter, D. (2021). *Pedagogical translanguaging*. Cambridge: Cambridge University Press.

Cenoz, J., Genesee, F., & Gorter, D. (2013). Critical analysis of CLIL: Taking stock and looking forward. *Applied Linguistics, 35*(3), 243–262. https://doi.org/10.1093/applin/amt011

Chalhoub-Deville, M. B. (2019). Multilingual testing constructs: Theoretical foundations. *Language Assessment Quarterly, 16*(4-5), 472-480. https://doi.org/10.1080/15434303.2019.1671391

Chang, Y. Y. (2010). English-medium instruction for subject courses in tertiary education: Reactions from Taiwanese undergraduate students. *Taiwan International ESP Journal, 2*(1), 53-82.

Chenoweth, N. A., & Hayes, J. R. (2001). Fluency in writing: Generating text in L1 and L2. *Written Communication, 18*(1), 80-98. https://doi.org/10.1177/0741088301018001004

Chin, J. S., & Li, N. (2021). Exploring the language and pedagogical models suitable for EMI in Chinese-speaking higher education contexts. In L. I. W. Su, H. Cheung, & J. R. Wu (Eds.), *Rethinking EMI: Multidisciplinary perspectives from Chinese-speaking regions* (pp. 1-20). Abingdon: Routledge.

Cho, H., & Kim, Y. (2021). Comparing the characteristics of EFL students' multimodal composing and traditional monomodal writing: The case of a reading-to-write task. *Language Teaching Research*. https://doi.org/10.1177/13621688211046740

Cho, Y., & Bridgeman, B. (2012). Relationship of TOEFL iBT® scores to academic performance: Some evidence from American universities. *Language Testing, 29*(3), 421-442. https://doi.org/10.1177/0265532211430368

Choi, L. J. (2016). Revisiting the issue of native speakerism: ‘I don't want to speak like a native speaker of English’. *Language and Education, 30*(1), 72-85. https://doi.org/10.1080/09500782.2015.1089887

Cincotta-Segi, A. R. (2011). Signalling L2 centrality, maintaining L1 dominance: Teacher language choice in an ethnic minority primary classroom in the Lao PDR. *Language and Education, 25*(1), 19-31. https://doi.org/10.1080/09500782.2010.511232

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Coleman, J. A. (2006). English-medium teaching in European higher education. *Language Teaching, 39*(1), 1-14. https://doi.org/10.1017/S026144480600320X

Cook, V. (2001). Using the first language in the classroom. *Canadian Modern Language Review, 57*(3), 402-423. https://doi.org/10.3138/cmlr.57.3.402

Cook, V. (2008). Multi-competence: Black hole or wormhole for second language acquisition research. In Han Z. (Ed.), *Understanding second language process* (pp. 16-26). Clevedon: Multilingual Matters. https://doi.org/10.21832/9781847690159-004

Cook, V. (2016). Premises of multicompetence. In V. Cook & L. Wei (Eds.), *The Cambridge handbook of linguistic multicompetence* (pp. 1–25). Cambridge, UK: Cambridge University Press.

Costa, F. (2012). Focus on form in ICLHE lectures in Italy: Evidence from English-medium science lectures by native speakers of Italian. *AILA Review, 25*(1), 30-47. https://doi.org/10.1075/aila.25.03cos

Costa, F., & Coleman, J. A. (2013). A survey of English-medium instruction in Italian higher education. *International Journal of Bilingual Education and Bilingualism, 16*(1), 3-19. https://doi.org/10.1080/13670050.2012.676621

Costa, F., & Mariotti, C. (2017). Differences in content presentation and learning outcomes in English-medium instruction (EMI) vs. Italian-medium instruction (IMI) contexts. In J. Valcke & R. Wilkinson (Eds.), *Integrating content and language in higher education: Perspectives and professional practice* (pp. 187-204). Frankfurt am main: Peter Lang.

Cots, J. M. (2013). Introducing English-medium instruction at the University of Lleida, Spain: Intervention, beliefs and practices. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.), *English-medium instruction at universities: Global challenges* (pp. 106–128). Bristol, UK: Multilingual Matters.

Coyle, D., Hood, P., & Marsh, D. (2010). *CLIL: Content and language integrated learning*. Cambridge: Cambridge University Press.

Creese, A., & Blackledge, A. (2010). Translanguaging in the bilingual classroom: A pedagogy for teaching and learning. *The Modern Language Journal, 94*(1), 103–115. https://doi.org/10.1111/j.1540-4781.2009.00986.x

Cumming, A., Kantor, R., Baba, K., Erdosy, U., Eouanzoui, K., & James, M. (2005). Differences in written discourse in independent and integrated prototype tasks for next generation TOEFL. *Assessing Writing, 10*(1), 5–43. https://doi.org/10.1016/j.asw.2005.02.001

Cummins, J. (2017). Teaching for transfer in multilingual school contexts. In O. García, A. Lin, & S. May (Eds.), *Bilingual education: Encyclopedia of language and education* (pp. 103–115). Berlin, Germany: Springer.

Dafouz, E., & Camacho, M. (2016). Exploring the impact of English-medium instruction on university student academic achievement: The case of accounting. *English for Specific Purposes, 44*, 57-67. https://doi.org/10.1016/j.esp.2016.06.001

Dafouz, E., Camacho, M., & Urquia, E. (2014). 'Surely they can't do as well': A comparison of business students' academic performance in English-medium and Spanish-as-first-language-medium programmes. *Language and Education, 28*(3), 223-236. https://doi.org/10.1080/09500782.2013.808661

Dalton-Puffer, C. (2011). Content-and-language integrated learning: From practice to principles? *Annual Review of Applied Linguistics, 31*, 182-204. https://doi.org/10.1017/S0267190511000092

Dalton-Puffer, C., Llinares, A., Lorenzo, F., & Nikula, T. (2014). "You Can Stand Under My Umbrella": Immersion, CLIL and Bilingual Education. A Response to Cenoz, Genesee & Gorter (2013). *Applied Linguistics, 35*(2), 213-218. https://doi.org/10.1093/applin/amu010

Dalziel, F., & Guarda, M. (2021). Student translanguaging practices in the EMI classroom: A study of Italian higher education. In Paulsrud, B. A., Tian, Z., & Toth, J. (Eds.), *English-medium instruction and translanguaging* (pp. 124-140). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-013

Darasawang, P., & Reinders, H. (2021). Willingness to communicate and second language proficiency: A correlational study. *Education Sciences, 11*(9), 517. https://doi.org/10.3390/educsci11090517

Davila, L. T. (2020). Multilingual interactions and learning in high school ESL classrooms. *TESOL Quarterly, 54*(1), 30-55. https://doi.org/10.1002/tesq.536

De Angelis, G. (2021). *Multilingual testing and assessment*. Clevedon: Multilingual Matters.

De Backer, F., Baele, J., Van Avermaet, P., & Slembrouck, S. (2019). Pupils' perceptions on accommodations in multilingual assessment of science. *Language Assessment Quarterly, 16*(4-5), 426-446. https://doi.org/10.1080/15434303.2019.1666847

Dearden, J. (2015). *English as a medium of instruction – a growing global phenomenon*. London: British Council.

Del Campo, C., Cancer, A., Pascual-Ezama, D., & Urquía-Grande, E. (2015). EMI vs. Non-EMI: Preliminary analysis of the academic output within the INTE-R-LICA project. *Procedia-Social and Behavioral Sciences, 212*, 74-79. https://doi.org/10.1016/j.sbspro.2015.11.301

Del Mar Sánchez-Pérez, M. (2021). Predicting content proficiency through disciplinary-literacy variables in English-medium writing. *System, 97*, 102463. https://doi.org/10.1016/j.system.2021.102463

Dendrinos, B. (2013). Social meanings in global-glocal language proficiency exams. In D. Tsagari, S. Papadima-Sophocleous, & S. Loannou-Georgiou (Eds.), *International experience in language testing and assessment* (pp. 33–58). New York, NY: Peter Lang.

Deygers, B., Van Gorp, K., & Demeester, T. (2018). The B2 level and the dream of a common standard. *Language Assessment Quarterly, 15*(1), 44-58. https://doi.org/10.1080/15434303.2017.1421955

Deygers, B., Zeidler, B., Vilcu, D., & Carlsen, C. H. (2018). One framework to unite them all? Use of the CEFR in European university entrance policies. *Language Assessment Quarterly, 15*(1), 3-15. https://doi.org/10.1080/15434303.2016.1261350

Dimova, S. (2020). English language requirements for enrolment in EMI programs in higher education: A European case. *Journal of English for Academic Purposes, 47*, 100896. https://doi.org/10.1016/j.jeap.2020.100896

Doiz, A., & Lasagabaster, D. (2020). Dealing with language issues in English-medium instruction at university: a comprehensive approach. *International Journal of Bilingual Education and Bilingualism, 23*(3), 257-262. https://doi.org/10.1080/13670050.2020.1727409

Doiz, A., Lasagabaster, D., & Pavón, V. (2019). The integration of language and content in English-medium instruction courses: Lecturers' beliefs and practices. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos, 38*, 151–75.

Doiz, A., Lasagabaster, D., & Sierra, J. M. (2011). Internationalisation, multilingualism and English-medium instruction. *World Englishes, 30*(3), 345-359. https://doi.org/10.1111/j.1467-971X.2011.01718.x

Doiz, A., Lasagabaster, D., & Sierra, J. M. (2012). Future challenges for English-medium instruction at the tertiary level. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.), *English-medium instruction at universities: Global challenges* (pp. 213–221). Bristol, UK: Multilingual Matters. https://doi.org/10.21832/9781847698162-015

Duran, D., Kurhila, S., & Sert, O. (2022). Word search sequences in teacher-student interaction in an English as medium of instruction context. *International Journal of Bilingual Education and Bilingualism, 25*(2), 502-521. https://doi.org/10.1080/13670050.2019.1703896

Durrant, P., & Schmitt, N. (2010). Adult learners' retention of collocations from exposure. *Second Language Research, 26*(2), 163-188. https://doi.org/10.1177/0267658309349431

Ekoç, A. (2020). English Medium Instruction (EMI) from the perspectives of students at a technical university in Turkey. *Journal of Further and Higher Education, 44*(2), 231-243. https://doi.org/10.1080/0309877X.2018.1527025

Elahi Shirvan, M., Khajavy, G. H., MacIntyre, P. D., & Taherian, T. (2019). A meta-analysis of L2 willingness to communicate and its three high-evidence correlates. *Journal of Psycholinguistic Research, 48*(6), 1241-1267. https://doi.org/10.1007/s10936-019-09656-9

Ellis, N. C., & Wulff, S. (2015). Usage-based approaches to SLA. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction*. (2nd ed., pp. 75–93). Mahwah, NJ: Erlbaum.

Ellis, R. (1990). *Instructed second language acquisition*. Oxford: Blackwell.

Ellis, R. (2005). *Instructed second language acquisition: A literature review*. Wellington: Learning Media Ltd.

Erling, E. J., & Hilgendorf, S. K. (2006). Language policies in the context of German higher education. *Language Policy, 5*(3), 267-293. https://doi.org/10.1007/s10993-006-9026-3

ETS (n.d.). *How ETS Approaches Testing*. Retrieved July 20, 2022, from https://origin-www.ets.org/understanding_testing

European Commission (n.d.). *The Bologna Process and the European Higher Education Area*. Retrieved August 18, 2022, from https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/bologna-process

Evans, S., & Morrison, B. (2011). The student experience of English-medium higher education in Hong Kong. *Language and Education, 25*(2), 147-162. https://doi.org/10.1080/09500782.2011.553287

Francis, W. S., & Gallard, S. L. (2005). Concept mediation in trilingual translation: Evidence from response time and repetition priming patterns. *Psychonomic Bulletin & Review, 12*(6), 1082-1088. https://doi.org/10.3758/BF03206447

Francis, W. S., Tokowicz, N., & Kroll, J. F. (2014). The consequences of language proficiency and difficulty of lexical access for translation performance and priming. *Memory & Cognition, 42*(1), 27-40. https://doi.org/10.3758/s13421-013-0338-1

Francomacaro, M. R. (2019). The added value of teaching CLIL for ESP and subject teachers. *International Journal of Language Studies, 13*(4), 55-72.

Friedlander, A. (1990). Composing in English: Effects of a first language on writing in English as a second language. In B. Kroll (Ed.), *Second language writing: Research insights for the classroom* (pp. 109–125). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139524551.012

Gablasova, D. (2014). Issues in the assessment of bilingually educated students: expressing subject knowledge through L1 and L2. *The Language Learning Journal, 42*(2), 151-164. https://doi.org/10.1080/09571736.2014.891396

Gabriel, U., Lilla, N., Zander, L., & Hannover, B. (2014). How immigrant students' self-views at school relate to different patterns of first and second language use. *Social Psychology of Education, 17*(4), 617-636. https://doi.org/10.1007/s11218-014-9268-4

Gallagher, F., & Colohan, G. (2017). T(w)o and fro: using the L1 as a language teaching tool in the CLIL classroom. *The Language Learning Journal, 45*(4), 485-498. https://doi.org/10.1080/09571736.2014.947382

Galloway, N., & Rose, H. (2021). English medium instruction and the English language practitioner. *ELT Journal, 75*(1), 33-41. https://doi.org/10.1093/elt/ccaa063

Galloway, N., Kriukow, J., & Numajiri, T. (2017). *Internationalisation. higher education and the growing demand for English: an investigation into the English medium of instruction (EMI) movement in China and Japan*. London: British Council.

Galloway, N., Numajiri, T., & Rees, N. (2020). The 'internationalisation', or 'Englishisation', of higher education in East Asia. *Higher Education, 80*(3), 395-414. https://doi.org/10.1007/s10734-019-00486-1

Gandara, F., & Randall, J. (2019). Assessing mathematics proficiency of multilingual students: The case for translanguaging in the Democratic Republic of the Congo. *Comparative Education Review, 63*(1), 58-78. https://doi.org/10.1086/701065

Gánem-Gutiérrez, G. A., & Gilmore, A. (2018). Tracking the real-time evolution of a writing event: Second language writers at different proficiency levels. *Language Learning, 68*(2), 469-506. https://doi.org/10.1111/lang.12280

García, O. (2009). *Bilingual education in the 21st century: A global perspective*. Malden, MA and Oxford, England: Blackwell/Wiley.

García, O. (2017, October 11). *Ofelia García –Translanguaging* [Video]. YouTube. https://www.youtube.com/watch?v=5l1CcrRrck0

García, O. (2019). Translanguaging: a coda to the code? *Classroom Discourse, 10*(3-4), 369-373. https://doi.org/10.1080/19463014.2019.1638277

García, O., & Lin, A. M. Y. (2016). Translanguaging in bilingual education. In O. García & A. M. Y. Lin (Eds.), *Bilingual and multilingual education* (pp. 1–14). Dordrecht, Netherlands: Springer. https://doi.org/10.1007/978-3-319-02258-1_9

García, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism and education.* London: Palgrave Macmillan Pivot.

Gass, S. (1997). *Input, interaction and the second language learner*. Mahwah, NJ: Lawrence Erlbaum.

Gevers, J. (2018). Translingualism revisited: Language difference and hybridity in L2 writing. *Journal of Second Language Writing, 40*, 73-83. https://doi.org/10.1016/j.jslw.2018.04.003

Goodman, B., Kerimkulova, S., & Montgomery, D. P. (2021). Translanguaging and transfer of academic skills: Views of Kazakhstani students in an English-medium university. In Paulsrud, B. A., Tian, Z., & Toth, J. (Eds.), *English-medium instruction and translanguaging* (pp. 141-157). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-014

Gort, M. (2012). Code-switching patterns in the writing-related talk of young emergent bilinguals. *Journal of Literacy Research, 44*(1), 45-75. https://doi.org/10.1177/1086296X11431626

Graddol, D. (2006). *English Next.* Retrieved 12 September, 2021, from https://www.teachingenglish.org.uk/article/english-next

Graham, K. M., Choi, Y., Davoodi, A., Razmeh, S., & Dixon, L. Q. (2018). Language and content outcomes of CLIL and EMI: A systematic review. *Latin American Journal of Content and Language Integrated Learning, 11*(1), 19-37. https://doi.org/10.5294/laclil.v11i1.9268

Greere, A., & Räsänen, A. (2008). *Report on The LANQUA Subproject on Content and Language Integrated Learning: Redefining CLIL–Towards Multilingual Competence.* Retrieved April 13, 2020, from https://www.unifg.it/sites/default/files/allegatiparagrafo/20-01-2014/lanqua_subproject_on_clil.pdf

Grosjean, F. (1985). The bilingual as a competent but specific speaker-hearer. *Journal of Multilingual and Multicultural Development, 6*, 467–477. https://doi.org/10.1080/01434632.1985.9994221

Grosjean, F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. *Brain and Language, 36*(1), 3–15. https://doi.org/10.1016/0093-934X(89)90048-5

Grosjean, F. (2013, July 3). *Forgotten? Try your other language: Language-dependent memory in bilinguals.* Psychology Today. https://www.psychologytoday.com/intl/blog/life-bilingual/201307/forgotten-try-your-other-language

Grosjean, F. (2016, March 2). *What is Translanguaging? An interview with Ofelia García*. Psychology Today. https://www.psychologytoday.com/intl/blog/life-bilingual/201603/what-is-translanguaging

Gülle, T., Özata, H., & Bayyurt, Y. (2015, October). *A case study on attitudes and perceptions towards English-medium instruction and internationalization of higher education*. Paper presented at 21st IAWE Conference, Istanbul, Turkey.

Gürtler, K., & Kronewald, E. (2015). Internationalization and English-medium instruction in German higher education. In S. Dimova, A. K. Hultgren, & C. Jensen (Eds.), *English-medium instruction in higher education in Europe* (pp. 89–114). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614515272-006

Hahn, C. G., Saalbach, H., & Grabner, R. H. (2019). Language-dependent knowledge acquisition: investigating bilingual arithmetic learning. *Bilingualism: Language and Cognition, 22*(1), 47-57. https://doi.org/10.1017/S1366728917000530

Han, Z. (2021). Usage-based instruction, systems thinking, and the role of Language Mining in second language development. *Language Teaching, 54*(4), 502-517. https://doi.org/10.1017/S0261444820000282

Hansen, K., Wypych, M., Bańko, M., & Bilewicz, M. (2018). Psychological determinants of linguistic purism: National identification, conservatism, and attitudes to loanwords. *Journal of Language and Social Psychology, 37*(3), 365-375. https://doi.org/10.1177/0261927X17737810

Harsch, C. (2018). How suitable is the CEFR for setting university entrance standards? *Language Assessment Quarterly, 15*(1), 102-108. https://doi.org/10.1080/15434303.2017.1420793

Harsch, C., Ushioda, E., & Ladroue, C. (2017). Investigating the predictive validity of TOEFL iBT® test scores and their use in informing policy in a United Kingdom university setting. *ETS Research Report Series, 2017*(1), 1-80. https://doi.org/10.1002/ets2.12167

Hawkins, M. R. (2020). Toward Critical Cosmopolitanism: Transmodal Transnational Engagements of Youth. In E. Moore, J. Bradley, & J. Simpson (Eds.), *Translanguaging as transformation: The collaborative construction of new linguistic realities* (pp. 23-40). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788928052-006

Hellekjær, G. O. (2010). Lecture comprehension in English-medium higher education. *HERMES-Journal of Language and Communication in Business, 45*, 11-34. https://doi.org/10.7146/hjlcb.v23i45.97343

Hernandez-Nanclares, N., & Jimenez-Munoz, A. (2017). English as a medium of instruction: Evidence for language and content targets in bilingual education in economics. *International Journal of Bilingual Education and Bilingualism, 20*(7), 883-896. https://doi.org/10.1080/13670050.2015.1125847

Hesford, W., Singleton, E., & García, I. M. (2009). Laboring to globalize a first-year writing program. In J. Gunner & D. Strickland (Eds.), *The writing program interrupted: Making space for critical discourse* (pp. 113-25). Portsmouth: Boynton/Cook.

Hornberger, N. H. (2005). Opening and filling up implementational and ideological spaces in heritage language education. *The Modern Language Journal, 89*(4), 605-609. https://doi.org/10.1111/J.1540-4781.2005.00331.X

Horner, B., & Tetreault, L. (Eds.). (2017). *Crossing divides: Exploring translingual writing pedagogies and programs*. University Press of Colorado.

Hu, G. (2019). English-medium instruction in higher education: Lessons from China. *Journal of Asia TEFL, 16*(1), 1-11. https://doi.org/10.18823/asiatefl.2019.16.1.1.1

Hu, G., & Duan, Y. (2019). Questioning and responding in the classroom: a cross-disciplinary study of the effects of instructional mediums in academic subjects at a Chinese university. *International Journal of Bilingual Education and Bilingualism, 22*(3), 303-321. https://doi.org/10.1080/13670050.2018.1493084

Hu, G., & Lei, J. (2014). English-medium instruction in Chinese higher education: a case study. *Higher Education, 67*(5), 551-567. https://doi.org/10.1007/s10734-013-9661-5

Hu, G., & Li, X. (2017). Asking and answering questions in English-medium instruction: What is the cognitive and syntactic complexity level? In J. Zhao & L. Q. Dixon (Eds.) *English-medium instruction in Chinese Universities: Perspectives, discourse and evaluation* (pp. 147–164). London and New York: Routledge.

Hu, G., Li, L., & Lei, J. (2014). English-medium instruction at a Chinese University: Rhetoric and reality. *Language Policy, 13*(1), 21-40. https://doi.org/10.1007/s10993-013-9298-3

Hua, T. L. (2019). Understanding the learning challenges of English-medium instruction learners and ways to facilitate their learning: a case study of Taiwan psychology students' perspectives. *Latin American Journal of Content and Language Integrated Learning, 12*(2), 321-340. https://doi.org/10.5294/laclil.2019.12.2.6

Huang, D. F., & Singh, M. (2014). Critical perspectives on testing teaching: Reframing teacher education for English medium instruction. *Asia-Pacific Journal of Teacher Education, 42*(4), 363-378. https://doi.org/10.1080/1359866X.2014.956046

Huck, S. W. (2012). *Reading statistics and research.* Boston: Pearson.

Hyland, K., & Shaw, P. (Eds.). (2016). *The Routledge handbook of English for academic purposes*. London and New York: Routledge.

Im, J. H., & Kim, J. (2015). Use of blended learning for effective implementation of English- medium instruction in a non-English higher education context. *International Education Studies, 8*(11), 1-15. https://doi.org/10.5539/ies.v8n11p1

İnal, D., Bayyurt, Y. and Kerestecioğlu, F. (2021). Problematizing EMI programs in Turkish higher education: Voices from stakeholders. In Y. Bayyurt (Ed.), *Bloomsbury World Englishes Volume 3: Pedagogies* (pp. 192–207), London: Bloomsbury. https://doi.org/10.5040/9781350065918.0022

Jenkins, J. (2011). Accommodating (to) ELF in the international university. *Journal of Pragmatics, 43*(4), 926-936. https://doi.org/10.1016/j.pragma.2010.05.011

Jenkins, J. (2014). *English as a lingua franca in the international university: The politics of academic English language policy*. London: Routledge.

Jenkins, J. (2020). Red herrings and the case of language in UK higher education. *Nordic Journal of English Studies, 19*(3), 59-67. http://doi.org/10.35360/njes.577

Jensen, C., & Thøgersen, J. (2011). Danish university lecturers' attitudes towards English as the medium of instruction. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos, 22*, 13-33.

Jessner, U. (2017). Multicompetence approaches to language proficiency development in multilingual education. In O. Garcia, A. M. Y. Lin, & S. May (Eds.), *Bilingual and multilingual education* (3rd ed., pp. 161–174). Springer International Publishing. http://doi.org/10.1007/978-3-319-02258-1_10

Joe, Y., & Lee, H. K. (2013). Does English-medium instruction benefit students in EFL contexts? A case study of medical students in Korea. *The Asia-Pacific Education Researcher, 22*(2), 201-207. https://doi.org/10.1007/s40299-012-0003-7

Jonsson, C. (2017). Translanguaging and ideology: Moving away from a monolingual norm. In B. Paulsrud, J. Rosén, B. Straszer, & Å. Wedin (Eds), *New perspectives on translanguaging and education* (pp. 20-37). Bristol: Multilingual Matters. https://doi.org/10.21832/9781783097821-004

Kajzer-Wietrzny, M., Whyatt, B., & Stachowiak, K. (2016). Simplification in inter- and intralingual translation–combining corpus linguistics, key logging and eye-tracking. *Poznan Studies in Contemporary Linguistics, 52*(2), 235-237. https://doi.org/10.1515/psicl-2016-0009

Kamaşak, R., Rose, H. & Sahan, K. (2021). *Quality of Instruction and Student Outcomes in English-medium Programs in Turkey*. (New Connections in EMI Turkey Research Partnership Fund 2020). Turkey: British Council.

Kamaşak, R., Sahan, K., & Rose, H. (2021). Academic language-related challenges at an English-medium university. *Journal of English of Academic Purposes, 49*, 1–16. https://doi.org/10.1016/j.jeap.2020.100945

Kang, E. (2020). Using model texts as a form of feedback in L2 writing. *System, 89,* 102196. https://doi.org/10.1016/j.system.2019.102196

Kao, Y. T. (2022). Exploring translanguaging in Taiwanese CLIL classes: an analysis of teachers' perceptions and practices. *Language, Culture and Curriculum*, 1-22. https://doi.org/10.1080/07908318.2022.2033762

Karabassova, L., & San Isidro, X. (2020). Towards translanguaging in CLIL: A study on teachers' perceptions and practices in Kazakhstan. I*nternational Journal of Multilingualism*, 1-20. https://doi.org/10.1080/14790718.2020.1828426

Karakaş, A., & Bayyurt, Y. (2019). The scope of linguistic diversity in the language policies, practices, and linguistic landscape of a Turkish EMI university. In J. Jenkins & A. Mauranen (Eds.), *Linguistic diversity on the EMI campus: Insider accounts of the use of English and other languages in universities within Asia, Australasia, and Europe* (pp. 96-122). Routledge.

Karakaş, A., & Jenkins, J. (2022). Academic English language policies and practices of English-medium instruction universities in Turkey from policy actors' eyes. In Y. Kırkgöz & A. Karakaş (Eds.), *English as the medium of instruction in Turkish higher education* (pp. 3-25). Springer, Cham. https://doi.org/10.1007/978-3-030-88597-7_1

Kerestecioğlu, F., & Bayyurt, Y. (2018). *English as the Medium of Instruction in Universities: A Holistic Approach*. Symposium conducted at the meeting of Kadir Has University, Istanbul.

Kim, E. (2006). Reasons and motivations for code-mixing and code-switching. *Issues in EFL, 4*(1), 43-61.

Kim, E. G., Kweon, S. O., & Kim, J. (2017). Korean engineering students' perceptions of English-medium instruction (EMI) and L1 use in EMI classes. *Journal of Multilingual and Multicultural Development, 38*(2), 130-145. https://doi.org/10.1080/01434632.2016.1177061

Kim, Y., & Yoon, H. (2014). The use of L1 as a writing strategy in L2 writing tasks. *GEMA Online Journal of Language Studies, 14*(3), 33-50.

Kim, Y., Nam, J., & Lee, S. Y. (2016). Correlation of proficiency with complexity, accuracy, and fluency in spoken and written production: Evidence from L2 Korean. *Journal of the National Council of Less Commonly Taught Languages, 19,* 147-181.

King, B. M., Rosopa, P. J., & Minium, E. W. (2018). *Statistical reasoning in the behavioral sciences*. Hoboken (NJ): John Wiley & Sons, Inc.

Kirkpatrick, A. (2014). The language(s) of HE: EMI and/or ELF and/or multilingualism? *The Asian Journal of Applied Linguistics, 1*, 4–15.

Krashen, S. (1982). *Principles and practice in second language acquisition*. Oxford: Pergamon.

Kroll, J. F., & Stewart, E. (1994). Category interference in translation and picture naming: Evidence for asymmetric connections between bilingual memory representations. *Journal of Memory and Language, 33*(2), 149-174. https://doi.org/10.1006/jmla.1994.1008

Kroll, J. F., Dussias, P. E., Bogulski, C. A., & Kroff, J. R. V. (2012). Juggling two languages in one mind: What bilinguals tell us about language processing and its consequences for cognition. In B. H. Ross (Ed.), *The psychology of learning and motivation: Volume 56.* (pp. 229-262). San Diego, CA: Academic Press. https://doi.org/10.1016/B978-0-12-394393-4.00007-8

Lafford, B. A. (2007). Second language acquisition reconceptualized? The impact of Firth and Wagner (1997). *The Modern Language Journal, 91*(1), 735-756. https://doi.org/10.1111/J.1540-4781.2007.00666.X

Lardiere, D. (2013). Nativelike and non-nativelike attainment. In J. Herschensohn & M. Young-Scholten (Eds.), *The Cambridge handbook of second language acquisition* (pp. 670–691). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139051729.038

Lasagabaster, D. (2011). English achievement and student motivation in CLIL and EFL settings. *Innovation in Language Learning and Teaching, 5*(1), 3-18. https://doi.org/10.1080/17501229.2010.519030

Lasagabaster, D. (2013). The use of the L1 in CLIL classes: The teachers' perspective. *Latin American Journal of Content & Language Integrated Learning, 6*(2), 1-21. https://doi.org/10.5294/3148

Lasagabaster, D. (2015a). Different educational approaches to bi-or multilingualism and their effect on language attitudes. In M. Juan-Garau & J. Salazar-Noguera (Eds.), *Content-based language learning in multilingual educational environments* (pp. 13–30). Springer. https://doi.org/10.1007/978-3-319-11496-5_2

Lasagabaster, D. (2015b). Multilingual language policy: Is it becoming a misnomer at university level. In S. Dimova, A. K. Hultgren, & C. Jensen (Eds.), *English-medium instruction in higher education in Europe* (pp. 115–136). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614515272-007

Lasagabaster, D. (2022). *English-medium instruction in higher education.* Cambridge: Cambridge University Press. https://doi.org/10.1017/9781108903493

Lee, J. W. (2022). Translanguaging research methodologies. *Research Methods in Applied Linguistics, 1*(1). https://doi.org/10.1016/j.rmal.2022.100004

Lei, J., & Hu, G. (2014). Is English-medium instruction effective in improving Chinese undergraduate students' English competence? I*nternational Review of Applied Linguistics in Language Teaching, 52*(2), 99-126. https://doi.org/10.1515/iral-2014-0005

Levin, T., & Shohamy, E. (2008). Achievement of immigrant students in mathematics and academic Hebrew in Israeli school: A large-scale evaluation study. *Studies in Educational Evaluation, 34*(1), 1-14. https://doi.org/10.1016/j.stueduc.2008.01.001

Lewis, G., Jones, B., & Baker, C. (2012a). Translanguaging: Origins and development from school to street and beyond. *Educational Research and Evaluation, 18*(7), 641-654. https://doi.org/10.1080/13803611.2012.718488

Lewis, G., Jones, B., & Baker, C. (2012b). Translanguaging: Developing its conceptualisation and contextualisation. *Educational Research and Evaluation, 18*(7), 655-670. https://doi.org/10.1080/13803611.2012.718490

Li, C. S. D. (2012). Linguistic hegemony or linguistic capital? Internationalization and English-medium instruction at the Chinese University of Hong Kong. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.), *English-medium instruction at universities: Global challenges* (pp. 65–83). Bristol: Multilingual Matters. https://doi.org/10.21832/9781847698162-008

Li, M. (2017). Evaluation of learning outcomes in an education course. In J. Zhao & L. Q. Dixon (Eds.), *English-medium instruction in Chinese universities: Perspectives, discourse and evaluation* (pp. 147–164). London and New York: Routledge.

Li, M. (2018). The effectiveness of a bilingual education program at a Chinese university: A case study of social science majors. *International Journal of Bilingual Education and Bilingualism, 21*(8), 897-912. https://doi.org/10.1080/13670050.2016.1231164

Li, N., & Wu, J. (2018). Exploring assessment for learning practices in the EMI classroom in the context of Taiwanese higher education. *Language Education & Assessment, 1*(1), 28-44. https://doi.org/10.29140/lea.v1n1.46

Li, N., & Wu, J. R. (2021). Assessment practices in the EMI classroom in Chinese-speaking higher education contexts: Challenges and considerations. In L. I. W. Su, H. Cheung, & J. R. Wu (Eds.), *Rethinking EMI: Multidisciplinary perspectives from Chinese-speaking regions* (pp. 124-140). Abingdon: Routledge.

Lichtman, K., & VanPatten, B. (2021). Krashen forty years later: Final comments. *Foreign Language Annals, 54*(2), 336-340. https://doi.org/10.1111/flan.12543

Light, R. L., Xu, M., & Mossop, J. (1987). English proficiency and academic performance of international students. *TESOL Quarterly, 21*(2), 251-261. https://doi.org/10.2307/3586734

Lin, A. (2013). Toward paradigmatic change in TESOL methodologies: Building plurilingual pedagogies from the ground up. *TESOL Quarterly, 47*(3), 521-545. https://doi.org/10.1002/tesq.113

Lin, A. M. (2015). Conceptualising the potential role of L1 in CLIL. *Language, Culture and Curriculum, 28*(1), 74-89. https://doi.org/10.1080/07908318.2014.1000926

Lin, A. M. (2019). Theories of trans/languaging and trans-semiotizing: Implications for content-based education classrooms. *International Journal of Bilingual Education and Bilingualism, 22*(1), 5-16. https://doi.org/10.1080/13670050.2018.1515175

Lin, A. M., & He, P. (2017). Translanguaging as dynamic activity flows in CLIL classrooms. *Journal of Language, Identity & Education, 16*(4), 228-244. https://doi.org/10.1080/15348458.2017.1328283

Lin, T., & He, Y. (2019). Does bilingual instruction impact students' academic performance in content-based learning? Evidence from business school students attending bilingual and L1 courses. *Sustainability, 11*(263), 1-18. https://doi.org/10.3390/su11010263

Lo, Y. Y., & Fung, D. (2018). Assessments in CLIL: The interplay between cognitive and linguistic demands and their progression in secondary education. *International Journal of Bilingual Education and Bilingualism*, 1–19. https://doi.org/10.1080/13670050.2018.1436519

Lo, Y. Y., Fung, D., & Qiu, X. (2021). Assessing content knowledge through L2: mediating role of language of testing on students' performance. Journal of Multilingual and Multicultural Development, 1-16, https://doi.org/10.1080/01434632.2020.1854274

Loewen, S. (2021). Was Krashen right? An instructed second language acquisition perspective. *Foreign Language Annals, 54*(2), 311-317. https://doi.org/10.1111/flan.12550

Long, M. H. (2016). In defense of tasks and TBLT: Nonissues and real issues. *Annual Review of Applied Linguistics, 36*, 5-33. https://doi.org/10.1017/S0267190515000057

Lopez, A. A., Turkan, S., & Guzman-Orth, D. (2017a). Assessing multilingual competence. In E. Shohamy, I. G. Or, & S. May (Eds.), *Encyclopedia of language and education: Vol. 7. Language testing and assessment* (3rd ed., pp. 91–102). Springer International Publishing. https://doi.org/10.1007/978-3-319-02261-1_6

Lopez, A. A., Turkan, S., & Guzman-Orth, D. (2017b). Conceptualizing the use of translanguaging in initial content assessments for newly arrived emergent bilingual students. *ETS Research Report Series, 2017*(1), 1–12. https://doi.org/10.1002/ets2.12140

Luckett, K., & Hurst-Harosh, E. (2021). Translanguaging pedagogies in the humanities and social sciences in South Africa: Affordances and constraints. In Paulsrud, B. A., Tian, Z., & Toth, J. (Eds.), *English-medium instruction and translanguaging* (pp. 43-61). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-008

Lüpke, F. (2016). Pure fiction–the interplay of indexical and essentialist language ideologies and heterogeneous practices: A view from Agnack. *Language Documentation & Conservation, 10*, 8-39.

Ma, X., Han, T., & Li, D. (2022). A cognitive inquiry into similarities and differences between translation and paraphrase: Evidence from eye movement data. *Plos ONE, 17*(8), https://doi.org/10.1371/journal.pone.0272531

Macaro, E. (2018). *English medium instruction: Content and language in policy and practice.* Oxford: Oxford University Press.

Macaro, E. (2020). Exploring the role of language in English medium instruction. *International Journal of Bilingual Education and Bilingualism, 23*(3), 263–276. https://doi.org/10.1080/13670050.2019.1620678

Macaro, E., Curle, S., Pun, J., An, J., & Dearden, J. (2018). A systematic review of English medium instruction in higher education. *Language Teaching, 51*(1), 36-76. https://doi.org/10.1017/S0261444817000350

Macaro, E., M. Akincioglu & J. Dearden (2016). English-medium instruction in universities: A collaborative experiment in Turkey. S*tudies in English Language Teaching, 4*(1), 51-76.

Macaro, E., Tian, L., & Chu, L. (2020). First and second language use in English medium instruction contexts. *Language Teaching Research, 24*(3), 382-402. https://doi.org/10.1177/1362168818783231

Manan, S. A., Channa, L. A., & Haidar, S. (2022). Celebratory or guilty multilingualism? English medium instruction challenges, pedagogical choices, and teacher agency in Pakistan. *Teaching in Higher Education, 27*(4), 530-545. https://doi.org/10.1080/13562517.2022.2045932

Mancho-Barés, G., & Aguilar-Pérez, M. (2020). EMI lecturers' practices in correcting English: Resources for language teaching? *Journal of Immersion and Content-Based Language Education,* 8(2), 257-284. https://doi.org/10.1075/jicb.19011.man

Manchon, R. M., Murphy, L., & de Larios, J. R. (2007). Lexical retrieval processes and strategies in second language writing: A synthesis of empirical research. *International Journal of English Studies, 7*(2), 149-174.

Marian, V. (1999). Language-dependent memory. In M. Hahn & S. C. Stoness (Eds.), *Proceedings of the twenty first annual conference of the Cognitive Science Society* (pp. 355-360). Lawrence Erlbaum Associates.

Marian, V., & Fausey, C. M. (2006). Language-dependent memory in bilingual learning. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition, 20*(8), 1025-1047. https://doi.org/10.1002/acp.1242

Marian, V., & Kaushanskaya, M. (2007). Language context guides memory content. *Psychonomic Bulletin & Review, 14*(5), 925-933. https://doi.org/10.3758/BF03194123

Marian, V., & Neisser, U. (2000). Language-dependent recall of autobiographical memories. *Journal of Experimental Psychology: General, 129*(3), 361–368. https://doi.org/10.1037/0096-3445.129.3.361

Marian, V., Spivey, M., & Hirsch, J. (2003). Shared and separate systems in bilingual language processing: Converging evidence from eyetracking and brain imaging. *Brain and Language, 86*(1), 70-82. https://doi.org/10.1016/s0093-934x(02)00535-7

Marsh, D. (Ed.). (2002). *CLIL/EMILE – The European dimension: Action, trends and foresight potential.* Jyväskylä: UNICOM, Continuing Education Centre.

Marsh, B. U., Kanaya, T., & Pezdek, K. (2015). The language dependent recall effect influences the number of items recalled in autobiographical memory reports. *Journal of Cognitive Psychology, 27*(7), 829-843. https://doi.org/10.1080/20445911.2015.1046876

Martirosyan, N. M., Hwang, E., & Wanjohi, R. (2015). Impact of English proficiency on academic performance of international students. *Journal of International Students, 5*(1), 60-71. https://doi.org/10.32674/jis.v5i1.443

Matsuda, P. K. (2014). The lure of translingual writing. *PMLA: Publications of the Modern Language Association of America, 129*(3), 478-483. https://doi.org/10.1632/pmla.2014.129.3.478

Matsumoto, A., & Stanny, C. (2006). Language-dependent access to autobiographical memory in Japanese-English bilinguals and US monolinguals. *Memory, 14*(3), 378-390. https://doi.org/10.1080/09658210500365763

Mazak, C. M. (2017). Introduction: Theorizing translanguaging practices in higher education. In C. Mazak & K. S. Carroll (Eds.), *Translanguaging in higher education: Beyond monolingual ideologies* (pp. 1–10). Tonawanda, NY: Multilingual Matters. https://doi.org/10.21832/9781783096657-003

Mazak, C. M., & Herbas-Donoso, C. (2015). Translanguaging practices at a bilingual university: A case study of a science classroom. *International Journal of Bilingual Education and Bilingualism, 18*(6), 698-714. https://doi.org/10.1080/13670050.2014.939138

McCabe, C. (2021, February 11). The science behind why hobbies can improve our mental health. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

Michael-Luna, S., & Canagarajah, S. (2007). Multilingual academic literacies. *Journal of Applied Linguistics, 4*(1), 55–77. https://doi.org/10.1558/japl.v4i1.55

Mohsen, M. A. (2021). L1 versus L2 writing processes: What insight can we obtain from a keystroke logging program? *Language Teaching Research*, 1–25. https://doi.org/10.1177%2F13621688211041292

Moore-Jones, P. J. (2015). Linguistic Imposition: The policies and perils of English as a medium of instruction in the United Arab Emirates. *Journal of ELT and Applied Linguistics, 3*(1), 63-72.

Morris, C. D., Bransford, J. D., & Franks, J. J. (1977). Levels of processing versus transfer appropriate processing. *Journal of Verbal Learning and Verbal Behavior, 16*(5), 519-533. https://doi.org/10.1016/S0022-5371(77)80016-9

Muguruza, B., Cenoz, J., & Gorter, D. (2020). Implementing translanguaging pedagogies in an English medium instruction course. *International Journal of Multilingualism*. 1-16. https://doi.org/10.1080/14790718.2020.1822848

Murphy, L., & de Larios, J. R. (2010). Searching for words: One strategic use of the mother tongue by advanced Spanish EFL writers. *Journal of Second Language Writing, 19*(2), 61-81. https://doi.org/10.1016/j.jslw.2010.02.001

Neville-Barton, P., & Barton, B. (2005). *The Relationship Between English-language and Mathematics Learning for Non-native Speakers.* Retrieved January 24, 2022, from http://www.tlri.org.nz/sites/default/files/projects/9211_finalreport.pdf

Nikula, T., & Moore, P. (2019). Exploring translanguaging in CLIL. *International Journal of Bilingual Education and Bilingualism, 22*(2), 237-249. https://doi.org/10.1080/13670050.2016.1254151

North, B., & Piccardo, E. (2018). *Aligning the Canadian language benchmarks (CLB) to the common European framework of references (CEFR*). Toronto: Centre for Canadian Language Benchmarks.

Ortega L. (2014). Ways forward for a bi/multilingual turn for SLA. In May S. (Ed.), *The multilingual turn: Implications for SLA, TESOL, and bilingual education* (pp. 32–52). Routledge.

Otheguy, R., García, O., & Reid, W. (2015). Clarifying translanguaging and deconstructing named languages: A perspective from linguistics. *Applied Linguistics Review, 6*(3), 281-307. https://doi.org/10.1515/applirev-2015-0014

Otsuji, E., & Pennycook, A. (2010). Metrolingualism: Fixity, fluidity and language in flux. *International Journal of Multilingualism, 7*(3), 240–254. https://doi.org/10.1080/14790710903414331

Otto, A., & Estrada, J. L. (2019). Towards an understanding of CLIL assessment practices in a European context: Main assessment tools and the role of language in content subjects. *CLIL Journal of Innovation and Research in Plurilingual and Pluricultural Education, 2*(1), 31-42. https://doi.org/10.5565/rev/clil.11

Özdemir-Yılmazer, M. (2022). Direct Access to English-Medium Higher Education in Turkey: Variations in Entry Language Scores. *Journal of Language Education and Research, 8*(2), 325-345. https://doi.org/10.31464/jlere.1105651

Paing, A. C. & Chastin, S. (2021, May 11). Type 2 diabetes: sitting can cause problems with blood sugar levels, so get up and move. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

Paltridge B., & Starfield, S. (2013). Introduction. In B. Paltridge, & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 1-4). London: Wiley Blackwell.

Papageorgiou, S., Tannenbaum, R., Bridgeman, B., & Cho, Y. (2015). *The association between TOEFL iBTVR test scores and the Common European Framework of Reference (CEFR) levels. (Research Memorandum ETS RM–15-06)*. Princeton, NJ: Educational Testing Service. https://www.ets.org/Media/Research/pdf/RM-15-06.pdf

Paulsrud, B., Rosén, J., Straszer, B., & Wedin, Å. (2017). Perspectives on translanguaging in education. In B. Paulsrud, J. Rosén, B. Straszer, & Å. Wedin (Eds), *New perspectives on translanguaging and education* (pp. 10-19). Bristol: Multilingual Matters. https://doi.org/10.21832/9781783097821-003

Pecorari, D., & Malmström, H. (2018). At the crossroads of TESOL and English medium instruction. *TESOL Quarterly, 52*(3), 497-515. https://doi.org/10.1002/tesq.470

Phillipson, R. (2009a). English in globalisation, a lingua franca or a lingua frankensteinia? *TESOL Quarterly, 43*(2), 335-339. https://doi.org/10.1002/j.1545-7249.2009.tb00175.x

Phillipson, R. (2009b). English in higher education: Panacea or pandemic? In P. Harder (Ed.), *Angles on the English-Speaking World: English in Denmark: Language policy, internationalization and university teaching (Vol. 9*) (pp. 29-57). København: Museum Tusculanum.

Pilkinton-Pihko, D. (2011). *Lecturer attitudes towards and perceptions of teaching in English as a lingua franca*. Helsinki: Aalto University publication series.

Plakans, L. (2008). Comparing composing processes in writing-only and reading-to-write test tasks. *Assessing Writing, 13*, 111–129. https://doi.org/10.1016/j.asw.2008.07.001

Plakans, L., & Gebril, A. (2012). A close investigation into source use in integrated second language writing tasks. *Assessing Writing, 17*(1), 18-34. https://doi.org/10.1016/j.asw.2011.09.002

Pompeu Fabra University (2007). *The plan of action for multilingualism*. Barcelona: Pompeu Fabra University.

Prilutskaya, M. (2021). Examining pedagogical translanguaging: A systematic review of the literature. *Languages, 6*(4), 180. https://doi.org/10.3390/languages6040180

Pu, X., & Tse, C. S. (2014). The revised hierarchical model: Explicit and implicit memory. In R. R. Heredia, J. Altarriba, R. R. Heredia, and J. Altarriba (Eds.), *Foundations of bilingual memory* (pp. 147-184). Springer, New York, NY. https://doi.org/10.1007/978-1-4614-9218-4_8

Pulcini V. & Campagna S. (2015). Internationalisation and the EMI controversy in Italian higher education. In S. Dimova, A. K. Hultgren, & C. Jensen (Eds.), *English-medium instruction in higher education in Europe* (pp. 65–87). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614515272-005

Pun, J. K., & Curle, S. M. (2021). Research methods for English Medium Instruction in action. In J. H. K. Pun & S. M. Curle (Eds.), *Research methods in English medium instruction* (pp. 1-15). London and New York: Routledge.

Pun, J. K., & Thomas, N. (2020). English medium instruction: Teachers' challenges and coping strategies. *ELT Journal, 74*(3), 247-257. https://doi.org/10.1093/elt/ccaa024

Pun, J., & Macaro, E. (2019). The effect of first and second language use on question types in English medium instruction science classrooms in Hong Kong. *International Journal of Bilingual Education and Bilingualism, 22*(1), 64-77. https://doi.org/10.1080/13670050.2018.1510368

Rafi, A. S. M., & Morgan, A. M. (2022). Blending translanguaging and CLIL: pedagogical benefits and ideological challenges in a Bangladeshi classroom. *Critical Inquiry in Language Studies*, 1-26. https://doi.org/10.1080/15427587.2022.2090361

Reed, S. K. (2012). *Cognition: Theories and applications.* Wadsworth: CENGAGE Learning.

Reilly, C. (2021). Malawian universities as translanguaging spaces. In B. A. Paulsrud, Z. Tian, & J. Toth, (Eds.), *English-medium instruction and translanguaging* (pp. 29-42). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-007

Richards, J. C., & Pun, J. (2021). A typology of English-medium instruction. *RELC Journal*, 1–25. https://doi.org/10.1177/0033688220968584

Richardson, J. T. (2011). Eta squared and partial eta squared as measures of effect size in educational research. *Educational Research Review, 6*(2), 135-147. https://doi.org/10.1016/j.edurev.2010.12.001

Roediger, H. L., Tekin, E., & Uner, O. (2017). Encoding–Retrieval Interactions. In J.T. Wixted (Ed.), *Learning and memory: A comprehensive reference* (pp. 5–26). Oxford: Academic Press. https://doi.org/10.1016/B978-0-12-809324-5.21036-5

Rose, H., & Galloway, N. (2019). *Global Englishes for language teaching*. Cambridge, UK: Cambridge University Press.

Rose, H., & McKinley, J. (2018). Japan's English-medium instruction initiatives and the globalization of higher education. *Higher Education, 75*(1), 111-129. https://doi.org/10.1007/s10734-017-0125-1

Rose, H., Curle, S., Aizawa, I., & Thompson, G. (2020). What drives success in English medium taught courses? The interplay between language proficiency, academic skills, and motivation. *Studies in Higher Education, 45*(11), 2149-2161. https://doi.org/10.1080/03075079.2019.1590690

Rostami, G., Kashanian, V., & Gholami, H. (2016). The relationship between language proficiency and willingness to communicate in English in an Iranian EFL context. *Journal of Applied Linguistics and Language Research, 3*(2), 166-176.

Ruecker, T. (2014). Here they do this, there they do that: Latinas/Latinos writing across institutions. *College Composition and Communication, 66*, 91–119.

Ruiz, S., Rebuschat, P., & Meurers, D. (2021). The effects of working memory and declarative memory on instructed second language vocabulary learning: Insights from intelligent CALL. *Language Teaching Research, 25*(4), 510-539. https://doi.org/10.1177/1362168819872859

Saalbach, H., Eckstein, D., Andri, N., Hobi, R., & Grabner, R. H. (2013). When language of instruction and language of application differ: Cognitive costs of bilingual mathematics learning. *Learning and Instruction, 26*, 36–44. https://doi.org/10.1016/j.learninstruc.2013.01.002

Saeidi, M., & Sahebkheir, F. (2011). The effect of model essays on accuracy and complexity of EFL learners' writing performance. *Middle-East Journal of Scientific Research, 10*(1), 130-137.

Sahan, K. & Rose, H. (2021). Problematising the E in EMI: Translanguaging as a pedagogic alternative to English-only hegemony in university contexts. In B. Paulsrud, Z. Tian, & J. Toth, (Eds.), *English-medium instruction and translanguaging* (pp. 22-33). Bristol: Multilingual Matters. https://doi.org/10.21832/9781788927338-005

Sahan, K., & Şahan, Ö. (2022). Content and language in EMI assessment practices: Challenges and beliefs at an engineering faculty in Turkey. In Y. Kırkgöz & A. Karakaş (Eds.), *English as the medium of instruction in Turkish higher education* (pp. 155-174). Springer, Cham. https://doi.org/10.1007/978-3-030-88597-7_8

Sahan, K., Mikolajewska, A., Rose, H., Macaro, E., Searle, M., Aizawa, I., Zhou, Siyang & Veitch, A. (2021). *Global mapping of English as a medium of instruction in higher education: 2020 and beyond*. London: British Council.

Sahan, K., Rose, H., & Macaro, E. (2021). Models of EMI pedagogies: At the interface of language use and interaction. *System, 101*. https://doi.org/10.1016/j.system.2021.102616

San Isidro, X., & Lasagabaster, D. (2019). Code-switching in a CLIL multilingual setting: a longitudinal qualitative study. *International Journal of Multilingualism, 16*(3), 336-356. https://doi.org/10.1080/14790718.2018.1477781

Santini, Z. I., Thygesen, L. C., & Ekholm, O. (2021, October 13). Mental health declined during the pandemic but some people with depression improved – new research. *The Conversation*. Retrieved from https://gcp.theconversation.com/au

Sato, R. (2020). Examining fluctuations in the WTC of Japanese EFL speakers: Language proficiency, affective and conditional factors. *Language Teaching Research*. https://doi.org/10.1177/1362168820977825

Schissel, J. L., De Korne, H. & López-Gopar, M. (2018). Grappling with translanguaging for teaching and assessment in culturally and linguistically diverse contexts: teacher perspectives from Oaxaca, Mexico. *International Journal of Bilingual Education and Bilingualism, 2018*, 1-17. https://doi.org/10.1080/13670050.2018.1463965

Schissel, J. L., Leung, C., López-Gopar, M., & Davis, J. R. (2018). Multilingual learners in language assessment: assessment design for linguistically diverse communities. *Language and Education, 32*(2), 167-182. https://doi.org/10.1080/09500782.2018.1429463

Schoepp, K. (2018). Predictive validity of the IELTS in an English as a medium of instruction environment. *Higher Education Quarterly, 72*(4), 271-285. https://doi.org/10.1111/hequ.12163

Schrauf, R. W., & Rubin, D. C. (2000). Internal languages of retrieval: The bilingual encoding of memories for the personal past. *Memory & Cognition, 28*(4), 616-623. https://doi.org/10.3758/BF03201251

Schroeder, S. R., & Marian, V. (2014). Bilingual episodic memory: How speaking two languages influences remembering. In R. R. Heredia, J. Altarriba, R. R. Heredia, and J. Altarriba (Eds.), *Foundations of bilingual memory* (pp. 111-132). New York: Springer. https://doi.org/10.1007/978-1-4614-9218-4_6

Sert, N. (2008). The language of instruction dilemma in the Turkish context. *System, 36*(2), 156-171. https://doi.org/10.1016/j.system.2007.11.006

Shiron, V., Liu, H., & de Bruin, A. (2021). Being a student or at home: Does topic influence how bilinguals process words in each language? *Languages, 6*(3), 150. https://doi.org/10.3390/languages6030150

Shohamy, E. (2011). Assessing multilingual competencies: Adopting construct valid assessment policies. *The Modern Language Journal, 95*(3), 418-429. https://doi.org/10.1111/j.1540-4781.2011.01210.x

Shohamy, E. (2012). A critical perspective on the use of English as a medium of instruction at universities. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.), *English-medium instruction at universities: Global challenges* (pp. 196–210). Bristol, UK: Multilingual Matters. https://doi.org/10.21832/9781847698162-014

Shohamy, E. (2013). Expanding the construct of language testing with regards to language varieties and multilingualism. In D. Tsagari, S. Papadima-Sophocleous, & S. Loannou- Georgiou (Eds.), *International experience in language testing and assessment* (pp. 33–58). New York, NY: Peter Lang.

Siegel, J. (2022). Translanguaging options for note-taking in EAP and EMI. *ELT Journal*, 1-10, https://doi.org/10.1093/elt/ccac027

Simpson, J. (2020). Translanguaging in ESOL: Competing positions and collaborative relationships. In E. Moore, J. Bradley, & J. Simpson (Eds.), *Translanguaging as transformation: The collaborative construction of new linguistic realities* (pp. 41-57). Bristol: Multilingual Matters.

Smit, U., & Dafouz, E. (2012). Integrating content and language in higher education: An introduction to English-medium policies, conceptual issues and research practices across Europe. *AILA Review, 25*(1), 1-12. https://doi.org/10.1075/aila.25.01smi

Soruç, A., & Griffiths, C. (2018). English as a medium of instruction: Students' strategies. *ELT Journal, 72*(1), 38-48. https://doi.org/10.1093/elt/ccx017

Söderlundh, H. (2012). Global policies and local norms: Sociolinguistic awareness and language choice at an international university. *International Journal of the Sociology of Language, 2012*(216), 87-109. https://doi.org/10.1515/ijsl-2012-0041

Soltani, A., & Kheirzadeh, S. (2017). Exploring EFL students' use of writing strategies and their attitudes towards reading-to-write and writing-only tasks. *Journal of Language and Linguistic Studies, 13*(2), 535-560.

Stapa, S. H., & Majid, A. H. A. (2012). The use of first language in developing ideas in second language writing. *American Journal of Social Issues & Humanities, 2*(3), 148-151.

Steffensen, S. V., & Kramsch, C. (2017). The ecology of second language acquisition and socialization. In P. A. Duff & S. May (Eds.), *Language socialization* (pp. 17–32). Cham, Switzerland: Springer International. https://doi.org/10.1007/978-3-319-02255-0_2

Study in Türkiye (n.d.). *Study Finder*. https://www.studyinturkey.gov.tr/StudySearch/List

Tan, K. E., & Phairot, E. (2018). Willingness to communicate among Thai EFL students: Does English proficiency matter? *Journal of Asia TEFL, 15*(3), 590. http://doi.org/10.18823/asiatefl.2018.15.3.2.590

Tarnopolsky, O. (2013). Content-based instruction, CLIL, and immersion in teaching ESP at tertiary schools in non-English-speaking countries. *Journal of ELT and Applied Linguistics, 1*(1), 1-11.

Tarnopolsky, O. B., & Goodman, B. A. (2014). The ecology of language in classrooms at a university in eastern Ukraine. *Language and Education, 28*(4), 383-396. https://doi.org/10.1080/09500782.2014.890215

Tatzl, D. (2011). English-medium masters' programmes at an Austrian university of applied sciences: Attitudes, experiences and challenges. *Journal of English for Academic purposes, 10*(4), 252-270. https://doi.org/10.1016/j.jeap.2011.08.003

Tatzl, D., & Messnarz, B. (2013). Testing foreign language impact on engineering students' scientific problem-solving performance. *European Journal of Engineering Education, 38*(6), 620-630. https://doi.org/10.1080/03043797.2012.719001

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. In C. Willing, & W. S. Rogers (Eds.), *The SAGE handbook of qualitative research in psychology* (2nd ed., pp. 17–37). London: Sage.

Tian, L., & Kunschak, C. (2014). Codeswitching in two Chinese universities. In R. Barnard, R., & J. McLellan (Eds), *Code-switching in university English medium classes: Asian perspectives* (pp. 43-54). Bristol: Multilingual Matters. https://doi.org/10.21832/9781783090914-006

Tien, C. Y., & Li, C. S. D. (2013). Codeswitching in a university in Taiwan. In R. Barnard, R., & J. McLellan (Eds), *Codeswitching in university English-medium classes: Asian perspectives* (pp. 24-42). Bristol: Multilingual Matters. https://doi.org/10.21832/9781783090914-005

Tiryakioglu, G., Peters, E., & Verschaffel, L. (2019). The effect of L2 proficiency level on composing processes of EFL learners: Data from keystroke loggings, think alouds and questionnaires. In E. Lindgren & K. P. H. Sullivan (Eds.), *Observing writing: Insights from keystroke logging and handwriting* (pp. 212–235). Leiden, The Netherlands: Brill.

Tong, F., Wang, Z., Min, Y., & Tang, S. (2020). A systematic literature synthesis of 19 years of bilingual education in Chinese higher education: Where does the academic discourse stand? *Sage Open, 10*(2), 1–23. https://doi.org/10.1177/2158244020926510

Toth, J., & Paulsrud, B. (2017). Agency and affordance in translanguaging for learning: Case studies from English-medium instruction in Swedish schools. In B. Paulsrud, J. Rosén, B. Straszer, & Å. Wedin (Eds), *New perspectives on translanguaging and education* (pp. 189-207). Bristol: Multilingual Matters. https://doi.org/10.21832/9781783097821-013

Trenkic, D., & Warmington, M. (2019). Language and literacy skills of home and international university students: How different are they, and does it matter? *Bilingualism: Language and Cognition, 22*(2), 349-365. https://doi.org/10.1017/S136672891700075X

Tulving, E. (1983). *Elements of episodic memory*. New York: Oxford University Press.

Tulving, E., & Thompson, D. M. (1973). Encoding specificity and retrieval processes in episodic memory. *Psychological Review, 80*, 352–373. https://doi.org/10.1037/h0020071

Turnbull, M., Cormier, M., & Bourque, J. (2011). The first language in science class: A quasi-experimental study in late French immersion. T*he Modern Language Journal, 95*, 182-198. https://doi.org/10.1111/j.1540-4781.2011.01275.x

Tweedie, M. G., & Chu, M. W. (2019). Challenging equivalency in measures of English language proficiency for university admission: data from an undergraduate engineering programme. *Studies in Higher Education, 44*(4), 683-695. https://doi.org/10.1080/03075079.2017.1395008

Tylén, K., Weed, E., Wallentin, M., Roepstorff, A., & Frith, C. D. (2010). Language as a tool for interacting minds. *Mind & Language, 25*(1), 3-29. https://doi.org/10.1111/j.1468-0017.2009.01379.x

Ushioda, E. (2017). The impact of global English on motivation to learn other languages: Toward an ideal multilingual self. *The Modern Language Journal, 101*(3), 469-482. https://doi.org/10.1111/modl.12413

Ün, S. (2019). *Plaza dili üzerine toplum dil bilimsel bir inceleme*. (Unpublished M.A. thesis), Marmara University, İstanbul.

Van der Walt, C. (2006). University students’ attitudes towards and experiences of bilingual classrooms. *Current Issues in Language Planning, 7*(2-3), 359-376. https://doi.org/10.2167/cilp104.0

Van der Walt, C. (2013). *Multilingual higher education: Beyond English medium orientations*. Bristol, UK: Multilingual Matters.

Van der Walt, C., & Kidd, M. (2013). Acknowledging academic biliteracy in higher education assessment strategies: A tale of two trials. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.), *English-medium instruction at universities: Global challenges* (pp. 27–43). Bristol, UK: Multilingual Matters. https://doi.org/10.21832/9781847698162-006

Van Hell, J. G. (2020). Lexical processing in child and adult classroom second language learners: uniqueness and similarities, and implications for cognitive models. In K. D. Federmeier and H.-W. Huang (Eds.), *Psychology of learning and motivation, Vol. 72*, (pp. 207–234). Cambridge, MA: Academic Press. https://doi.org/10.1016/bs.plm.2020.03.004

Van Hell, J. G., & Tanner, D. (2012). Second language proficiency and cross-language lexical activation. *Language Learning, 62*, 148-171. https://doi.org/10.1111/j.1467-9922.2012.00710.x

Van Rinsveld, A., Brunner, M., Landerl, K., Schiltz, C., & Ugen, S. (2015). The relation between language and arithmetic in bilinguals: Insights from different stages of language acquisition. *Frontiers in Psychology, 6*, 265. https://doi.org/10.3389/fpsyg.2015.00265

Van Weijen, D., Van den Bergh, H., Rijlaarsdam, G., & Sanders, T. (2009). L1 use during L2 writing: An empirical study of a complex phenomenon. *Journal of Second Language Writing, 18*(4), 235-250. https://doi.org/10.1016/j.jslw.2009.06.003

Vander Beken, H., & Brysbaert, M. (2018). Studying texts in a second language: The importance of test type. *Bilingualism: Language and Cognition, 21*(5), 1062-1074. https://doi.org/10.1017/S1366728917000189

Vander Beken, H., De Bruyne, E., & Brysbaert, M. (2020). Studying texts in a non-native language: A further investigation of factors involved in the L2 recall cost. *Quarterly Journal of Experimental Psychology, 73*(6), 891-907. https://doi.org/10.1177/1747021820910694

Vander Beken, H., Woumans, E., & Brysbaert, M. (2018). Studying texts in a second language: No disadvantage in long-term recognition memory. *Bilingualism: Language and Cognition, 21*(4), 826-838. https://doi.org/10.1017/S1366728917000360

VanPatten, B. (Ed.) (2004). *Processing instruction: Theory, research, commentary*. Mahwah, NJ: Lawrence Erlbaum.

VanPatten, B., & Williams, J. (2015). Introduction: The nature of theories. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition: An introduction* (2nd ed., pp. 1–16). New York and London, UK: Routledge.

Veitch, A. (2021). *English in higher education – English medium Part 2: A British Council perspective*. London: British Council.

Velasco, P., & García, O. (2014). Translanguaging and the writing of bilingual learners. *Bilingual Research Journal, 37*(1), 6-23. https://doi.org/10.1080/15235882.2014.893270

Volmer, E., Grabner, R. H., & Saalbach, H. (2018). Language switching costs in bilingual mathematics learning: Transfer effects and individual differences. *Zeitschrift für Erziehungswissenschaft, 21*(1), 71-96. https://doi.org/10.1007/s11618-017-0795-6

Wächter, B., & Maiworm, F. (2008). *English-taught programmes in European higher education*. Bonn: Lemmens.

Wang, L. (2003). Switching to first language among writers with differing second-language proficiency. *Journal of Second Language Writing, 12*(4), 347-375. https://doi.org/10.1016/j.jslw.2003.08.003

Wang, W., & Curdt-Christiansen, X. L. (2019). Translanguaging in a Chinese–English bilingual education programme: A university-classroom ethnography. *International Journal of Bilingual Education and Bilingualism, 22*(3), 322-337. https://doi.org/10.1080/13670050.2018.1526254

Wang, W., & Wen, Q. (2002). L1 use in the L2 composing process: An exploratory study of 16 Chinese EFL writers. *Journal of Second Language Writing, 11*, 225-246. https://doi.org/10.1016/S1060-3743(02)00084-X

Wang, Y., Yu, S., & Shao, Y. (2018). The experiences of Chinese mainland students with English-medium instruction in a Macau University. *Educational Studies, 44*(3), 357-360. https://doi.org/10.1080/03055698.2017.1373635

Wei, L. (2016). New Chinglish and the post-multilingualism challenge: Translanguaging ELF in China. *Journal of English as a Lingua Franca, 5*(1), 1-25. https://doi.org/10.1515/jelf-2016-0001

Wei, L. (2018). Translanguaging as a practical theory of language. *Applied Linguistics, 39*(1), 9-30. https://doi.org/10.1093/applin/amx039

Wei, L., & Martin, P. (2009). Conflicts and tensions in classroom codeswitching: an introduction. *International Journal of Bilingual Education and Bilingualism, 12*(2), 117-122. https://doi.org/10.1080/13670050802153111

Weigle, S. C. (2004). Integrating reading and writing in a competency test for non-native speakers of English. *Assessing Writing, 9*(1), 27-55. https://doi.org/10.1016/j.asw.2004.01.002

Weigle, S. C., & Parker, K. (2012). Source text borrowing in an integrated reading/writing assessment. *Journal of Second Language Writing, 21*(2), 118-133. https://doi.org/10.1016/j.jslw.2012.03.004

Wells, G. (1994). The complementary contributions of Halliday and Vygotsky to a "language-based theory of learning". *Linguistics and Education, 6*(1), 41-90. https://doi.org/10.1016/0898-5898(94)90021-3

Whyatt, B., Stachowiak, K., & Kajzer-Wietrzny, M. (2016). Similar and different: Cognitive rhythm and effort in translation and paraphrasing. *Poznan Studies in Contemporary Linguistics, 52*(2), 175-208. https://doi.org/10.1515/psicl-2016-0007

Wilkinson, R. (2013). English-medium instruction at a Dutch university: Challenges and pitfalls. In A. Doiz, D. Lasagabaster, & J. M. Sierra (Eds.), *English-medium instruction at universities: Global challenges* (pp. 3–24). Bristol, UK: Multilingual Matters. https://doi.org/10.21832/9781847698162-005

Wolfersberger, M. (2003). L1 to L2 writing process and strategy transfer: A look at lower proficiency writers. *Teaching English as a Second or Foreign Language, 7*(2), 1–15.

Woodall, B. R. (2002). Language-switching: Using the first language while writing in a second language. *Journal of Second Language Writing, 11*(1), 7-28. https://doi.org/10.1016/S1060-3743(01)00051-0

Xiao, Y., & Cheung, H. (2021). Supporting students' summary writing skills in English medium instruction in the university context. In L. I. W. Su, H. Cheung, & J. R. Wu (Eds.), *Rethinking EMI: Multidisciplinary perspectives from Chinese-speaking regions* (pp. 61-77). Abingdon: Routledge.

Xie, W., & Curle, S. (2022). Success in English medium instruction in China: Significant indicators and implications. *International Journal of Bilingual Education and Bilingualism, 25*(2), 585-597. https://doi.org/10.1080/13670050.2019.1703898

Xu, C., & Xia, J. (2021). Scaffolding process knowledge in L2 writing development: insights from computer keystroke log and process graph. *Computer Assisted Language Learning, 34*(4), 583-608. https://doi.org/10.1080/09588221.2019.1632901

Yen, D., & Kuzma, J. (2009). Higher IELTS score, higher academic performance? The validity of IELTS in predicting the academic performance of Chinese students. *Worcester Journal of Learning and Teaching, 3*, 1-7.

Yıldız, Y. (2012). *Beyond the mother tongue: The postmonolingual condition*. Fordham Univ Press.

Yıldız, M., Soruç, A., & Griffiths, C. (2017). Challenges and needs of students in the EMI (English as a medium of instruction) classroom. *Konin Language Studies, 5*(4), 387-402. https://doi.org/10.30438/ksj.2017.5.4.1

Yüksel, D., Altay, M., & Curle, S. (2022). English medium instruction programmes in Turkey: evidence of exponential growth. In Curle, S. Ali, H., Alhassan, A. & Scatolini, S. (Eds), *English-medium instruction in higher education in the Middle East and North Africa: Policy, research and practice*. London: Bloomsbury.

Yüksel, D., Soruç, A., Altay, M., & Curle, S. (2021). A longitudinal study at an English medium instruction university in Turkey: The interplay between English language improvement and academic success. *Applied Linguistics Review.* https://doi.org/10.1515/applirev-2020-0097

Yüksel, D., Altay, E., Curle, S. M., Aizawa, I., Ege, F., Genç, E., Kır, P. & Diri, S. (2021). *A discipline-based investigation of english language proficiency, linguistic challenges, and academic success of students in Turkish EMI setting.* Turkey: British Council.

Zaif, F., Karapınar, A., & Yangın Eksi, G. (2017). A comparative study on the effectiveness of English-medium and Turkish-medium accounting education: Gazi University case. *Journal of Education for Business, 92*(2), 73-80. https://doi.org/10.1080/08832323.2017.1279117

Zhang, X. (2017). Reading–writing integrated tasks, comprehensive corrective feedback, and EFL writing development. *Language Teaching Research, 21*(2), 217-240. https://doi.org/10.1177/1362168815623291

Zhou, X. E., & Mann, S. (2021). Translanguaging in a Chinese university CLIL classroom: Teacher strategies and student attitudes. *Studies in Second Language Learning and Teaching, 11*(2), 265-289. https://doi.org/10.14746/ssllt.2021.11.2.5