A PRELIMINARY STUDY TOWARDS THE DEVELOPMENT OF THE TURKISH FORM OF THE CLASSROOM ENVIRONMENT SCALE

by

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B.A. in Pedagogy, İstanbul University, 1985

Submitted to the Institute for Graduate Students in Social Sciences in partial fulfillment of the requirements for the degree of

Master of Arts

in

Educational Sciences

Boğaziçi University

1989

ACKNOWLEDGEMENTS

Words are not enough to express my appreciation to my thesis adviser, Fatoş Erkman. From the beginning to the end of this study, she always guided and encouraged me not only for my thesis, but also for my personal life. Her multi-dimensional thinking and constructive criticism, and her supportive behaviors and warm personality always helped me to think, create and feel better. I am especially grateful to her for the translation of the CES, for participation in the administration process, for being with me when the statistical analysis were carried out and for helping me to write this thesis. After all, it is obvious that without her guidance, this study could not have been completed.

I would like to thank Fatma Gök, for her valuable advice and encouraging attitudes that she maintained during this study.

I would also like to express my sincere appreciation to Ayla Oktay, for her careful guidance and caring attitudes that she showed to me not only during my thesis process, but also during my undergraduate education.

I am grateful to the chairman of the department, Necla Öner, for her encouraging and understanding attitude, and constructive criticism that help guide my formation throughout my graduate education.

My sincere thanks to people who translated the CES from English to Turkish and the 27 experts who contributed in making this translation better.

I would like to thank the directors, administrations, class teachers and students of Robert College, Nişantaşı Anadolu Lisesi and İbrahim Turhan Lisesi who participated in this research. I especially wish to thank the counselor of

Robert College, Nüket Atalay and my friends from Boğaziçi University for their help in the administration process.

I wish to express my gratitude to Rıfat Okçabol, Ali Baykal, Erkan Akten and especially Talat Fırlar for their contributions in the wide statistical analysis of the study.

Deniz Kaymak contributed by the literature, she provided all the way from the U.S. and Bilge Posat by her aid in the tedious scoring process, to the birth of this piece of work.

I also thank to my friends, Melda Alantar and Bilge Posat, for their supportive, understanding and sharing behaviors.

Finally, I extend heartfull of thanks to my family, because of their tolerant, supportive and motivating behaviors during my whole educational life.

Nergis Tüter

ABSTRACT

This thesis is based on a study about the Turkish standardization process of the Classroom Environment Scale (CES), developed by Moos and Trickett in 1974. The study was carried out in four phases; the translation of the CES, the transliteral equivalence, the reliability and factor analysis studies of the Turkish form of the CES.

In the translation phase the original English scale was translated by three bilinguals into Turkish and back translated by two bilingual individuals. These back translations were checked against the original English scale and after some modifications the initial Turkish form of the CES was obtained.

In order to further control the translation and the conceptualization of each item a total of 27 experts were given the Turkish CES with nine subscales and their definitions in Turkish to rate each item in terms of its representativeness of its original subscales. The present Turkish form of the CES was developed through such a process.

After the results of a pilot transliteral equivalence study with 20 Turkish bilingual university students showed that there were no significant differences between the scores obtained from the English and the Turkish forms of the CES and the order of taking them, the study proper was carried out.

One hundred eighty bilingual high school students participated in the transliteral equivalence study. The analysis of variance results indicated that except for a weak significant difference ($F=3.412$ $p=.1$) in task orientation subscale there were no significant differences between Turkish and English CES forms, yet order of taking alternate forms showed differences in five subscales that reached significance. The results of the other statistical analysis such as t-test and pearson product moment correlation supported the difference in conceptualization caused by the presentation of the items in different languages.

In the reliability part of the study, for determination of the internal consistency, 625 students from three different high schools covering different SES in Istanbul were tested. Cronbach's alpha technique was utilized giving alpha coefficients for the subscales ranging from .58 for task orientation and competition to .82 for involvement. The item-subscale and subscale-subscale correlations were calculated by Pearson Product Moment Correlation technique. The average item-subscale correlations ranged from .43 for competition to .61 for involvement. The subscale-subscale correlations ranging from .60; between order and organization and teacher control, to .68; between involvement and order and organization were similar to the original CES subscale correlations with each other.

The test-retest reliability was carried out with 60 and 104 students out of 625 with one week and two week time intervals respectively. The correlations ranged from .55 for rule clarity to .95 for involvement and from .29 for task

orientation to .83 for involvement for varying time intervals.

The factor analysis that was carried out did support the multidimensionality of the CES. Yet the factors did not correspond totally to the theoretically based original three dimensions and the corresponding nine subscales.

The results of this study indicates that with some more work on the task orientation subscale the Turkish CES will be similar to the English CES in terms of translation, yet there seems to be differences in conceptualization of the classroom environment.

Ö Z E T

Bu tez, 1974 yılında Moos ve Trickett tarafından geliştirilen Sınıf Ortamı Ölçeği'nin Türkçe uyarlaması üzerinedir. Çalışma dört aşamada yürütülmüştür; ölçeğin Türkçeye çevrilmesi, ölçeğin Türkçe formunun dilsel eşitlik, güvenirlik ve faktör analizi çalışmaları.

Çeviri aşamasında, orjinal İngilizce ölçek iki dili de ana dili gibi bilen üç kişi tarafından Türkçeye ve iki kişi tarafından tekrar İngilizceye çevrildi. Bu son çeviriler orjinal İngilizce ölçek ile karşılaştırıldı ve bazı değişikliklerden sonra Sınıf Ortamı Ölçeğinin ilk Türkçe formu elde edildi.

Her bir itemin çeviri ve kavramsallaştırılmasını kontrol etmek amacıyla Türkçe form ile birlikte dokuz alt test Türkçe olarak, her bir ifadeyi kendine en uygun olan altteste işaretlemeleri için toplam 27 uzmana verildi. Sınıf Ortamı Ölçeğinin son formu böyle bir süreç sonucunda geliştirildi.

Her iki dili bilen 20 üniversite öğrencisiyle yapılan ve İngilizce-Türkçe formlar arasında ve onları alış sırasında anlamlı bir fark omadığını gösteren pilot dilsel eşitlik çalışmasından sonra asıl çalışma yürütüldü.

Dilsel eşitlik çalışmasına her iki dili bilen 180 lise öğrencisi katıldı. Varyans analizi sonuçları amaca yönelme alttestindeki zayıf bir anlamlı değişiklik (F=3.412, p=.1) dışında, Türkçe ve İngilizce formlar arasında anlamlı farklılık olmadığını, fakat formları alış sırasının beş alt testte anlamlı değişiklik yarattığını gösterdi. T-test ve Pearson Product Moment Korelasyonu gibi diğer istatistiksel analizler de itemlerin farklı dillerde verilmesinin farklı kavramsallaştırmaya neden olduğunu destekledi.

Çalışmanın güvenirlik bölümünde formun iç tutarlılığını saptamak için, İstanbul'un farklı sosyo-ekonomik ve kültürel bölgelerinde bulunan üç liseden 625 öğrenciye ölçek verildi. Cronbach alpha tekniği kullanıldığında, alttest alpha katsayıları amaca yönelme ve rekabet için .58 den, katılım için .82 ye kadar bir dağılım gösterdi. Pearson Product Moment Korelasyon tekniği ile ifade -alttest ve alttest-alt test korelasyonları hesaplandı. Ortalama ifade-alttest korelasyonları rekabet için .43 ile katılım için .61 arasında değişti. Alttest-alttest korelasyonları, -.60 ile düzen ve organizasyon ile öğretmen kontrolü arasında ve .68 ile katılım ve düzen ve organizasyon arasında orjinal ölçekdeki alttest korelasyonlarına benzerlik göstererek, değişti.

Test-tekrar test güvenirliği 625 öğrenci arasından seçilen 60 ve 104 kişilik gruplara sırasıyla bir ve iki haftalık aralarla verildi. Korelasyonlar değişik zaman aralıklarına göre kuralların açıklığı için .55 ile katılım için .95 ve amaca yönelme için .29 ile katılım için .83 arasında değişti.

Faktör analizi çalışması ölçeğin çok boyutlu olduğunu destekledi ise de faktörler tam olarak teoriye dayanan orjinal üç boyut ve bunların dokuz alttesti ile eş çıkmadı.

Bu araştırmanın sonuçları, amaca yönelme alttesti üzerinde biraz daha çalışılarak Türkçe formun İngilizce form ile dil yönünden eş olabileceğine, ancak sınıf ortamının alınmasında farklılıklar bulunabileceğine işaret etmektedir.

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I. INTRODUCTION

Social climate has recently been a focus of attention in understanding, analyzing and evaluating human behavior and in formulation of interventions for change.

The field of counseling, especially as it relates to counseling in schools, aims at development and growth of children and youth, in other words, primary preventive efforts directed towards the young population. For such preventive, growth and self-actualization programs the system that engulfs the students is of utmost importance and value. The social climate of the class is known to have a making or breaking impact on its inhabitants.

To be able to start to understand, analyze and evaluate the impact of the class on its students in Turkey, so that constructive interventions can be developed by the counseling professionals, the social climate of the classroom needs to be evaluated among other things. The obvious initial step is the existence of a valid relavant assessment tool.

The present study attempted the first phase of producing such an instrument by translating and carrying out the processes for establishing the transliteral equivalence and reliability of the social climate scale developed by Moos and Trickett; the Classroom Environment Scale (CES).

II. BACKGROUND AND REVIEW OF THE LITERATURE

A. Human Behavior in Behavior Settings

1. Understanding Human Behavior In Social Systems

Intrapsychic or environmental factors used to be regarded as the basis of human behavior. The former approach accepts that the individual's instincts, drives, needs, traits and other intrapsychic forces are the causes of human behavior. Yet, behavior is acquired, maintained and changed by the effects of the environment according to the latter view. In recent years, however, personality psychologists have begun to theorize that the interaction of inner processes and environmental forces govern the individual behavior.

According to community psychology, social system factors are crucial factors that determine individual's behavior. The individual's behavior can not be understood without studying the social context in which it occurs. An individual has interdependence with other members of a social system. Since the relationship between the social system and the individual is interactional, individual can influence the social system as much as being influenced by it. Furthermore, different social systems act on each other and their influence on the individual also interact. Then, for accurate prediction and understanding of individual behavior and the environment and its relation to the individual must be analyzed as well as the characteristics of the individual (Murrell, 1973).

In the field of community psychology, personality is regarded as the result of an interplay between individual and the social system. According to Katz and Kahn (1966) personality is a product of social interaction and it is modified during the life of the individual (cited in Murrell, 1973). Their model "role taking" attempts to integrate

organizational factors, interpersonal factors and personality factors. In this model, roles are accepted as a function of a social system more than the individual's personality characteristics. According to this model, initially evaluations are developed and then they form role expectations. Role expectations can guide or constrain an individual. For example; in class if it is expected that all children should sit and be quiet during the lesson; these expectations can guide the students who are quiet, with low-energy. However, because of the same expectations verbal high-energy children experience more frustration and feel more constrained. Consequently, in order to be adaptive and effective a system may need to change its structure.

Role expectations also can limit or produce personal choices by defining for the actor what he should or should not do. In a new social system, individual's choices are limited because of the unclear role expectations of that system, however in a social system where role expectations are developed and clear, the individual knows which choices can be selected.

Katz and Kahn (1966) stated that the "fit" between social system role expectations and the values, beliefs and personal capabilities of the members, determine the effect of the social system upon the individual. Psychological dissatisfaction is the result of incompatible fit, psychological comfort is the result of compatible fit (cited in Murrell, 1973).

Sarbin (1970) insists that social system forces have important effects on the individual's social identity. The relationship between the individual and other members of the social systems he belongs to, shape the social identity of the individual. In other words, social identity is gained by the impact of different roles in different relationships in different settings. Carson (1969) describes the social system's effects upon an individual, at the same time not

denying that particular persons in the social systems can influence other individual's behavior. In order to change an individual's personality other members in the same social system must change their ways of behaving toward him. In this way social systems can alter individual's behavior in that system (cited in Murrell, 1973).

Barker's (1968) construct of "behavior setting" and his related findings indicate that a setting with its history, rules, norms, physical structures, expectations and the like characteristics bring about certain kinds of behavior, irrespective of the individual's characteristics. These environmental forces exist above and beyond the individual (cited in Murrell, 1973).

Murrell (1973) summarized the implications of behavior setting in a very clear manner;

> "The behavior setting can be viewed as a social system located in time and space that has an effective and persistent pressure for behavior consistent with a recognized and accepted purpose or task. It is not determined by the characteristics of the population inhabiting it at any one time. It will contribute to the individual's problem-management in one way or another, but it is only one of many systems in a series or network. A change in any particular behavior setting will change the modal behavior of the population but may have only a modest effect on a given individual. The effect of behavior setting change on individual's problem management (IPM) would be expected to vary depending on the importance of the setting to the individual. The impact of the setting on IPM is over and above the impact of group-qua-group characteristics of the population"[1].

To bring about a more effective environment, to lead to more constructive effective living of the individual, the forces in specific behavior settings that prescribe and also limit behaviors has to be determined in addition to the group characteristics and individual resources.

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1 Murrell, S.A. (1973). Community psychology and social systems: A conceptual framework and intervention guide. (p.132). New York: Behavioral

If the social system is conceptualized as a tunnel as suggested by Murrell (1973) where the forms of this tunnel is pretty much shaped by the task requirements and environmental forces, yet they can be modified to some extend by the population; then one of the crucial factors that can act on the system and the individual in it is the climate.

Recently, the study of social climate in any kind of setting has become one of the areas that has attracted most attention in social psychology and sociology.

The social climate is the overall social quality of a group or institution (Boocock, 1980). It can be defined as the personality of a setting or environment (Moos, 1987). Like people, each setting has different social climate characteristics. An understanding of these characteristics can help us to understand each person's actions and feelings and to help them to live more fully, since social climate acts on each person's behaviors, feelings, thoughts and growth.

If the characteristics of the population that the social system engulfs fits with the forces embodied in the system, the individual's effectiveness and thus the system's overall effectiveness will be high. Analysis of social climate is one way of studying the social system vis-avis the population.

2. The Social Environment of School And Classroom

School as a living society prepare the individuals for the real life by giving academic education and teaching them the norms of the society. It exist to prepare students to take their place socially and vocationally in the adult life. The school experience is accepted as a vital force that affect him positively or negatively for his future life.

Mosher and Sprinthall (1970) stated that, although its effects can be indirect, the school influence the way the student regards himself and value himself as a person. Biber (1961) agreed that school not only teach students academic knowledge, but also form their personalities (cited in Zax and Specter, 1974). The task of the school, as a socialization process, is satisfying some basic needs of the individual and teaching them the behaviors that are acceptable in the particular society (Brookover, 1955).

In almost every culture, when students arrive at a certain age, they enter school which is a part of the macro-society. With its special norms, rules and particular demands, it is also a microsociety itself. Each school has its own culture and its own climate. The social climate of the school consists of values, attitudes, beliefs, norms and customs of people who participate in it. Each school's climate reflects its students characteristics and the community in which the school is located (Ballantine, 1983).

The school years introduce new transactions to the child (Murrell, 1973). Until school years, family is the primary influencer for him. When the child enters the school social system, he comes face to face with new values, expectations and demands. These new values and expectations may be similar or different from his home environment. Thus when the child enters school, he must adapt to the school's characteristics and expectations.

Classroom is different from the school, because of its smaller size, number of students that participate in it and its other organizational characteristics. However, the classroom is also a society in which it is possible to find the characteristics of the whole society. Every classroom has a vitality, personality all its own and each differ as much as the children who constitute the group (Kolesnik, 1970). The atmosphere of the class is determined by the teacher's style and personality, students' characteristics and

interpersonal relations including student-teacher and student-student interactions (Schwartz, 1972; Ballantine, 1983).

In the organization of the classroom teachers and students have different roles. Moreover, they have separable tasks and privileges.

Being a teacher is one of the complicated jobs today. Because the teacher plays many roles, in addition to the role of information giver. In his class he is a leader, disciplinarian, adviser, motivator, record keeper, evaluater and planner as well (Schwartz, 1972).

Among his several different pedagogical roles the most common is the instruction role. From this perspective it is accepted that the teacher does not always have to know everything. Yet he should force students to think and to create (Coladarci, 1955).

In addition to possessing knowledge, a teacher must be able to communicate effectively with the learner. He helps students to discover their own learning needs and values. The teacher is a role model for social behavior. Students usually learn from the teacher how to treat each other. The teacher may be the organizer of a social climate of group relations as well. He can facilitate positive student relations by creating cohesive classes (Chesler and Cave, 1981). Furthermore, being an evaluater, he should be able to evaluate students performance without bias and in the role of counselor, he needs to keep an open mind and warm personality.

Three types of teachers exist according to leadership types that Lewin, White and Lippitt studied in the 1930's-1950's (Brookover 1955; Blair, Simpson and Jones, 1962; Kolesnik, 1970; Schwartz, 1972). The autocratic teacher made all the decisions, revealing steps to be followed and assigning tasks to each student. The democratic teacher permitted the group to make decisions, suggested alternatives

and participated in a group as one of the group members. The laissez-faire teacher was a leader in name only. His students were completely free to work on any task.

In the autocratic atmosphere, students worked efficiently when the teacher was in the class, however they tended to show hostile and aggressive behaviors toward the leader and other members of the group (Kolesnik, 1970). Students were less co-operative and submissive toward their equals and there was more tension in class (Brookover, 1955). In the democratic atmosphere there was slight difference in social status and every individual showed a greater amount of individuality. On the other hand, in the class with the laissez-faire teacher, the students were frustrated and demoralized.

Brookover (1955) put emphasis on two certain teacher types that can be termed authoritarian and friendly. With the former teacher, the students have to accept teacher's orders without any objection Students consider this kind of teachers unfriendly and do not admire them. By contrast, friendly teachers have sympathetic relations with students and students like to study with them in the same group.

Willower divided teachers' ideologies into categories of custodial and humanistic. Custodial teachers maintain order among the pupils. They believe punishment is necessary, because of pupils' undisciplined characteristics. They do not try to understand students' behaviors. In their classes students must accept everything without any question. However, humanistic teachers perceive pupils' behaviors in psychological and sociological terms and try to understand them. They use flexible rules and two way communication with students (cited in Chesler and Cave, 1981).

Blair, Simpson and Jones (1962) classified the behavior of teachers as dominative and integrative degrees. The dominating teachers interfere with childrens' behaviors and decide on the activities for them. The integrative type

of teachers, on the other hand, suggest activities and let the students select whatever they are interested in.

The integrative type of teaching fits in with the argument that young people are not simply a younger version of adults, but individuals with their specific characteristics. Students and young people have their unique material self-interest, cultural values and beliefs associated with their status (Chesler and Cave, 1981). Although students are the majority group in the school, they have the least power base in the school hierarchy. Until school leaving age, they do not have a choice about being there. They are in the classes where adults put them according to their age and abilities. They have little say in major school decisions, although these decisions are made for the welfare of the students (Boocock, 1980). They are in the school to learn and get their rewards in the future when they utilize what they have learned (Chesler and Cave, 1981).

Students' current ability is important to adapt to particular kind of classroom social climate. Previous training that they have had, is a crucial factor in this adaptation. If the child adjusted well to an autocratic home then he may have problems in the democratic class, when he is asked to share responsibilities (Blair, Simpson and Jones, 1962). It shows the role of students in determining class social climate, although by comparison with the teacher the students' role is characterized by passivity.

One of the major factors that shape the social climate of the school is the kind of relations which exist between pupils and teachers. These relations are extremely varied and complex. Being an authority, teachers are superordinate to students because of their age, training and privileges (Boocock, 1980). Students constitute the material by which teachers are supposed to produce results with. While the teacher has the greater power in the class, in order to be succesful he is dependent on his pupils' achievement level (Turner, 1977).

There is an intensive personal contact between the teacher and the students, because of their face to face interactions. Knowing the child, the teacher makes a valuable contribution in teaching and guiding. The teacher is free to teach and to deal with students in his own way (Brembeck, 1966).

In sum, although the teachers' and students' roles are asymmetrical in many areas, it is agreed that students and teachers have mutual effets on each other (Boocock, 1980).

Another major factor in determining the class's social climate is the kind of relations that exist among pupils. As a student grows, his association with peer group improves and helps him to become an adult. He learns how to get on with his peers, analyze himself and learns social behaviors in his peer group (Brembeck, 1966).

Jennings (1943), Bonney (1943) and Gronland (1959) showed that complaining, nervous, aggressive and dominating students were rejected more than others. Whereas more intelligent, cheerful, attractive, enthusiastic students were highly chosen by their peers (cited in Blair et al., 1962; Ballantine, 1983). These findings indicate that pupil's characteristics influence his relations with peers. His relationship with peers and his view of himself influences the students morale and behavior as well. The high degree of similarity between the individual's view of his real self and ideal self leads to higher morale and vice versa.

This review indicates that the evaluation of the classroom needs to cover the teachers' characteristics, students' characteristics and the characteristics of their interaction.

B. The Social Climate Scale
The Classroom Environment Scale

Rudolf Moos, who has been studying social climate and its effects for many years, developed ten separate social climate scales. Classroom Environment Scale (CES) is one of them and was constructed by him and Edison Trickett in 1974, in order to assess the social climate of junior high and high school classrooms.

The CES offers a different approach from the previous techniques. First of all, there is the recognition of the environment as a dynamic social system that includes not only teacher behavior and teacher-student interaction, but also student-student interactions. Secondly, by using the CES, the classroom environment is defined by the perceptions of the people who participate in it, instead of using outside observers' perceptions (Trickett and Moos, 1973).

1. Construction of the Original CES

In order to construct the CES, the basic strategy was; identification of the different aspects of the psychological environment of the classroom that could be grounded conceptually. Towards this end, conceptual and empirical, popular and professional literature in educational and organizational psychology was reviewed. The literature pointed out three separate general groups of variables. These variables were; interpersonal relationship variables including student-student and teacher-student interactions; system maintenance and system change variables emphasizing the structural aspects of the classroom and goal orientation variables that relate to academic functions of the classroom (Moos, 1980).

To obtain specific dimensions for the scale, three more strategies were used. Initially, prior educational research and popular literature were reviewed. Next, semi-structured interviews were initiated with teachers and

students in different high schools. Finally, observations of classrooms in different kinds of classes were attained.

On the basis of this data, a conceptual dimension and test items which related to that particular dimension were selected. Two naive raters checked the items according to the dimensions and eliminated some of them. As a results, the initial version of the CES that is called Form A consisting of 242 items representing 13 dimensions was obtained.

This version was given to 504 students in 26 classrooms in six public high schools and one private high school, grades level between 9 and 12. To discard the items that were particularly sensitive to social desirability, all students also responded to 210 item version of the Marlowe-Crown Social Desirability Scale. Results showed that there were very low correlations with the Marlowe-Crown Social Desirability Scale (.2 or below). However, some items showed extremely high or low intercorrelations with other items in a particular dimension. After dropping these items a 10 dimension, 120 item scale, Form B emerged.

Yet, some subscale intercorrelations of Form B were .6 or greater and some important concepts were not included in Form B. For these reasons, new observations and interviews with teachers and students were carried out. As a result, new items were added and Form C with 208 items and 13 dimensions was obtained.

Form C was administered to 38 high school classrooms in two urban public high schools, an urban parochial school, the ninth grade of a suburban junior high school, a rural high school and a private high school grade levels between 9 and 12. For data analysis 22 classrooms containing 443 students were randomly selected in order to reduce the amount of data.

To determine whether each individual item discriminated between classrooms, one way analysis of variance were done with each of the 208 items across the 22 classrooms. Findings indicated that 185 items (89 per cent) discriminated significantly between classrooms at the .05 level and 169 items (81 per cent) discriminated at the .01 level.

Subsequently, items were evaluated for the 13 subscales on the following criteria:

1- Each item should discriminate significantly between classrooms.

2- Approximately half of the answers from the sample should be true and other half should be false as much as possible, to avoid the items that characterize extreme classrooms only.

3- Approximately the same number of items should be scored true and false, to control response set.

4- Each item should correlate highly with its subscale score.

When these criteria were used 13 subscales of 10-12 items per subscale was obtained. Yet some subscales showed unacceptable high interscale correlations. Through dropping or combining some dimensions, the current form of the CES (Form D) which is a nine dimension scale with 10 items per dimension has emerged (see Appendix A).

2. Dimensions and Subscales of the CES

The nine CES subscales correspond to three sets of dimensions which are the Relationship dimensions, the Personal Growth or Goal Orientation dimensions and the System Maintenance and Change dimensions. The CES covers 10 items for each of the nine subscales.

a. Relationship Dimensions.

These dimensions are measured by the Involvement, Affiliation and Teacher Support subscales. These subscales assess student involvement level in the class, the level of friendship between students in the class and the amount of help and friendship that the teacher shows towards students.

All of the relationship subscales are evenly divided between true and false.

Involvement covers the level of emphasis of students' attentiveness and interests in class activities, participation in discussion in the class and the amount of their outside studies.

In the CES; item 1,10,19,28,37,46,55,64,73 and 82 are included in this scale. Below are examples of items in the scale:

Students put a lot of energy into what they do here. (T)

Students daydream a lot in this class. (F)

Affiliation is related to the level of friendship between students, as indicated by helping each other with homework and voluntering to study together.

Items 2,11,20,29,38,47,56,65,74 and 83 are included in this scale. Some examples of items from this scale are:

Students in this class get to know each other really well. (T)

Students in this class arent very interested in getting to know other students. (F)

Teacher Support assess the teachers' help and friendship toward students expressed by talking with them openly and being interested in their ideas.

Items 3,12,21,30,39,48,57,66,75 and 84 belong to the Teacher Support subscale. Some examples of items from this scale are:

The teacher takes a personal interest in students. (T)

This teacher spends very little time just talking with students. (F)

b. The Personal Growth or Goal Orientation Dimensions.

Task Orientation and Competition subscales correspond to these dimensions. These subscales evaluate the emphasis the teacher puts on completing planned activities and the competition that exist between students.

Task Orientation assess how much completion of already planned, programmed activities is emphasized with minimum sidetracking.

Task Orientation is measured by items 4,13,22,31,40, 49,58,67,76 and 85. Six items are scored true, while four are scored false. Some examples of this scale are:

Almost all class time is spent on the lesson for the day. (T)

We often spend more time discussing outside student activities than class related material. (F)

Competition measure how much students compete for grades and recognition and the level of difficulty for having good grades.

It is evaluated by items 5,14,23,32,41,50,59,68,77 and 86. Ten items are evenly divided between true and false. Some examples of items in the scale are:

Students try hard to get the best grade. (T)

Students don't feel pressured to compete here. (F)

c. The System Maintenance and Change Dimensions.

These dimensions include Order and Organization, Rule Clarity, Teacher Control and Innovation subscales. These subscales measure the organization of the classroom functions and the variety and novelty in class activities.

Order and Organization includes if the students behave orderly and how the classroom activities and assignments are organized in the class.

Items 6,15,24,33,42,51,60,69,78 and 87 measure order and organization of the classroom. In this subscale six items are scored true, while four are scored false. Below are some examples of items in the scale:

This is a well-organized class. (T)
Students fool around a lot in this class. (F)

Rule Clarity emphasizes construction and acceptance of clear set of rules and students being aware of the consequences of their behaviors. Moreover, it relates to the extend to which the teacher is consistent in following these rules.

Items 7,16,25,34,43,52,61,70,79 and 88 belong to the Rule Clarity scale. Seven of them are scored true, while three of them are scored false. Some examples of this scale are:

There is a clear set of rules for students to follow. (T)
Rules in this class seem to change a lot. (F)

Teacher Control is related to the teacher's manner of enforcing rules and the amount of disciplinary consequences students face in the class.

It is measured by items 8,17,26,35,44,53,62,71,80 and 89. Six items are scored true, while four are scored false. Some examples of this scale are:

If a student breaks a rule in this class, he's sure to get in trouble. (T)

There are very few rules to follow. (F)

Innovation indicates how much the students' ideas are used to plan classroom activities and how much the teachers use new techniques.

In the CES items 9,18,27,36,45,54,63,72,81 and 90 are included in this scale. Six of them are scored true, while four of them are scored false. Some examples of items in the scale are:

New ideas are always being tried out here. (T)

New and different ways of teaching are not tried very often in this class. (F)

3. The Forms of the CES

The current CES has three forms and the Short Form.

The Real Form (Form R) measures students' and teachers' perceptions of their current classroom environment. It is the standard form of the CES. All other CES forms are adaptation of Form R.

The Ideal Form (Form I) assess students' and teachers' conceptions of ideal classroom learning environment. They answer the items according to the classroom they would ideally like. Form I tries to get at the goals and value orientation of students and teachers. It is also used with Form R to clarify in which areas students and teachers want differences in their classes.

Items of Form I are parallel to items of Form R. The scoring keys for the two forms are the same.

The Expectation Form (Form E) measures students' and teachers' expactations about classrooms they are about to enter. It is also parallel to Form R.

In addition to these forms the CES also has the Short Form (Form S). Form S was developed to obtain relatively rapid assessment of a classroom's social climate. The first 36 items of Form R, including four items from each of the nine subscales belong to Form S. Studies supported the use of the Short Form, when classrooms are studied as the unit of analysis; by contrast when an individual is studied, Short Form has too few items, to be of value in understanding about the single person and to make comparisons among individuals.

4. Administration and Scoring the CES

The CES can be administered individually or in groups. Students, teachers or other people who observe the classroom climate while the class is in process, can respond to the scale. They decide which of the statements are true and which are false for their classrooms. If they think a statement is true or mostly true for their class, they mark the box labeled T (true), if they think a statement is false or mostly false, they mark the box labeled F (false). A separate answer sheet is used for marking.

Scoring is a simple task. Each item column of responses constitutes one scale. Number of marks in each column are counted and total raw scores for each subscale are obtained. Individual subscale scores can be converted to standard scores.

5. Reliability, Validity and Results of Factor Analysis Studies of the CES

a. Reliability of the CES.

Using Kuder-Richardson Formula 20, internal consistencies were calculated. Results indicated that, the subscale internal consistencies are all acceptable, ranging from .67 for "competition" to .86 for "teacher control". The average item-subscale correlations are quite high for all nine

subscales, ranging from .44 for "competition" to .57 for "involvement" and "teacher control" as can be seen in Table 1.

Table 1

Original Form R Subscale Internal Consistencies, Average Item-Subscale Correlations and Test-Retest Reliabilities

CES Subscales	Internal Consistency N=22 classrooms	Average Item-Subscale Correlations N=465 students	Six week Test-Retest Reliability N=52 students
Involvement	.85	.57	.87
Affiliation	.74	.48	.73
Teacher Support	.84	.54	.89
Task Orientation	.84	.53	.78
Competition	.67	.44	.81
Order & Organization	.85	.54	.85
Rule Clarity	.74	.48	.72
Teacher Control	.86	.57	.79
Innovation	.80	.50	.90
Mean	**.80**	**.52**	**.82**

Note. From "Classroom Environment Scale Manual" (p.15) by R.Moos, E.Trickett, 1987, California: Consulting Psychologists.

To determine test-retest reliability 52 students in four classes responded to the CES twice with a six week interval between tests. The test-retest reliabilities are all acceptable ranging from .72 for "rule clarity" to .90 for "innovation" as showed in Table 1.

The stability of the CES profiles was examined using intraclass correlations. The profile correlations were high over two week, four week and six week time intervals. In two classes two week interval profile correlations were .91 and .98, in three classes four week interval profile correlations were .72, .87 and .96 and in four classes six week interval profile correlations were .90, .95, .98 and .98.

For each 22 classrooms, means and standart deviations of the subscale scores were calculated. The results of the

one-way analysis of variance showed that all nine subscales differentiated the 22 classrooms at better than the .001 level.

Subscale intercorrelations were calculated to discover if any further collapsing or deletion of scales may be mandated. The highest intercorrelation is .51 and the average intercorrelation among the nine subscales is .26. The average intercorrelation of each subscale with the other subscales ranges from .10 to .31 as can be observed in Table 2. According to these results each subscale intercorrelate modaretely with other subscales suggesting that they belonge in the same set of variables and yet each subscale, measure distinct aspects of the psychological environment of the high school classroom.

Table 2
Original Form R Subscale Intercorrelations

CES Subscales N=465 students	Affiliation	Teacher Support	Task Orientation	Competition	Order & Organization	Rule Clarity	Teacher Control	Innovation
Involvement	49	45	15	15	49	19	-15	44
Affiliation		34	14	17	30	12	-09	38
Teacher Support			-25	05	19	00	-48	51
Task Orientation				41	42	41	49	-21
Competition					19	26	32	-02
Order & Organization						37	09	19
Rule Clarity							44	-09
Teacher Control								-33

Note. From "Classroom Environment Scale Manual" (p.16) by R.Moos, E.Trickett, 1987, California: Consulting Psychologists.

b. Validity of the CES.

Moos and Trickett (1987) tried to build face and content validity by defining constructs, preparing items to fit the construct definitions, selecting items that were

related to a dimension according to item-scale correlations and internal consistency analysis and placing each item on only one dimension.

Construct validity of the CES was investigated by looking at the relationships between the CES and the perceived setting. For example; the results supported Moos's predictions that there would be an association between the CES teacher control subscale and the frequency of use of reward and punishment in class. Although these two indices were also higher in competitive classes and classes with high rule clarity, they were lower in supportive classes. Furthermore, as can be predicted, students in small groups percevived more affiliation compared to more crowded classes (Moos and Trickett, 1987).

Kaye, Trickett and Quinland (1976) found that accepting feelings, praising, encouraging or utilazition of students' ideas by the teacher were usually found in supportive classes while cricism or justifiying authority was used in highly controlled classes (cited in Moos, 1987). According to research carried out by Chiou (1985) high level of relationship dimensions (involvement, affiliation, teacher support) was the predictor of students' satisfaction with teachers.

c. Factor Analysis Studies of the CES.

Some investigators have factor analyzed the CES. Schultz (1979) obtained three factors which are relationship factor including involvement, affiliation, teacher support and innovation; an orderliness/achievement factor covering task orientation and organization and control factor including competition, rule clarity and teacher control.

Wright and Cowen (1982) identified four factor dimensions which are affiliation, organization, teacher control and innovation and Humphrey (1984) obtained five factors; involvement, task orientation clarity, organization and teacher control (cited in Moos and Trickett, 1987).

In 1979, Trickett and Quinland factor analyzed the items of the CES in a study of 229 classes and identified six factors which are affiliation, teacher support, competition, emphasis on rules and clarity, order and organization and focus on an innovative student-oriented teaching approach (cited in Moos and Trickett, 1987).

These studies support the multidimensionality of the CES.

6. Translations and Adaptations of the CES

The CES has been translated and adapted in several countries. It has been translated into Spanish (Persaud, 1977), Hebrew, Indonesian (Paige, 1979), Arabic (Harty, Hassan, 1983), French (Moyano-Diaz, 1983), German (Moos, Bessoth, Lawrenz, Sand, 1984), Chinese (Cheung,Lau, 1985) and Thai.

The French version has adequate subscale internal consistency, intercorrelations and test-retest reliability (cited in Moos and Trickett, 1987). The Chinese version also has quite high internal consistency in most of the CES subscales ranging from .51 for innovation to .84 for order and organization (Cheung and Lau, 1985).

Fisher and Fraser (1983) administered the real and ideal forms of the CES to 116 junior high school science classes in 33 schools and a teacher real form to 56 teachers in Australia. One thousand eighty three students responded to the real form, while one thousand ninety two students replied to the ideal one. Both the individual student and class means have been used as the unit of analysis. As can be seen in Table 3 when classrooms were taken as the unit of analysis, student real form's internal consistency ranged from .60 (competition) to .90 (order and organization), student ideal form's internal consistency ranged from .60 (competition) to .86 (order and organization).

When individual student scores have been used as the unit of analysis, student real form's internal consistency ranged from .51 (competition) to .75 (order and organization), student ideal form's internal consistency ranged from .50 (competition) to .75 (involvement) and teacher real form's internal consistency ranged from .57 (teacher control) to .77 (oder and organization) as shown in Table 3.

Table 3

The Results of the Internal Consistency Study in Australia

Subscales	Unit of Analysis	Student real n=1083 students	Student ideal n=1092 students	Teacher real n=56 teachers
Involvement	Indiv.	.70	.75	.76
	Class	.81	.84	
Affiliation	Indiv.	.60	.63	.65
	Class	.71	.70	
Teacher Support	Indiv.	.72	.67	.63
	Class	.85	.80	
Task Orientation	Indiv.	.58	.58	.68
	Class	.72	.65	
Competition	Indiv.	.51	.50	.62
	Class	.60	.60	
Order and Organization	Indiv.	.75	.73	.77
	Class	.90	.86	
Rule Clarity	Indiv.	.63	.60	.70
	Class	.76	.69	
Teacher Control	Indiv.	.60	.55	.57
	Class	.71	.67	
Innovation	Indiv.	.52	.63	.66
	Class	.71	.73	

Note. From "Validity and Use of the Classroom Enviromnet Scale" by D.Fisher, B.Fraser, 1983, Educational Evaluation and Policy Analysis, 3, p.265.

Results from Australia showed that each form of the CES has adequate internal consistency and adequate discriminant validity with either the individual or the class mean as the unit of analysis. Moreover all nine CES subscales differentiated significantly between classrooms (Fisher and Fraser, 1983).

Other than the cross cultural adaptations of the CES the scale or some of its dimensions have been adapted for use in studies. For example; on the basis of the Short Form which was developed by Moos and Trickett, in order to reduce the length of the scale, Fraser and Fisher (1983a) constructed

a 24-item version of the CES with four items from each of the six scales. Five of these six scales contained the same four items as those in Moos and Trickett's version. They did not take any items from competition, teacher control and innovation subscales. Statistical analysis showed that there was a high correlation between the long form and short form and the internal consistency and discriminant validity of the short form were satisfactory.

In order to tap teachers' perceptions of their classes a 5-point rating scale based on the CES items was constructed by Weisz and Cowen in 1976 (cited in Moos and Trickett, 1987). The High School Environment Scale (HES) including the items of the Short Form of the CES, have been modified to refer to the overall school environment rather than the specific classroom environment (Felner, Aber, Primavera and Cauce, 1985). The Classroom Information Form (CIF) based on the nine CES dimensions, each represented by four items assess the teachers' perceptions of class environments (Toro, Cowen, Gesten, Weissberg, Rapkin and Davidson, 1985). Kids Interpretation of the Environment was adapted by Mc Keever (1976) by taking two items for each CES dimension and applying it to elementary school children (cited in Toro et al., 1985).

After all, it can be said that the available literature points to the CES and the dimensions to have extensive and cross-cultural utility.

C. Application Areas and Research Applications Of The CES

In this section the literature up to the present as it relates to different areas of application and utilization will be presented.

The CES has a broad range of utility having to do with the classroom environment, to assess environmental impact and to plan and evaluate interventions.

1. Describing Classrooms

The CES can be used to describe and contrast classroom environments, compare teacher and student perceptions and contrast actual and preferred classroom settings.

a. Learning about Classrooms.

By using the CES both students and teachers can describe their perceptions about particular classes in detail.

In order to describe the social climate of the classroom the average student score and teacher score are calculated for each subscale. The difference between these two show the differences between the students' and teachers' perceptions. An agreement or disagreement between them indicate important descriptive characteristics of the classroom.

In such a study students reported their classroom as less clear in terms of rules, but moderately involved and affiliative and about average on innovation, whereas teachers perceived their classrooms as having rule clarity, with lack of affiliation and innovation and being average on involvement. The students and teachers both agreed that the class was task oriented, well organized, average on competition and low on teacher control (Moos and Trickett, 1987).

In Paige's (1979) study, Indonesian students indicated their classrooms as being high on relationship, task orientation, competition, order and control, but lacking on innovation (cited in Moos and Trickett, 1987).

Fisher and Fraser (1983) in Australia found that the differences between teacher real and student real scores were significantly different for four subscales of the CES. Teachers percevived more involvement, teacher support, order and organization and rule clarity than students do.

Wright (1981) also found that students and teachers did not perceive their classroom environment in the same way and students' perceptions of the class environment were quite stable over the school year, although teachers' were not.

By contrast to other studies, Pond (1974) obtained significant relationships between the perceptions of classroom environments by the teachers and their students about the same classroom.

The CES may also be applied to outside absorvers. Other teachers, administrators and parents can respond to the scae onthe basis of their observations of a particular classroom.

b. Comparing and Contrasting Classrooms.

The CES gives an opportunity to compare the classrooms in the same school or the classrooms in different types of schools.

In order to contrast the classrooms the average student score for each subscale for each class are calculated and the average scores from different classes are compared. Scores indicate, how the students and teacher of class A, and the students and teacher of class B perceive their classroom environments and what the similarities and differences between these classrooms are, based on their perceptions.

Moos and Trickett (1979) developed an empirical typology of classroom learning environment, based on the extensive differences that they found among classes. The data were obtained from 200 classes and for cluster analysis nine students' CES subscale mean scores for each class were selected. From the analysis six type of classes were identified; relationship oriented, innovation oriented, task oriented, supportive-competition oriented, unstructured-competition and task oriented (cited in Moos, 1979; Moos, 1980; Moos and Trickett, 1987).

Relationship oriented and innovation oriented types stress involvement and affiliation between students and between students and the teacher. Secondary level of emphasis in relationship oriented classes (12 per cent) were found to be on clarity of rules, organization and teacher control. Whereas students of innovation oriented classes (26 per cent) indicated high emphasis on openness and change. They perceived relatively little task orientation, lack of clarity and low level of teacher control.

Task oriented and supportive-competition oriented classes focus on different aspects of goal orientation in a framework characterized by teacher support. The task oriented classes (23 per cent) stressed supportive and well-organized class whereas supportive-competition oriented classes (7 per cent) emphasized clarity, organization and affiliation between students.

Unstructured-competition oriented and control oriented classes showed less degree of relationship. The unstructured-competition oriented classes (4 per cent) indicated to have high goal orientation, competition and lack of order and organization. However control oriented classes (28 per cent) highly emphasized teacher control. Students of these classes stressed strict rules, rigid organization and lack of student-student and teacher-student interaction.

The CES was also used to specify similarities and differences in classrooms that exist in rural, urban, suburban, vocational and alternative schools. First three schools represent geografical differences, whereas last two represent different educational ideologies. The study was carried out by Trickett (1978) over a four year period and the sample included 409 highschool classes.

The clearest differences among schools occured between alternative and vocational schools. Alternative schools stressed student-student and teacher-student relationship

more than other schools. They were quite well-organized, task oriented, antiauthoritarian and anticompetitive. Also they were the highest of all schools on innovation. In contrast, vocational schools were lowest in teacher support and innovation, whereas they were highest in teacher control and competition.

Rural, suburban and urban schools' classes did not show differences as much as the alternative and vocational schools showed. Rural schools were close to the mean of the normative sample on all dimensions. Suburban schools stressed teacher-student relations, order and organization but it was lower on competition. Urban schools were highest on task orientation and on involvement dimension after alternative schools. According to Trickett the reason, for similarities and differences between five types of schools, can be the educational goal of each school and the normative characteristics of students and teachers (Moos, 1979).

In another study compared with the traditional schools' classes, an alternative public inner-city high school's classrooms showed to have significantly more emphasis on all relationship dimensions (involvement, affiliation, teacher suport) and innovation. By contrast, traditional school classes emphasized more competition and teacher control (Trickett, Mc Conahay, Phillips and Ginter, 1985).

Single-sex school classrooms were contrasted with coeducational school classrooms by E.Trickett, P.Trickett, J.Castro and P.Schaffner (1982). Single sex school classrooms were perceived as higher in involvement, affiliation, task orientation, competition, order and organization, teacher control and rule clarity. The schools did not differ on teacher support and innovation subscales.

In another study using the CES, classes were analyzed according to the subjects that are taught and some differences were found between them. Findings showed that math, physical

sciences, business and typing classes were higher on organization, rule clarity and support but lower on innovation. Social and artistic classes lacked in rule orientation while social science classes were high on innovation and low on involvement, affiliation, competition and teacher control. Electronic and mechanics classes stressed teacher control, affiliation and support (Moos and Trickett, 1987).

Many studies were carried out with the CES to explore the relationship between teachers' characteristics and social environment of the classroom. It was found that open, non-directive teachers emphasize involvement, support, flexible rules and innovative teaching techniques, whereas directive teachers stress teacher control, competition and task orientation (Harty and Hassan, 1983).

Study with 21 teachers and 416 students investigated the impact of the class environment on the teacher. The results indicated that teachers' self concept are not related to their classroom environment (Watson, 1982). According to findings of another study in the begining of the semester teacher support was more important than challenge. However challenge become equally related to involvement when students felt supported by the teacher (Seitchik, 1980). Barineau (1982) pointed out that teachers with more work stressors created less task oriented and more competitive classrooms. Task focused and independent work settings of teachers influence them to create task focused and well-structured classroom environment (Hutcherson, 1982).

The idea that teachers expect different types of students needing different psychological climate, was supported by a study. In this study teachers felt that nonwhite average students would desire more controlled environment and would have lowest level of achievement orientation, while the teachers expressed opinion about white average students prefferring less ordered and controlled environment (Schultz, 1983).

Another important factor that influence class-environment, is students' characteristic (Moos and Trickett, 1987). Classes with mainstreamed students had significantly lower scores on task orientation and competition (Barineu, 1982). The students of higher ability developed more positive learning environment in math and English classes (Costello, 1985). Female students felt more support and trust and they enjoyed working together when the teacher was female (Morris, 1985). Female students also stressed more innovation and task orientation while male students emphasized more control (Moos and Trickett, 1987).

In a study by Brown (1982) poorly-behaved and well-behaved students responded to the CES differentially. Poorly-behaved students had lower scores on the involvement, affiliation, teacher support, order and organization, rule clarity and innovation subscales. There were no significant difference on the dimensions of task orientation, competition and teacher control.

c. Contrasting Actual and Preferred Classrooms.

To see how well the current environment and preferred environment correspond to each other, scores of the real form and ideal form can be compared. It helps to assess the amount of change, the students and teacher would like to see in the classroom. The degree of change desired is calculated by subtracting the students' Form R subscale means from their Form I subscale means. The same is done for the teacher. If there is no discrepancy between real and ideal subscale means, it indicates no change is desired by both students and the teacher.

In the study of Fisher and Fraser (1983) except for task orientation students' ideal scores were higher than their real scores. Students wanted more involvement, affiliation, teacher support, order and organization, rule clarity and innovation. Moos and Trickett (1987) found that teacher and students preferred a class setting very different from

their own class. They both desired much more emphasis on involvement, affiliation, teacher support, organization and innovation and less competition. However, teachers wanted more task orientation, rule clarity and control than students do.

Gifted students would like to have supportive classroom relationship with their peers and teachers. They preferred high level of involvement, innovation, rule clarity and organization and average emphasis on task orientation and competition (Adams, 1983).

2. Assessing Environmental Impact

The dimensions of the CES can be used to clarify the impact of social climate of the classrooms.

a. Understanding the Impact of Social Climate.

The CES can be used to understand the impact of social climate on the students' characteristics and performance.

Some studies were carried out to clarify the relationship between student satisfaction, morale and aspects of classroom social environment. In such a study it was found that, student satisfaction was promoted and student anxiety decreased in classrooms which were high on involvement, affiliation, innovation, rule clarity and support. By contrast, control oriented classes prevented student satisfaction (Moos, 1979; Fraser, Pearse and Azmi, 1982). Schreck (1977) investigated that low explorers were less satisfied with different aspects of school settings than were high explorers. He found that students' personal satisfaction was affected by the students' satisfaction with the particular class than their personality differences. Similarly according to the findings of Pond's (1974) study there were parallel significant relationships between how classroom environments are perceived by students and the satisfaction of students with the classroom activity.

Abseenteism was seen more in control oriented and competitive classrooms, whereas it was low in classrooms where teacher suport was higher (Moos,R. and Moos,B., 1978; Moos, 1984). Significant relationships between stress and involvement, affiliation and order and organization was found in Lovitz's study (1975). According to findings, sixth grade students reported more stress when they were in classes that were lacking in these dimensions of the classroom social environment.

In Jamaica, Persaud (1977) showed that classrooms which were high on involvement, support and innovation, moderate on task orientation and organization and low on teacher control promoted higher level of student social development. Findings of Paige's study (1979) indicated that, Indonesion students' individual modernity was related to high level of task orientation, competition and less order and organization, whereas achievement was enhanced in classes where order and organization was lower (cited in Moos and Trickett, 1987).

The relationship between student adjustment, self concept and aspects of classroom social development was analyzed by Galuzzi, Kirby and Zucker (1980), Nelson (1984), Humphreys (1984) and Felner, Aber, Primavera and Cauce (1985). In these studies, relationship dimensions, clarity and organization were found to be related to high level student self concept, whereas competition and task orientation were related to low self concept of students (cited in Moos and Trickett, 1987).

In classes where affiliation, teacher control and task orientation were perceived as high by students, teachers reported less acting-out problems (Toro et al., 1985).

Research showed that positive student mood, greater peer popularity, more self control and more positive teacher ratings of adjustment related both to students' and teachers'

perceptions of high order and organization, affiliation and involvement in the classroom (Wright and Cowen, 1985; Moos and Trickett, 1987).

Other studies pointed out that there were significant relationships between classroom learning environment and cognitive and behavioral development and the state of students. According to findings of Fry and Coe (1980) affiliation oriented classrooms had students with high level of motivation toward academic succes and desire for self-improvement. By contrast, competition oriented classrooms had students with high anti-school feelings and control oriented classrooms had students with significant degree of anti-school feelings and lower level of interest for self-improvement. Felner et al., (1985) investigated and found that teacher support was a significant predictor of grades, but affiliation was not a significant predictor of academic performance.

Some studies were designed to understand the students' attitudes toward social studies, science and math. Students in social studies and science classes which were high on affiliation, attentiveness and organization showed more positive attitude toward the class content in the study by Haladyna, Olsen and Shaughnesy (cited in Moos and Trickett, 1987). Fraser and Fisher (1982) found that, classes with higher participation and order and organization would be more likely to promote positive attitudes about the social implications of science and classes with greater involvement, order and organization and innovation will be more likely to promote leisure interest in science. In Shaughnessy and Haladyna's study (1983) fourth grade students attitudes toward math were highly correlated with enjoyment of class-mates, attentiveness and organization (cited in Moos and Trickett, 1987). Saudi naval trainees responses also supported the idea that students have positive effects from supportive math classes (Turpin, 1982).

b. Putting Social Climate in an Ecological Perpective.

To understand environmental influences on a person, an environment should be analyzed in a context of the other settings in a person's life.

In a study, family cohesion proved the most salient predictor of more positive adjustment and was associated with better scholastic and peer self concept, while teacher support was a significant predictor of scholastic self concept (Felner et al., 1985).

Nelson (1984) showed that supportive and well organized classroom and cohesive and well organized family produce positive self concept (cited in Moos and Trickett, 1987). Furthermore, Parker (1982) pointed out that students from structured and accepting homes are better adjusted when they are in a class that is low in competition and high on support and structure.

The study with Chinese students indicated that groups high in relationship and system maintenance and change dimensions of the CES had a more positive self esteem than groups low in these two domains, while positive self esteem was found to be correlated with all the dimensions of the Family Environment Scale (FES). The group of students receiving high scores on the FES dimensions were also found to have high self esteem as compared to the low scorers (Cheung and Lau, 1985).

3. Planning and Evaluating Interventions

The CES can be used to facilitate individual counseling, to match students and classrooms, to improve and monitor classrooms and to evaluate intervention programs.

a. Facilitating Individual Counseling.

Using the CES along with other scales and techniques more information about a student can be obtained and this information can be used to guide individual counseling.

Moos and Fuhr (1982) administered the CES, the Family Environment Scale (FES) and the Work Environment Scale (WES) to an adolescent who was experiencing academic problems. The results of the CES pointed out that she had negative feelings about her class. She perceived that students disliked the class and the teacher was not interested in the class, that the class was poorly organized and highly autocratic. Her responses to the FES and WES clarified that her problems were particularly interpersonal rather than academic. She had academic problems, because her parents did not have enough time for her at home after work. Consequently, according to the results, although she was not directly involved in her parents work milieu, it affects her family life and her school performance (cited in Moos and Trickett, 1987).

b. Matching Students and Classrooms.

CES can help students and parents by giving information about the available classrooms when they want to select the type of school. By placing students in the kinds of classroom they prefer, positive results from these classrooms can be obtained.

Students who preferred more teacher support, competition, clarity and innovation learned more about the social implications of science when they were in a class emphasizing these dimensions. In addition, students who preferred highly organized class, showed leisure interest in science when they found a well organized one (Fraser and Fisher, 1983b).

Davidson (1976) identified that better adjusted students achieved better when classroom structure increase, however, aggressive and anxious children showed lower level

of achievement when the classroom was more structured. Better adjusted students were more satisfied and succesful than the aggressive and anxious students whether classroom support was high or low (cited in Moos and Trickett, 1987).

Externally oriented boys showed more adjustment problems in low control classrooms than in high control ones, whereas internally oriented boys had better grades in low control classes than in high control ones (Harpin and Sandler, 1979).

The responses of students who reported that their behaviors are affected by the social climate pointed out significant interaction between the academic locus of control and teacher control (Harpin and Sandler, 1979).

In the study of Moos and Nielsen (1978), all students in high exploration classrooms were more satisfied than the students in low exploration classrooms. Especially in the high exploration climates positive relationship was found between exploration preferences and classroom adaptation.

c. Improving and Monitoring Classrooms.

The CES can identify the classes which need improvement and changes. Using Form R and Form I, the dimensions that should be changed can be determined. If the teacher and students agree on the desired direction of change, classroom might be altered more easily in these areas.

Such an application is reported by De Young (1977). He administered the CES in college sociology classes and found that although these classes' actual learning environments were quite different, both classes' students preferred more involvement, more innovative techniques and clearer organization. He selected one of the classes and constructed items to report on specific topics, discussed class content and organization and clarified grading characteristics in this class. After these modifications the students of experimental

class reported more involvement, affiliation, support, clarity and innovation.

The French translation of the CES was used by Moyano-Diaz (1984) in a similar way. He gave feedback to one of two classes. This experimental group showed increase in involvement, organization and innovation whereas they showed decrease in competition. However, the control group remained stable (cited in Moos and Trickett, 1987).

Such findings show that the learning environment of the classrooms can be changed by using the results of the CES.

d. Evaluating Intervention Programs.

The CES can be used to understand if an intervention program is promoting the intended social climate or not.

The effect of a social studies peer-teaching intervention program on student perceptions of class environment, adjustment and academic performance was studied. The CES, School Opinion Survey, Report Card and average monthly grades were used to assess class environment, adjustment and academic performance. The students of experimental group perceived their classes as more involved, orderly and organized and reported enjoying their school work more. Teachers reported increasing academic succes and decreasing number of problems in the experimental group as well (Wright and Cowen, 1985).

III. STATEMENT OF THE PROBLEM AND EXPECTATIONS OF THE STUDY

Although the importance of classroom social climate for learning and personal growth is known, it has not been studied in Turkey. The absence of psychometrically well developed classroom social climate scales in Turkish is one of the reasons for the absence of such research. In order to be able to study this issue in Turkish classrooms an objective measurement scale is needed.

Two general types of techniques are used in order to measure classroom climate over the world. One is the systematic observational techniques that help the researcher to record and classify all the classroom interaction during given periods of time. The other type is an information collection method from all class members with questionnaires, to have each member's perceptions of the other classmates' and the teacher as well as the teachers' perceptions.

To have such an objective measurement scale in Turkey Classroom Environment Scale (CES), assessing the perceived social climate of junior high and high school classrooms, developed by R.Moos and E.Trickett in 1974, in the U.S. was selected. The purpose of this study was the preliminary adaptation of the CES for use in Turkish classrooms.

The particular objectives of the study were:

1- to translate the CES from English to Turkish

2- to determine the transliteral equivalence of the Turkish form

3- to check the reliability of the Turkisch CES

4- to analyze factor dimensions of the Turkish scale

After translating the original CES from English to Turkish the transliteral equivalence study was carried out.

The expectations of this study were as follows.

The first general expectation was that, there would be no significant differences among the mean scores of the experimental Turkish scale and the original English form, if the translation is accurate and are meaningful for the Turkish bilingual respondents.

The second general expectation was that, there would be no significant difference between the CES scores when the alternate forms are given in different order; Turkish first, English next or English first, Turkish second.

The third general expectation of the transliteral equivalence study was that, there would be high correlations between the English and the Turkish CES scores indicating the equivalence of the English and Turkish CES.

More specifically the expectations were:

1- The involvement subscale scores would show high similarity and correlation between the English and Turkish forms regardless of the order that they are given.

2- The affiliation subscale scores would indicate high similarity and correlation between the English and Turkish forms regardless of the order of taking alternate forms.

3- The English and Turkish scores of the teacher support subscale would show high similarity and correlation between two forms reardless of the order of being administered English or Turkish forms.

4- The task orientation subscale scores would point out high similarity and correlation between the English and Turkish forms regardless of the order that they would be responded.

5- The competition subscale scores would show high similarity and correlation between two forms of the CES regardless of the order of taking English or Turkish forms.

6- The order and organization subscale scores would indicate high similarity and correlation between the English and Turkish forms inspite of the order of administering alternate forms.

7- The rule clarity subscale scores would show high similarity and correlation between the English and Turkish forms regardless of the order of taking English and Turkish forms.

8- The English and Turkish scores of the teacher control subscale would point out high similarity and correlation between two forms regardless of the order that they would be given.

9- The innovation sbuscale scores would indicate high similarity and correlation between the alternate forms reardless of the order that they would be administered.

The third part of the study which is the reliability part, covered the internal consistency and test-retest reliability of the Turkish form. The objective of test-retest study, was to determine the stability of the experimental Turkish scale.

The fourth part of the study was factor analysis. This phase was carried out to examine whether the nine subscales of the original English scale cover the same items and phenomena in relation to Turkish classes as perceived by Turkish students.

IV. METHOD

This study was designed as a preliminary step to the development of the Turkish form of the Classroom Environment Scale (CES). This initial step was carried out in four phases: 1) the translation of the CES, 2) the transliteral equivalence study of the Turkish form, 3) the reliability study which includes cronbach's alpha, item-subscale correlation, subscale-subscale correlation and test-retest reliabilty of the Turkish CES, 4) factor analysis study of the Turkish form.

In the following section each of these phases will be described separately.

A. The Translation of the CES

The original CES (see Appendix A) was translated from English to Turkish by three bilingual people. One of them was the adviser of this study who is a clinical psychologist and the others were an English teacher of Foreign Language School at Istanbul University and a masters level pedagogue. Then the three separate forms were inspected by the thesis adviser and the present author and one Turkish form was derived.

The validity of the translation was tested by use of the back-translation technique. For this purpose, two bilingual people who were blind as to the original English form, translated the Turkish version into English. One of these bilingual people was a British professional translator and the other was a developmental psychologist. This back translations were checked against the original English scale. After some revision and modification by the thesis adviser and present researcher the initial Turkish form of the CES was obtained.

To further control the translation and the conceptualization of each item as representative of the particular subscale, the 90 item Turkish form with nine subscales and their definitions in Turkish (see Appendix B) was prepared. These were given to 20 experts, from Boğaziçi University, İstanbul University and Marmara University Guidance And Psychological Counseling, Educational Sciences and Psychology departments. They were asked to check the items to show which item best corresponded to which subscale, according to the definition of the subscales. The data of the expert group was examined carefully and the items that were identified as corresponding to different subscales from the original subscale by three or more experts were selected as the items that should be reexamined. The total number of these items were 30 out of 90 (see Appendix C).

Then two or three alternative translations for each of these 30 items were prepared and were given to seven additional experts. They were asked to choose between these sentences the one which was most appropriate to the particular subscale according to its given definition. Answers collected from the seven experts were incorporated to the scale by the present researcher and her supervisor. The present form of the Turkish CES (see Appendix D) was obtained as a consequence of such a process.

B. The Transliteral Equivalence Study

After translation of the CES, a study was needed to determine the transliteral equivalence of the Turkish version.

1. Pilot Study

Before giving English and Turkish forms to the main experimental groups a small sample responded to both the English form of the CES and its Turkish version.

Sample

Pilot study group contained 20 subjects who were senior year students of Boğaziçi University in Educational Sciences Department, Guidance and Psychological Counseling specialization. Although the instruction language is English in this university, the English background of this group was variable. Some students graduated from highschools where instruction was in English, but some students had just one year English preparation before their university education.

Because of the natural sex distribution of the group, only one male student participated in this study.

Instrument

The original English Classroom Environment Scale (CES), called "Form A" and the translated Turkish version of the CES called "Form B" were used in the pilot transliteral equivalence study.

Procedure and Design

The two forms (A and B) of the scale were administered to two different groups. First, half of the students were given the original English form and half of them were given the translated Turkish version. Then approximately one week later, these two groups were given the alternate forms. That is, the group which had initially been administered the English form were given the Turkish version and the group which first had received the Turkish version, were given the English form. Through this design, each subject answered each item both in English and in Turkish.

Table 4
Design of the Pilot Transliteral Equivalence Study

Groups	N	First Testing	Second Testing
Group I	10	A[a]	B[b]
Group II	10	B	A

Note. The letters represent the language of the instrument
a- A is the English CES form
b- B is the translated Turkish CES form

During the administration process, the purpose of the study was briefly explained to the subjects and subjects were given code numbers instead of writing their names in order to maintain anonymity and opennes.

Statistical Analysis

The data was analysed by two way analysis of variance to determine:

1- The differences between the English and the Turkish forms (A and B) of the scale and

2- The effects of order of giving alternate forms (A-B and B-A).

Results and Discussion

The aim of this pilot study was to show that the translated Turkish form is not different from the original English form of the CES and that order of administration would not produce a difference on the responses.

The means of two experimental groups (A-B, B-A) at first and second testing are presented in Table 5.

This table shows that in the pilot study the means of the first testing are usually lower than the means of the second testing. Sometimes first testing gave lower scores if the students responded to the Turkish form before the English CES. Only in one subcale (competition) first testing is higher, although it was given in English.

The two way (language X order) analysis of variance yielded no significant differences for the nine subscales as can be seen in Tables 6,7,8,9,10,11,12,13,14.

Table 5

CES Subscale Means Obtained from Experimental Groups in First and Second Testing in the Pilot Study

CES Subscales	Experimental Groups	Experimental Forms	N	M
Involvement	1	A[a]	10	7,00
		B[b]	10	7,20
	2	B	10	6,70
		A	10	7,60
Affiliation	1	A	10	6,30
		B	10	6,40
	2	B	10	7,10
		A	10	7,10
Teacher support	1	A	10	7,90
		B	10	8,60
	2	B	10	8,70
		A	10	8,50
Task orientation	1	A	10	7,80
		B	10	8,70
	2	B	10	8,30
		A	10	8,00
Competition	1	A	10	4,90
		B	10	4,40
	2	B	10	3,70
		A	10	4,30
Order and organization	1	A	10	8,40
		B	10	8,40
	2	B	10	8,80
		A	10	8,70
Rule clarity	1	A	10	6,60
		B	10	7,80
	2	B	10	7,70
		A	10	7,80
Teacher control	1	A	10	2,40
		B	10	2,60
	2	B	10	2,50
		A	10	2,60
Innovation	1	A	10	5,00
		B	10	5,70
	2	B	10	5,20
		A	10	4,90

Note. The letters represent the language of the instrument.

a- A is the English CES form

b- B is the translated Turkish CES form

Table 6

Pilot Study Two Way Analysis of Variance for Language and Order on the Involvement Subscale

Source of Variation	SS	DF	MS	F
Order (A)	.025	1	.025	.005
Language (B)	1.225	1	1.225	.250
A x B	3.025	1	3.025	.618
Error		36	4.892	

Table 7

Pilot Study Two Way Analysis of Variance for Language and Order on the Affiliation Subscale

Source of Variation	SS	DF	MS	F
Order (A)	5.625	1	5.625	.836
Language (B)	.025	1	.025	.004
A x B	.025	1	.025	.004
Error		36	6.731	

Table 8

Pilot Study Two Way Analysis of Variance for Language and Order on the Teacher Support Subscale

Source of Variation	SS	DF	MS	F
Order (A)	1.225	1	1.225	1.053
Language (B)	2.025	1	2.025	1.740
A x B	.625	1	.625	.537
Error		36	1.164	

Table 9

Pilot Study Two Way Analysis of Variance for Language and Order on the Task Orientation Subscale

Source of Variation	SS	DF	MS	F
Order (A)	.100	1	.100	.075
Language (B)	3.600	1	3.600	2.711
A x B	.900	1	.900	.678
Error		36	1.328	

Table 10

Pilot Study Two Way Analysis of Variance for Language and Order on the Competition Subscale

Source of Variation	SS	DF	MS	F
Order (A)	4.225	1	4.225	1.389
Language (B)	3.025	1	3.025	.995
A x B	.025	1	.025	.008
Error		36	3.042	

Table 11

Pilot Study Two Way Analysis of Variance for Language and Order on the Order and Organization Subscale

Source of Variation	SS	DF	MS	F
Order (A)	1.225	1	1.225	1.038
Language (B)	.025	1	.025	.021
A x B	.025	1	.025	.021
Error		36	1.181	

Table 12

Pilot Study Two Way Analysis of Variance for Language and Order on the Rule Clarity Subscale

Source of Variation	SS	DF	MS	F
Order (A)	3.025	1	3.025	.803
Language (B)	3.025	1	3.025	.803
A x B	4.225	1	4.225	1.121
Error		36	3.769	

Table 13

Pilot Study Two Way Analysis of Variance for Language and Order on the Teacher Control Subscale

Source of Variation	SS	DF	MS	F
Order (A)	.025	1	.025	.009
Language (B)	.025	1	.025	.009
A x B	.225	1	.225	.080
Error		36	2.825	

Table 14

Pilot Study Two Way Analysis of Variance for Language and Order on the Innovation Subscale

Source of Variation	SS	DF	MS	F
Order (A)	.900	1	.900	.237
Language (B)	2.500	1	2.500	.659
A x B	.400	1	.400	.105
Error		36	3.794	

Based on this finding with a small N, it could be said that the English and Turkish forms are highly likely to be equivalent and that the order of taking the test in English or in Turkish initially would not have a significant effect on the outcome.

2. Study Proper

This phase is similar to the pilot study.

Sample

The sample consisted of 180 bilingual students from Robert College ninth and tenth grade students who had studied English for six and seven years respectively. In the student selection procedure, natural sex distribution of the group was kept. The sample of the main transliteral equivalence study can be seen in Table 15.

Table 15

Composition of the Sample in the Main Transliteral Equivalence Study

	Number of Students		
	Lise I	Lise II	Lise III
Males (N)	64	56	120
Females (N)	30	30	60
Total (N)	94	86	180

Instruments

The original English Classroom Environment Scale (CES) caled "Form A" and the translated Turkish version of the CES called "Form B" were used as in the pilot study.

Procedure and Design

In the administration procedure, the purpose of the study was briefly explained to the subjects. In order to assure anonymity and opennes, subjects were given code numbers instead of writing their names.

Based on consultation with the Robert College counselors to provide some consistency in terms of importance of subject, numbers of hours per week, a particular subject was chosen and all the Lise I and Lise II classes were asked to fill the CES according to their experience and perceptions during this class.

Because of time limitations the researcher was not able to administer the scale to every class herself. For this reason faculty members from faculty of Education, graduate students and a Robert College school counselor participated in the administration process. Before test administration all examiners were trained by the researcher.

According to the order in which the forms were administered, two experimental groups were derived. Classes were assigned to these groups randomly. Initially all the six Lise I classes were administered the CES forms. In the first administration day half of them were given the original English form and half of them were given the translated Turkish form. Approximately ten days later, the group which had responded to the English form before, was given the Turkish form and the group which had responded to the Turkish form initially, was given the English form. The following week all six of the Lise II classes took the CES forms. The same administration procedure was carried out as with Lise I classes. However during the second testing, one Lise II class did not attend the class period as a whole so those subjects could not be administered the original CES. For this reason five classes of the Lise II were included in statistical analysis, although six of them responded in the first testing.

Through this design each subject answered each item both in English and in Turkish. Table 16 shows the design of the main transliteral equivalence study.

Table 16

Design of the Main Transliteral Equivalence Study

Groups and Classes	Number of Students (N)			Order of Testing	
	Male	Female	Total	First Testing	Second Testing
Group I (3 Lise I and 3 Lise II)	76	38	114	A[a]	B[b]
Group II (3 Lise I and 2 Lise II)	44	22	66	B	A

Note. The letters represent the language of the instrument.

a- A is the English CES form

b- B is the translated Turkish CES form

Statistical Analysis

The following analysis were carried out, in order to test the transliteral equivalence of the Turkish form.

1- Differences among the two experimental groups (A and B) were analyzed by use of two way (order X language) analysis of variance.

2- Differences between the English and the Turkish language items were analyzed by use of t-test for each subsale separately.

3- The relationship between the first and the second test scores were determined by use of the Pearson Product Moment Correlation technique for two experimental groups for each subscale separately.

C. The Reliability Study

The Internal consistency and test-retest analysis were carried out in the second part of the research.

1. The Internal Consistency Part

Sample

A total of 625 subjects were selected from three different kinds of school in different districts of Istanbul to represent both high and low SES levels. As can be seen in Table 17, 228 students came from a school representing high socio economic status, 193 students belonged to a school representing high and middle socio economic status, while a school which was accepted as lower socio economic status, was represented by 204 students.

Table 17

Schools and Subjects Constituting the Internal Consistency and Factor Analysis Sample

Name of the School	Number of the Students		
	Male (N)	Female (N)	Total (N)
Robert College	154	74	228
Nişantaşı Anadolu Lisesi	127	66	193
İbrahim Turhan Lisesi	118	86	204
Total	399	226	625

All the present Lise I and II classes in Robert College and Nişantaşı Anadolu Lisesi and two Lise I and two Lise II classes in İbrahim Turhan Lisesi were randomly selected in the administration process. In Robert College there were six Lise I and six Lise II classes, while in Nişantaşı Anadolu Lisesi there were three Lise I and two Lise II classes. In İbrahim Turhan Lisesi the reason for not including all the classes was; to have an approximately similar number of students from each school.

Instruments

The translated experimental Turkish form of the CES was used in this part of the study.

Procedure and Design

In order to test the internal consistency of the Turkish CES all students responded to the Turkish form during class time.

Except for the administration process in Robert College, as stated previously, the researcher herself carried out the administration of the experimental Turkish form of the CES in the classes in Nişantaşı Anadolu Lisesi and in İbrahim Turhan Lisesi.

Statistical Analysis

In this part of the study various statistical analysis were used. The internal consistency of the Turkish CES was determined by using Cronbach's alpha technique for each subscale. Item-subscale correlations and subscale-subscale correlations were also computed by using Pearson Product Moment Correlation technique.

2. The Test-Retest Reliabilty Part

Sample

For the test-retest reliability analysis, from among 625 students who were administered the Turkish CES a total of 164 were retested. They were selected from two different schools; Nişantaşı Anadolu and İbrahim Turhan Lisesi. One Lise I and one Lise II class from both Nişantaşı Anadolu and İbrahim Turhan Lisesi, selected randomly, were given the CES twice. The sample of the test-retest reliability study is presented in Table 18.

Table 18

Schools and Subjects Constituting the Reliability Sample

Name of the School	Number of Students		
	Male (N)	Female (N)	Total (N)
Nişantaşı Anadolu Lisesi	47	13	60
İbrahim Turhan Lisesi	68	36	104
Total	**115**	**49**	**164**

Instrument

The newly developed experimental Turkish version of the CES was given in this phase of the study.

Procedure And Design

In order to test the stability of the CES scores the students were administered the scale twice with different time intervals. The administration interval was one week in Nişantaşı Anadolu Lisesi and two weeks in İbrahim Turhan Lisesi.

In both schools one class in 9th grade level and one class in 10th grade level were chosen for retest purposes randomly. The scale was given by the researcher in this part of the study.

Statistical Analysis

The temporal stability of the scores was found by test-retest correlations. The Pearson Product Moment Correlation technique was used for this computution. For each time interval and for each subscale a correlation cofficient was computed.

D. Factor Analysis Study

The aim of this study was to show whether the nine subscales of the original CES cover the same items and phenomena in relation to Turkish classes as perceived by students.

Sample

The same 625 subjects scores on the Turkish CES used for the internal consistency analysis were utilized for the factor analysis.

Instrument

The Turkish version of the CES was administered to the students.

Procedure and Design

In order to examine the factors of the Turkish CES all students responded to the Turkish form during class time.

All the scores of the 625 students on the Turkish CES were included in the analysis. During the analysis nine factors and three factors were indicated by the researcher to establish possible existing parallels to the original nine subscales and three dimensions respectively.

Statistical Analysis

The Turkish CES results were factor analyzed by P A1 type, rotate oblique procedure.

V. RESULTS

In this section the results of the transliteral equivalence study, the reliabilty study including the internal consistency and the test-retest reliability and factor analysis procedures of the translated Turkish CES are presented separately.

A. The Transliteral Equivalence Study

The aim of this study was; to show that the translated Turkish form is not different from the original English CES. Therefore, various statistical analysis were carried out to clarify this issue.

For an overall picture the means gathered from two experimental groups, at first and second testing (A-B, B-A) are presented for the study proper in Table 19.

Table 19

CES Subscale Means Obtained from the Experimental Groups in First and Second Testing in the Study Proper

CES Subscales	Experimental Groups	Experimental Forms	Total N	Total M
Involvement	1	A[a]	114	3,46
		B[b]	114	3,72
	2	B	66	4,89
		A	66	4,18
Affiliation	1	A	114	5,17
		B	114	5,18
	2	B	66	6,71
		A	66	5,30
Teacher Support	1	A	114	4,74
		B	114	4,80
	2	B	66	8,26
		A	66	6,77
Task Orientation	1	A	114	7,27
		B	114	7,65
	2	B	66	9,18
		A	66	7,32
Competition	1	A	114	4,98
		B	114	5,04
	2	B	66	4,76
		A	66	4,27
Order and Organization	1	A	114	3,89
		B	114	4,15
	2	B	66	7,67
		A	66	6,23
Rule Clarity	1	A	114	5,80
		B	114	5,75
	2	B	66	6,14
		A	66	5,73
Teacher Control	1	A	114	4,47
		B	114	4,65
	2	B	66	3,56
		A	66	3,45
Innovation	1	A	114	3,16
		B	114	2,87
	2	B	66	4,76
		A	66	3,50

Note. The letters represent the language of the instrument

a. A is the English CES form

b. B is the translated Turkish CES form

A two way (language X order) analysis of variance was carried out for each subscale. On the first subscale, involvement, the difference between the English and Turkish scores did not reach significance while the order of administration of the alternate forms showed significant difference ($F = 4.766$ at $p < .05$) as can be seen in Table 20.

Table 20

Two Way Analysis of Variance for Language and Order on the Involvement Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	74.779	1	74.779	4.766*
Language (B)	16.044	1	6.044	1.023
A x B	4.379	1	4.379	.279
Error		356	15.689	

*$p < .05$

As presented in Table 21, on the affiliation subscale neither the difference between the English and Turkish scores, nor the order of administration of these forms reached significance level.

Table 21

Two Way Analysis of Variance for Language and Order on the Affiliation Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	58.501	1	58.501	2.301
Language (B)	24.544	1	24.544	.966
A x B	40.983	1	40.983	1.612
Error		356	25.421	

On the teacher support subscale, although there was no significant difference between the English and Turkish scores, the order of giving alternate forms indicated significance ($F = 26.499$ at $p < .0001$) as can be observed in Table 22.

Table 22

Two Way Analysis of Variance for Language and Order on the Teacher Support Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	631.125	1	631.125	26.499*
Language (B)	30.625	1	30.625	1.286
A x B	42.347	1	42.347	1.778
Error		356	23.817	

*$p < .0001$

Only a weak significant difference was found between the English and Turkish scores ($F = 3.412$ at $p < .1$), while the order of administration of alternate forms pointed out non-significance on the task orientation subscale as can be seen in Table 23.

Table 23

Two Way Analysis of Variance for Language and Order on the Task Orientation Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	52.105	1	52.105	2.323
Language (B)	76.544	1	76.544	3.412*
A x B	46.179	1	46.179	2.058
Error		356	22.434	

*$p < .1$

As can be seen in Table 24, on the competition subscale there was no significant difference between both, the English and Turkish scores and the order of giving alternate forms.

Table 24

Two Way Analysis of Variance for Language and Order on the Competition Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	20.734	1	20.734	1.632
Language (B)	4.225	1	4.225	.333
A x B	3.747	1	3.747	.295
Error		356	12.702	

Although there was no significant difference between the English and Turkish scores, the order of responding to alternate forms showed significance ($F = 24.401$ at $p < .0001$) on the order and organization subscale as presented in Table 25.

Table 25

Two Way Analysis of Variance for Language and Order on the Order and Organization Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	715.270	1	715.270	24.401*
Language (B)	42.711	1	42.711	1.457
A x B	29.349	1	29.349	1.001
Error		356	29.313	

*$p < .0001$

On the rule clarity subscale neither the difference between the English and Turkish scores, nor the order of administration of alternate forms reached significance as can be seen in Table 26.

Although there was no significant difference between the English and Turkish scores, the order of taking alternate froms reached significance ($F = 10.665$ at $p < .001$) on the teacher control subscale as presented in Table 27.

Table 26

Two Way Analysis of Variance for Language and Order on the Rule Clarity Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	2.022	1	2.022	.369
Language (B)	1.344	1	1.344	.246
A x B	4.288	1	4.288	.783
Error		356	5.473	

Table 27

Two Way Analysis of Variance for Language and Order on the Teacher Control Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	92.842	1	92.842	10.665*
Language (B)	2.025	1	2.025	.233
A x B	.101	1	.101	.012
Error		356	8.705	

*$p < .001$

As presented in Table 28, on the innovation subscale there was no significant difference between the English and Turkish scores while the order of responding to alternate forms pointed out significant difference ($F = 7.001$ at $p < .01$).

Table 28

Two Way Analysis of Variance for Language and Order on the Innovation Subscale in the Study Proper

Source of Variation	SS	DF	MS	F
Order (A)	104.051	1	104.051	7.001*
Language (B)	6.944	1	6.944	.467
A x B	50.021	1	50.021	3.366
Error		356	14.862	

*$p < .01$.

As a summary it can be said that, although the results of the two way (language X order) analysis of variance generally, except for task orientation subscale, showed no significant differences among experimental groups (A and B), the order of taking alternate forms (A-B, B-A) indicated significant differences in five of the nine CES subscales (see Tables 18,20,21,23,25).

In table 29, the means, standard deviations and the correlations of English and Turkish forms for each subscale are presented. By using the means of the experimental forms (A and B), the difference between the English and the Turkish items were analysed by t-test procedure. Although the results showed non-significant differences between the English and Turkish items in seven subscales of the CES, task orientation and order and organization subscales were indicated significant difference at $p < .0001$ and $p < .01$ respectively (see table 29).

In order to investigate the stability of the subscales, across languages correlation coefficients between the first and second testing using alternate forms were computed by use of Pearson Product Moment Correlations. These ranged from .53 for innovation to .85 for teacher control when the English form was given initially and Turkish next. However when Turkish form was the first one to be given, the correlations ranged from .45 for teacher support to .89 for order and organization as can be observed in Table 30.

Table 29

Means, Standard Deviations, Correlations, and t values for the English and Turkish Subscales of the CES

CES Subscales	Language of Items	N	M	SD	r	t values
Involvement	English	180	3.85	2.72	.79	0.96
	Turkish	180	3.73	2.60		
Affiliation	English	180	5.29	2.32	.70	0.52
	Turkish	180	5.22	2.43		
Teacher Support	English	180	5.62	2.34	.72	0.99
	Turkish	180	5.48	2.48		
Task Orientation	English	180	7.76	1.77	.64	3.80**
	Turkish	180	7.28	2.12		
Competition	English	180	4.64	2.06	.69	0.69
	Turkish	180	4.72	2.04		
Order and Organization	English	180	4.98	3.30	.87	2.71*
	Turkish	180	4.65	3.22		
Rule Clarity	English	180	5.96	2.38	.72	1.46
	Turkish	180	5.77	2.27		
Teacher Control	English	180	4.10	2.65	.83	0.0
	Turkish	180	4.10	2.67		
Innovation	English	180	3.18	2.06	.58	0.37
	Turkish	180	3.23	1.95		

*$p < .01$
**$p < .0001$

Table 30

Correlations Between the First and Second Testing for the Experimental Groups

CES Subscales	Order of Administering Alternate Forms	
	English-Turkish N=114	Turkish-English N=66
Involvement	.81	.77
Affiliation	.71	.68
Teacher Support	.74	.45
Task Orientation	.67	.57
Competition	.68	.69
Order and Organization	.83	.89
Rule Clarity	.73	.73
Teacher Control	.85	.77
Innovation	.53	.64

B. The Reliability Study

1. The Internal Consistency Part

This part of the study aimed to demonstrate internal consistency of each subscale of the Turkish CES.

The means and standard deviations of the total group and the subject groups from three different schools were computed separately for each subscale as can ben seen in Tables 31,32,33,34.

Table 31

Means and Standard Deviations Obtained from the Turkish CES Subscale Scores of the Total Sample

CES Subscales	N	M	SD
Involvement	625	4.38	3.03
Affiliation	625	5.71	2.29
Teacher Support	625	5.45	2.67
Task Orientation	625	6.96	2.06
Competition	625	4.98	2.04
Order and Organization	625	5.60	2.91
Rule Clarity	625	6.33	2.21
Teacher Control	625	4.64	2.43
Innovation	625	3.85	2.23

Table 32

Means and Standard Deviations Obtained from the Turkish CES Subscale Scores of Robert College Sample

CES Subscales	N	M	SD
Involvement	228	4.00	2.74
Affiliation	228	5.24	2.30
Teacher Support	228	5.68	2.27
Task Orientation	228	7.75	1.82
Competition	228	4.58	2.07
Order and Organization	228	5.04	3.14
Rule Clarity	228	6.11	2.39
Teacher Control	228	4.13	2.62
Innovation	228	3.35	2.04

Table 33

Means and Standard Deviations Obtained from the Turkish CES Subscale Scores of Nişantaşı Anadolu Lisesi Sample

CES Subscales	N	M	SD
Involvement	193	4.46	3.41
Affiliation	193	6.31	2.10
Teacher Support	193	4.95	3.09
Task Orientation	193	6.44	1.79
Competition	193	4.84	2.13
Order and Organization	193	5.54	3.25
Rule Clarity	193	6.12	2.35
Teacher Control	193	5.35	2.37
Innovation	193	3.80	2.44

Table 34

Means and Standard Deviations Obtained from the Turkish CES Subscale Scores of İbrahim Turhan Lisesi Sample

CES Subscales	N	M	SD
Involvement	204	4.74	2.92
Affiliation	204	5.66	2.32
Teacher Support	204	5.65	2.62
Task Orientation	204	6.55	2.27
Competition	204	5.56	1.77
Order and Organization	204	6.28	2.04
Rule Clarity	204	6.79	1.76
Teacher Control	204	4.52	2.08
Innovation	204	4.45	2.08

The internal consistency of the Turkish CES was determined by different kinds of analysis. Internal consistency of each subscale was computed by using Cronbach's alpha technique and item-subscale correlations were calculated by using Pearson Product Moment Correlation technique.

Table 35

Alpha Coefficients of Each Subscale Obtained from the Total Sample for Turkish CES

CES Subscales	N	Alpha
Involvement	625	.82
Affiliation	625	.62
Teacher Support	625	.75
Task Orientation	625	.58
Competition	625	.58
Order and Organization	625	.80
Rule Clarity	625	.61
Teacher Control	625	.71
Innovation	625	.59

As can be seen from Table 35 alpha coefficients of each subscale ranged from .58 for task orientation and competition to .82 for involvement.

The average item-subscale correlations ranged from .43 for competition to .61 for involvement as can be seen in Table 36.

For each subscale the item-subscale correlations ranged from .41 to .73 for involvement, .28 to .60 for affiliation, .23 to .70 for teacher support, .35 to .53 for task orientation, .23 to .59 for competition, .42 to .74 for order and organization, .33 to .60 for rule clarity, .28 to .64 for teacher control and .32 to .60 for innovation as presented in Table 37.

Table 36

The Average Item-Subscale Correlations for Each Turkish CES Subscales

CES Subscales	N	Average item-subscale r
Involvement	625	.61
Affiliation	625	.47
Teacher Support	625	.55
Task Orientation	625	.46
Competition	625	.43
Order and Organization	625	.60
Rule Clarity	625	.47
Teacher Control	625	.52
Innovation	625	.46

Table 37

Results of the Item-Subscale Correlations for Each Turkish CES Subscales

CES Subscales											
Involvement	Item Number	1	10	19	28	37	46	55	64	73	82
	r	.73	.61	.70	.70	.48	.68	.47	.69	.41	.68
Affiliation	Item Number	2	11	20	29	38	47	56	65	74	83
	r	.56	.59	.59	.37	.48	.44	.60	.28	.41	.43
Teacher Support	Item Number	3	12	21	30	39	48	57	66	75	84
	r	.52	.57	.70	.62	.49	.62	.55	.59	.66	.23
Task Orientation	Item Number	4	13	22	31	40	49	58	67	76	85
	r	.53	.36	.42	.49	.35	.45	.46	.50	.50	.53
Competiton	Item Number	5	14	23	32	41	50	59	68	77	86
	r	.40	.56	.58	.59	.35	.34	.44	.36	.23	.48
Order and Organization	Item Number	6	15	24	33	42	51	60	69	78	87
	r	.67	.60	.72	.74	.55	.55	.42	.53	.57	.62
Rule Clarity	Item Number	7	16	25	34	43	52	61	70	79	88
	r	.45	.39	.55	.60	.50	.33	.51	.47	.41	.49
Teacher Control	Item Number	8	17	26	35	44	53	62	71	80	89
	r	.48	.63	.49	.60	.51	.60	.64	.55	.44	.28
Innovation	Item Number	9	18	27	36	45	54	63	72	81	90
	r	.58	.45	.45	.49	.55	.35	.32	.34	.47	.60

The subscale-subscale correlations of the experimental Turkish CES are presented in Table 38.

Table 38

Subscale-Subscale Correlations of the Experimental Turkish CES

CES Subscales	Affiliation	Teacher Support	Task Orientation	Competition	Order and Organization	Rule Clarity	Teacher Control	Innovation
Involvement	.41	.59	.05	.24	.68	.36	-.20	.48
Affiliation		.33	-.12	.02	.26	.12	-.12	.33
Teacher Support			-.15	-.04	.48	.23	-.54	.57
Task Orientation				.33	.14	.26	.19	-.35
Competition					.22	.26	.26	-.43
Order and Organization						.52	-.60	.34
Rule Clarity							.16	.13
Teacher Control								-.36

As can be viewed in this table the highest correlations are between involvement and teacher support (.59) and order and organiation (.68) followed by teacher support being correlated highly with innovation (.57), order and organization with rule clarity (.52) and teacher support (.48) and finally involvement with innovation (.48) while involvement and task orientation (.05) and affiliation and competition (.02) are correlated at a very low level. Involvement and teacher control (-.20); affiliation and task orientation (-.12) and teacher control (-.12); teacher support and task orientation (-.15) and competition (-.04) and teacher control (-.54); task orientation and innovation (-.35); competition and innovation (-.43), order and organization and teacher control (-.60); teacher control and innovation (-.36) are negatively correlated.

2. Test-Retest Reliability Part

In order to determine the stability of the Turkish CES over time, test-retest correlations with one week and two week time intervals were computed. The results of the reliability study can be seen in Table 39.

Table 39

Test-Retest Correlation Coefficients of Turkish Translation of the CES Subscales

CES Subscales	One Week Interval		Two Weeks Interval		Combined	
	N	r	N	r	N	r
Involvement	60	.95	104	.83	164	.89
Affiliation	60	.62	104	.66	164	.67
Teacher Support	60	.87	104	.76	164	.82
Task Orientation	60	.57	104	.29	164	.42
Competition	60	.70	104	.54	164	.63
Order and Organization	60	.88	104	.73	164	.84
Rule Clarity	60	.55	104	.49	164	.57
Teacher Control	60	.66	104	.69	164	.74
Innovation	60	.74	104	.55	164	.64

As presented in the table the test-retest correlations ranged from .55 for rule clarity to .95 for involvement for one week time interval, while for the two week time interval the correlations reduced; ranging from .29 for task orientation to .83 for involvement. When the combined correlations were calculated, they ranged from .42 for task orientation to .89 for involvement.

C. Factor Analysis Study

When the Turkish CES results were factor analyzed by P A1 Type, rotate oblique procedure into nine and three

factors, the items distributed in the manner explained below.

It can be seen from Table 40, when the number of factors were taken as nine, Factor I included 19 items of the 90 item CES. It covers eight items of the order and organization, seven items from involvement, three items from teacher support and one item of the rule clarity subscales. Twelve items were identified as belonging to Factor II and Factor III, each. Factor II had eight items from the teacher control, two items from each of the competition and the rule clarity subscales. According to the analysis, Factor III had six items from the task orientation, three items from the competition and two items from teacher support and one item from order and organization subscales. Factor IV contained only four items while Factor V contained eleven items from various subscales. Factor VI covered eight items from the affiliation and one item from task orientation subscales. Seven items of the rule clarity, two items of the innovation and one item from each of the affiliation and order and oranization subscales belonged to Factor VII. Factor VIII had two items, while Factor IX covered 10 items; six items from innovation, three items from teacher support and one item from involvement subscales.

According to these results, teacher support and competition subscales were distributed into various factors more than other subscales, when the number of factors as taken nine.

Table 40

The Results of Factor Analysis of the Turkish CES Form, when Factor Analyzed into Nine Factors

Factors	Original Subscales									
	Item Numbers of the Original CES									
	Involvement	Affiliation	Teacher-Support	Task Orientation	Competition	Order and Organization	Rule Clarity	Teacher Control	Innovation	Total Numbers of Items
Factor I	1-10-19-28 46-64-82		12-66-75			6-15-24-33-42-51 69-87	16			19
Factor II					41-50		7-43	8-17-35 44-53-62 71-89		12
Factor III			39-48	31-49-58 67-76-85	23-68-86	60				12
Factor IV			30		14-77				54	4
Factor V	37-73	38		4-40	5-32-59			26-80	27	11
Factor VI		2-11-20 47-56-65 74-83		13						9
Factor VII		29				78	25-34-52 61-70-79 88		36-72	11
Factor VIII			84	22						2
Factor IX	55		3-21-57						9-18-45 63-81-90	10

As Table 41 shows when the number of factors were limited to three, 59 of the 90 CES items corresponded to Factor I and this factor contained about all of the subscales except task orientation and teacher control subscales. Each of these two subscales were identified as belonging to different factors. Factor II had nine items from the original teacher control, three items from rule clarity and two items from the competition subscales. While Factor III contained nine items of the task orientation, three items of the competition and one item from each of the affiliation, teacher support and rule clarity subscales. Finally, two items of the innovation subscale, items 63 and 72, were negatively correlated with all of the factors.

Table 41

The Results of Factor Analysis of the Turkish CES Form, when Factor Analyzed into Three Factors

Factors	Original Subscales									
	Item Numbers of the Original CES									
	Involvement	Affiliation	Teacher-Support	Task Orientation	Competition	Order and Organization	Rule Clarity	Teacher Control	Innovation	Total Numbers of Items
Factor I	1-10-19-28 37-46-55 64-73-82	2-11-20 29-38-47 56-74-83	3-12-21 30-39-48 57-66-75	40	14-23-32 68-86	6-15-24 33-42-51 60-69-78 87	16-34-61 70-79-88	89	9-18-27 36-45-54 81-90	59
Factor II					41-77		7-25-43	8-17-26 35-44-53 62-71-80		14
Factor III		65	84	4-13-22 31-49-58 67-76-85	5-50-59		52			15

VI. DISCUSSION

The purpose of this study was to adapt the CES into Turkish. For tihs aim, the following steps were carried out: 1) The CES was translated from English to Turkish by back-translation technique, 2) the transliteral equivalence of the Turkish CES was tested, 3) the reliability study which included internal consistency, item-subscale correlations, subscale-subscale correlations and test-retest reliability and 4) the factor analysis of the data obtained from the Turkish CES were carried out.

In the transliteral equivalence study, it was expected that each subscale scores would show high similarity between the English and Turkish forms regardless of the order of taking alternate forms. The results of the pilot study with a small N showed that, there was no significant difference between the Englsih and the Turkish forms and order of responding to them. According to the statistical analysis of the study proper, except for task orientation subscale all other subscales' scores indicated similarity between the two languages while the order of taking alternate forms showed significant differences for five of the nine CES subscales. These subscales are; involvement, teacher support, order and organization, teacher control and innovation.

The scores of both experimental groups were affected by the language of the scale at the first assessment. If the initial given form was in English the mean scores were generally lower not only in English, but also on the Turkish form that was administered about ten days later. When the initial form was in Turkish the scores for both assessment were higher as compared to the scores of the other group who took the English and Turkish forms respectively. Furthermore in comparison to Group I (English-Turkish), Group II (Turkish-English) had higher scores in eight subscales of the CES,

except for teacher control. These results showed that when Turkish students responded to the Turkish form, they had higher scores, although the Turkish and English forms, except for one subscale are found to be transliterally equal.

The reason for the difference of the results of the pilot study and the study proper can be the different educational level and age of students who participated in each of the studies. The pilot study subjects were from Boğaziçi University while the subjects for the study proper were from the highschool educational level. This difference in subject populations might be responsible for differential conceptualization of the items given in different languages.

The difference in the study proper that seems to be the consequence of order of taking the CES in English or Turkish initially can be due to a difference in construeing the items in a different way when the language changes. With the initial introduction to the items setting the manner of construing.

A suggestion for future research to investigate this point further would be; to compare results of factor analysis and item-subscale correlations carried out with a group of subjects for both their English and Turkish forms' results.

Another route to follow can be; to conduct interviews with the students who will be given the CES in both languages focusing on their way of giving meaning to each item. Kağıtçıbaşı (personal communication, March 31, 1989) very effectively talked about this issue of attributing very different meaning to concepts in different cultures and groups. The students in the present study, under the influence of varying cultures can be set to respond with the meaning based on the particular cultural norms that is indicated with the language of the question.

By using the means of the English form and the Turkish experimental form, the difference between the English and Turkish items was analyzed by t-test. In seven of the nine CES subscales, the results indicated non-significant difference between English and Turkish items. Significance was seen in task orientation and order and organization subscales. As presented before in two way analysis of variance, task orientation showed significant difference between English and Turkish scores, also. Consequently two different analysis suggested that, task orientation subscale's English and Turkish items are not transliterally equal.

Correlations between the English and Turkish forms' subscales in Group I who had taken the English form initially and Turkish form next, ranged from .53 for innovation to .85 for teacher control. Group II who had responded to the Turkish form first, English form second had correlations between English and Turkish CES subscales ranging from .45 for teacher support to .89 for order and organization.

Since as analysis of variance findings indicate the difference is not one of language, the lower correlations can be attributed to the variance in conceptualization of the phenomena when presented in English or Turkish. The construct system that is triggerred seems to be different.

When it comes to reliability of the Turkish experimental form, according to results of the internal consistency analysis, alphas ranged from .58 for task orientation and competition to .82 for involvement and the average subscale alpha was .67. These alpha values are similar to Moos and Trickett's (1987) and Fisher and Fraser's (1983) findings for the original CES. Moos and Trickett's results ranged from .67 for competition to .86 for teacher control and the average subscale alpha was .80, even though they used the class means as the unit of analysis. Fisher and Fraser's study's internal consistency results ranged from .60 for competition to .90 for order and organization and the mean subscale alpha was

.75 when the classroom's mean were taken as the unit of analysis. However, when the individual scores were taken as the unit of analysis as they were in the present study with the same sample, results ranged from .51 for competition to .75 for order and organization and the mean of subscales alpha was .62. Thus, it can be said that the Cronbach's alpha coefficients established for the Turkish experimental CES are very similar to original CES when the unit of analysis is the same, specifically, individual students rather than classes.

The average item-subscale correlations ranged from .43 for competition to .61 for involvement and the mean of average item-subscale correlation was .51. These results are very close to Moos and Trickett's results. They found the mean of the average item-subscale correlation as .52 and average item-subscale correlations ranged from .44 for competition to .57 for involvement and teacher control.

The subscale intercorrelations of the Turkish form are quite close to the subscale intercorrelations of the original English CES. The most similar correlations are between affiliation and teacher support that is .34 for the English scale and .33 for the Turkish form, between rule clarity and affiliation which is .12 for both forms, between rule clarity and competition which is .26 for both forms and between teacher control and innovation which is -.33 for the English scale and -.36 for the Turkish form.

The result of the test-retest study, for one week interval, ranged from .55 for rule clarity to .95 for involvement with a mean of .73 for the nine subscales. When time interval was two weeks, reliability scores ranged from .29 for task orientation to .83 for involvement and the mean of the nine subscales was .62. With two week time interval, two scores were computed to be lower than .50. One of them was rule clarity (.49) and the other was task orientation (.29).

The results of analysis of variance and t-test with regard to difference between English and Turkish versions of the CES also had indicated that, task orientation is not transliterally similar and has the lowest alpha value. It seems that this subscale does not have transliteral equivalence, nor sufficient internal consistency and temporal stability. As a consequence of these findings it can be said that, the items of the task orientation of the Turkish CES should be reexamined.

When the items of the Turkish CES were factor analyzed, they indicated some difference in construction from the original CES. However some groupings were obtained in some factors as in the English CES. The items of involvement, affiliation, task orientation, order and organization, rule clarity, teacher control and innovation group together in similar fashion as in the English form.

When the factor analysis was carried out with nine as the limit on factors; seven factors emerged with nine or more items each. Factor I comprised of seven items of the original involvement subscale, eight of the original order and organization items and three teacher support items. It can be argued that the relationship dimension and system maintenance and change dimensions exist in both cultures, yet are not based on the same premises. For example; involvement for the students to take place they might need and desire more order and organization in Turkey than in the U.S.

Factor II, singled out the teacher control subscale with eight of its items; fitting in with the Turkish relational value system in families and in schools being control oriented (Kağıtçıbaşı, 1989).

Factor III merged task orientation and competition subscales taking six and three items from each respectively, comprising one subscale for personal growth or goal orientation.

Factor VI with nine items and eight out of them belonging to affiliation, also singled out an important aspect for the Turkish students; the relationship of peers.

Factor VII had 11 items and seven of them belonged to rule clarity and Factor IX contained 10 items and six of them were from innovation subscale of the original CES. Other three factors had a small number of items from different subscales.

The original teacher support and competition subscales' items spread out to different factors in the present analysis. This can be perhaps explained by the fact that, teacher support as practiced and experienced in the American culture and classes does not at all exist in a similar manner in the Turkish classrooms. Looking at the items closely it is quite self explaratory; for example "the teacher takes a personal interest in students, the teacher is more like a friend than an authority, the teacher goes out of his way to help students". In general with big classes the teacher do not have time and energy to go out of his way and to show personal interest in each student. Also within the existing normative structure the teacher is supposed to be an authority not a friend in Turkey (A.Oktay, personal communication, March 10, 1989).

When competition is considered, again, there is the basic variation in norms. American society having a strong underlying individualistic and competitive normative network as compared to the more relational and cooperative norms in Turkey. The competitive behavior, thus, might not exist in the same form and with similar emphasis in the Turkish classroom (Kağıtçıbaşı, 1989).

The factor analysis that was carried out with a limit of three, yielded an interesting picture. Teacher control and task orientation items formed into factors in their own right while the rest lumped together. These findings, than, suggest

that though we can talk about multidimensions in a Turkish class we can not talk about having the same dimensions grouped under the three main headings as in the U.S. Yet if it is also worthwhile to remember that the previous empirical studies that are reported do not support the theoretical dimensions established by Moos and Trickett. That is the existing factor analytic studies on the original English CES indicate that the nine theoretical dimensions covered under three major factors or constructs do not hold empirically. For instance; Schultz obtained three main factors; each of them containing different subscales from the original CES. Wright and Cowen identified four factors whereas Humphrey obtained five and Trickett and Quinland got six factors (Moos and Trickett, 1987).

Present study as previous studies support the multidimensionality of the CES with different groupings of the items, as compared to the original English version of the CES.

When the means of each subscale obtained from three Turkish schools are compared to those stated by Moos based on the American sample that were found to signify different types of classrooms such as; relationship oriented, innovation oriented, task oriented, supportive-competition oriented, unstructured-competition oriented and control oriented. Turkish classrooms were found similar to both task oriented and supportive-competition oriented classrooms in the U.S. These classrooms in the U.S. are said to stress task orientation, rule clarity, order and organization, affiliation and teacher support. Considering the Turkish educational system and the dominant values, that is, an emphasis on control and authority existing along with affection and close relations; the above picture fits in.

The present study is a first step towards the assessment of classrooms in Turkey and the key to higher quailty education and student growth and development.

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APPENDIX A

CLASSROOM ENVIRONMENT SCALE

FORM R

CLASSROOM ENVIRONMENT SCALE

Instructions

There are 90 statements in this booklet. They are statements about high school and junior high school classrooms. You are to decide which of these statements are true of your classroom and which are false.

Make all your marks on the separate answer sheet. If you think a statement is true or mostly true of your class, make an X in the box labeled T (true), if you think the statement is false, or mostly false, make X in the box labeled F (false).

Do not make any marks on this booklet.

1. Students put a lot of energy into what they do here.
2. Students in this class get to know each other really well.
3. This teacher spends very little time just talking with students.
4. Almost all class time is spent on the lesson for the day.
5. Students don't feel pressured to compete here.
6. This is a well-organized class.
7. There is a clear set of rules for students to folow.
8. There are very few rules to follow.
9. New ideas are always being tried out here.
10. Students daydream a lot in this class.
11. Students in this class aren't very interested in getting to know other students.
12. The teacher takes a personal interest in students.
13. Students are expected to stick to classwork in this class.
14. Students try hard to get the best grade.
15. Students are almost always quiet in this class.
16. Rules in this class seem to change a lot.
17. If a student breaks a rule in this class, he's sure to get in trouble.
18. What students do in class is very different on different days.
19. Students are often "clock-watching" in this class.
20. A lot of friendships have been made in this class.
21. The teacher is more like a friend than an authority.
22. We often spend more time discussing outside student activities than class-related material.
23. Some students always try to see who can answer questions first.
24. Students fool around a lot in this class.
25. The teacher explains what will happen if a student breaks a rule.
26. The teacher is not very strict.
27. New and different ways of teaching are not tried very often in this class.
28. Most students in this class really pay attention to what the teacher is saying.
29. It's easy to get a group together for a project.
30. The teacher goes out of his way to help students.
31. Getting a certain amount of classwork done is very important in this class.
32. Students don't compete with each other here.
33. This class is often in an uproar.
34. The teacher explains what the rules are.

35. Students can get in trouble with the teacher for talking when they're not supposed to.
36. The teacher likes students to try unusual projects.
37. Very few students take part in class discussions or activities.
38. Students enjoy working together on projects in this class.
39. Sometimes the teacher embarrasses students for not knowing the right answer.
40. Students don't do much work in this class.
41. A student's grade is lowered if he gets homework in late.
42. The teacher hardly ever has to tell students to get back in their seats.
43. The teacher makes a point of sticking to the rules he's made.
44. Students don't always have to stick to the rules in this class.
45. Students have very little to say about how class time is spent.
46. A lot of students "doodle" or pass notes.
47. Students enjoy helping each other with homework.
48. This teacher "talks down" to students.
49. We usually do as much as we set out to do.
50. Grades are not very important in this class.
51. The teacher often has to tell students to calm down.
52. Whether or not students can get away with something depends on how the teacher is feeling that day.
53. Students get in trouble if they're not in their seats when the class is supposed to start.
54. The teacher thinks up unusual projects for students to do.
55. Students sometimes present something they've worked on to the class.
56. Students don't have much of a chance to get to know each other in this class.
57. If students want to talk about something this teacher will find time to do it.
58. If a student misses class for a couple of days, it takes some effort to catch up.
59. Students here don't care about what grades the other students are getting.
60. Assignments are usually clear so everyone knows what to do.
61. There are set ways of working on things.
62. It's easier to get in trouble here than in a lot of other classes.
63. Students are expected to follow set rules in doing their work.
64. A lot of students seem to be only half awake during this class.
65. It takes a long time to get to know everybody by his first name in this class.

66. This teacher wants to know what students themselves want to learn about.
67. This teacher often takes time out from the lesson plan to talk about other things.
68. Students have to work for a good grade in this class.
69. This class hardly ever starts on time.
70. In the first few weeks the teacher explained the rules about what students could and could not do in this class.
71. The teacher will put up with a good deal.
72. Students can choose where they sit.
73. Students sometimes do extra work on their own in the class.
74. There are groups of students who don't get along in class.
75. This teacher does not trust students.
76. This class is more a social hour than a place to learn something.
77. Sometimes the class breaks up into groups to compete with each other.
78. Activities in this class are clearly and carefully planned.
79. Students aren't always sure if something is against the rules or not.
80. The teacher will kick a student out of class if he acts up.
81. Students do the same kind of homework almost every day.
82. Students really enjoy this class.
83. Some students in this class don't like each other.
84. Students have to watch what they say in this class.
85. The teacher sticks to classwork and doesn't get sidetracked.
86. Students usually pass even if they don't do much.
87. Students don't interrupt the teacher when he's talking.
88. The teacher is consistent in dealing with students who break the rules.
89. When the teacher makes a rule, he means it.
90. In this class, students are allowed to make up their own projects.

APPENDIX B

SINIF ORTAMI ÖLÇEĞİ

ALTÖLÇEK VE BOYUT TANIMLARI

SOÖ ALTÖLÇEK VE BOYUT TANIMLARI

İLİŞKİ BOYUTU

1. KATILIM (involvement): Öğrencilerin sınıf etkinliklerine ilgi ve dikkat gösterme dereceleri, tartışmalara katılmaları ve kendiliklerinden fazladan çalışmaları.
2. YAKINLIK DERECESİ (affiliation): Öğrencilerin birbirlerini yakından tanımak, birbirlerine ev ödevlerinde yardımcı olmak ve birlikte çalışmaktan zevk almak şeklinde yansıttıkları arkadaşlık derecesi.
3. ÖĞRETMENDEN GÖRÜLEN DESTEK (teacher support): Öğretmenin öğrencilere gösterdiği yardım ve arkadaşlığın miktarı, öğrencilerle ne derece açık konuştuğu, güvendiği ve onların fikirleri ile ilgilendiği.

BİREYSEL GELİŞME/AMACA YÖNELME BOYUTU

1. AMACA YÖNELME (task orientation): Planlanan faaliyetlerin tamamlanmasının ve konu üzerinde durulmasının vurgulanma miktarı.
2. REKABET (competition): Öğrencilerin not için ve kendini gösterme konusunda ne kadar rekabet ettikleri ve iyi not alabilmenin güçlüğü.

SİSTEMİ KORUMA VE SİSTEM DEĞİŞİMİ BOYUTU

1. DÜZEN VE ORGANİZASYON (order and organization): Öğrencilerin düzenli ve terbiyeli davranmalarının, okul ödevlerinin ayrıntılı organizasyonunun ve sınıf faaliyetlerinin vurgulanması.
2. KURALLARIN AÇIKLIĞI (rule clarity): Açık kurallar dizisinin oluşturulması ve sürdürülmesi, öğrencilerin bu kuralları izlemediklerinde karşılaşacakları sonuçları bilmeleri, öğretmenin kurala uymayan öğrencilere karşı olan tutumundaki tutarlılık derecesi.

3. ÖĞRETMEN KONTROLU (teacher control): Öğretmenin kuralları uygulamadaki sıkılığı, kurallar takip edilmediğinde uyguladığı cezanın şiddeti ve öğrencilerin sınıfta başının ne kadar derde girdiği.
4. YENİLİK/YARATICILIK (innovation): Öğrencilerin sınıf faayetlerinin planlanmasına ne kadar katkıda bulundukları ve öğretmenin yeni teknikler kullanma ve yaratıcı fikirleri destekleme derecesi.

APPENDIX C
THE ITEMS RECONSIDERED DURING THE TRANSLATION PROCESS

THE ITEMS RECONSIDERED DURING THE TRANSLATION PROCESS

8. There are very few rules to follow.
10. Students daydream a lot in this class.
13. Students are expected to stick to classwork in this class.
15. Students are almost always quiet in this class.
18. What students do in class is very different on different days.
22. We often spend more time discussing outside student activities than class-related material.
24. Students fool around a lot in this class.
29. It's easy to get a group together for a project.
40. Students don't do much work in this class.
41. A student's grade is lowered if he gets homework in late.
42. The teacher hardly ever has to tell students to get back in their seats.
43. The teacher makes a point of sticking to the rules he's made.
44. Students don't always have to stick to the rules in this class.
45. Students have very little to say about how class time is spent.
46. A lot of students "doodle" or pass notes.
50. Grades are not very important in this class.
51. The teacher often has to tell students to calm down.
52. Whether or not students can get away with something depends on how the teacher is feeling that day.
55. Students sometimes present something they've worked on to the class.
60. Assignments are usually clear so everyone knows what to do.
61. There are set ways of working on things.
62. It's easier to get in trouble here than in a lot of other classes.
63. Students are expected to follow set rules in doing their work.
67. This teacher often takes time out from the lesson plan to talk about other things.
72. Students can choose where they sit.
81. Students do the same kind of homework almost every day.
84. Students have to watch what they say in this class.

85. The teacher sticks to classwork and doesn't get side-tracked.

86. Students usually pass even if they don't do much.

88. The teacher is consistent in dealing with students who break the rules.

APPENDIX D

SINIF ORTAMI ÖLÇEĞİ

Bir Sosyal Çevre Ölçeği

SINIF ORTAMI ÖLÇEĞİ

Açıklama

Bu kitapçıkta 90 ifade bulunmaktadır. Bu ifadeler ortaokul ve lise sınıfları hakkındadır. Sizden bu ölçeği belli bir ders için doldurmanız istenmektedir. Bu ders için ifadelerin hangilerinin doğru ve hangilerinin yanlış olduğuna karar veriniz.

Tüm işaretlerinizi cevap kağıdı üzerinde yapınız. Eğer ifadenin sizin sınıfınız için doğru veya genellikle doğru olduğunu düşünüyorsanız D (doğru) kutusuna X işareti koyunuz. Eğer ifadenin yanlış veya genellikle yanlış olduğunu düşünüyorsanız Y (yanlış) kutusuna X işareti koyunuz.

Bu kitapçık üzerinde herhangi bir işaretleme yapmayınız.

SINIF ORTAMI ÖLÇEĞİ

1. Öğrenciler bu derste yaptıklarını hevesle yaparlar.
2. Bu dersteki öğrenciler birbirlerini zamanla çok iyi tanırlar.
3. Bu öğretmen öğrencilerle sadece sohbet etmeye çok az zaman ayırır.
4. Hemen hemen tüm ders saati o günün dersini işlemeye ayrılır.
5. Bu derste öğrenciler birbirleri ile rekabet etmek için bir baskı hissetmezler.
6. Bu, iyi organize edilmiş bir derstir.
7. Bu derste öğrencilerin uyması gereken belirli kurallar vardır.
8. Bu derste uyulacak çok az kural vardır.
9. Bu derste her zaman yeni fikirler denenir.
10. Öğrenciler bu derste sık sık hayale dalarlar.
11. Bu dersteki öğrenciler diğer öğrencileri tanımakla fazla ilgili değildirler.
12. Bu öğretmen öğrencilere kişisel ilgi gösterir.
13. Bu derste öğrencilerden sınıf çalışmalarına bağlı kalmaları beklenir.
14. Öğrenciler bu derste sınıftaki en iyi notu almak için çok gayret ederler.
15. Bu derste öğrenciler hemen hemen her zaman sakindirler.
16. Bu dersteki kurallar sanki sık sık değişiyor.
17. Eğer bu derste bir öğrenci bir kurala uymaz ise, mutlaka başı derde girer.
18. Öğrenciler bu derste her gün farklı şeyler yaparlar.
19. Bu derste öğrenciler çoğunlukla dakikaları sayarlar.
20. Bu derste birçok arkadaşlıklar kurulmuştur.
21. Bu öğretmen bir otoriteden çok bir arkadaş gibidir.
22. Biz ders dışı öğrenci faaliyetlerini tartışmaya, dersle ilgili konuları tartışmaya ayırdığımızdan daha çok zaman ayırırız.
23. Bu derste bazı öğrenciler soruları ilk yanıtlayan kişi olmak için yarışırlar.
24. Bu derste öğrenciler çok dalga geçerler.
25. Öğretmen bir öğrenci bir kurala uymadığında neler olacağını açıklar.
26. Öğretmen çok sert değildir.
27. Yeni ve değişik öğretim yöntemleri bu derste çok sık denenmez.
28. Bu dersteki öğrencilerin çoğu öğretmenin söylediklerine gerçekten dikkat ederler.
29. Bir proje için bir grup oluşturmak kolaydır.
30. Öğretmen öğrencilere yardımcı olmak için olağanüstü gayret sarfeder.
31. Bu derste belirli bir miktar konu işlenmesi çok önemlidir.

32. Bu derste öğrenciler birbirleriyle rekabet etmezler.
33. Bu ders genellikle bir kargaşa içindedir.
34. Bu öğretmen kuralların neler olduğunu açıklar.
35. Zamansız konuşmaktan ötürü öğrencilerin başı öğretmenle derde girebilir.
36. Bu öğretmen öğrencilerin alışılagelmemiş projeler denemelerinden hoşlanır.
37. Bu derste çok az sayıda öğrenci sınıf tartışmalarına ve faaliyetlerine katılır.
38. Bu derste öğrenciler projeler üzerinde birlikte çalışmaktan zevk alırlar.
39. Bazen, öğretmen doğru cevabı veremediklerinden dolayı öğrencileri utandırır.
40. Bu derste öğrenciler fazla çalışmazlar.
41. Eğer öğrenci ödevini vaktinde getirmezse notu kırılır.
42. Öğretmenin öğrencileri yerlerine oturmaları konusunda uyarması hemen hemen hiç gerekmez.
43. Öğretmen koyduğu kurallara uyulması üzerinde önemle durur.
44. Bu derste öğrenciler her zaman kurallara uymak zorunda değildir.
45. Bu derste zamanın nasıl değerlendirileceği konusunda öğrencilere fazla söz hakkı düşmez.
46. Pekçok öğrenci bu derste birbirlerine not yazarak veya kağıtlara bir şeyler çizip karalayarak vakit geçirir.
47. Öğrenciler bu dersin ödevlerinin yapılmasında birbirlerine yardım etmekten zevk alırlar.
48. Bu öğretmen öğrencileri küçümseyerek konuşur.
49. Bu derste genellikle başta planladığımız kadarını yaparız.
50. Bu derste nota çok önem verilmez.
51. Öğretmen sıklıkla öğrencilerine sessiz olmalarını söylemek zorunda kalır.
52. Öğrencilerin yaptıkları birşeyden dolayı kınanıp kınanmamaları öğretmenin o günkü ruh haline bağlıdır.
53. Bu ders başlıyacağı zaman yerlerinde değillerse, öğrencilerin başı derde girer.
54. Öğretmen öğrencilerin yapması için alışılagelmemiş projeler düşünüp bulur.
55. Öğrenciler bazen bu derste sınıfa kendi yaptıkları çalışmaları sunarlar.
56. Bu derste öğrencilerin birbirlerini tanımak için fazla olanakları yoktur.
57. Öğrenciler bir konu hakkında konuşmak istediklerinde, bu öğretmen bunu yapacak zamanı bulur.
58. Eğer öğrenci bu dersi birkaç gün kaçırırsa, yetişmesi belli bir çaba

gerektirir.

59. Bu derste öğrenciler diğer öğrencilerin aldıkları notlarla ilgilenmezler.
60. Genellikle ödevler açıkça anlatılır, böylece herkes ne yapacağını bilir.
61. Herşey hakkında önceden belirlenmiş çalışma kuralları vardır.
62. Bu derste insanın başının derde girmesi diğer birçok derstekinden daha kolaydır.
63. Ödevlerini yaparken öğrencilerden belli kalıplara uymaları beklenir.
64. Bu derste birçok öğrenci ancak yarı uyanık gibidir.
65. Bu derste herkesi ismiyle tanımak uzun zaman alır.
66. Bu öğretmen öğrencilerin ne öğrenmek istediklerini bilmek ister.
67. Bu öğretmen sık sık ders dışı konuları konuşmak için derse ara verir.
68. Öğrenciler bu dersten iyi not almak için çalışmak zorundadır.
69. Bu ders ender olarak vaktinde başlar.
70. Öğretmen ilk birkaç haftada bu derste öğrencilerin neler yapıp, neler yapamayacakları hakkındaki kuralları açıkladı.
71. Öğretmen çok hoşgörülüdür.
72. Öğrenciler istedikleri yerlere oturabilirler.
73. Öğrenciler bu derste bazen kendi başlarına fazladan çalışma yaparlar.
74. Bu derste birbirleri ile geçinemeyen öğrenci grupları vardır.
75. Bu öğretmen öğrencilere güvenmez.
76. Bu ders birşey öğrenilecek bir yerden çok, ders dışı sosyal etkinlik zamanı gibidir.
77. Bu derste bazen sınıf birbirleriyle rekabet etmek için gruplara ayrılır.
78. Bu dersteki faaliyetler açıkça ve dikkatle planlanmıştır.
79. Öğrenciler birşeyin kurallara aykırı olup olmadığından her zaman emin değildirler.
80. Öğretmen yaramazlık yapan öğrenciyi sınıftan çıkarır.
81. Öğrenciler hemen hemen her gün aynı tür ödev yaparlar.
82. Öğrenciler bu dersten zevk alırlar.
83. Bu dersteki bazı öğrenciler birbirlerinden hoşlanmaz.
84. Öğrenciler bu derste söyledikleri şeylere dikkat etmek zorundadırlar.
85. Öğretmen ders konusuna bağlı kalır ve konu dışına çıkmaz.
86. Öğrenciler çok çalışmasalar bile genellikle bu dersten geçerler.
87. Öğretmen konuşurken öğrenciler onun sözünü kesmezler.
88. Öğretmen kurallara uymayan öğrencilere karşı olan tutum ve davranışlarında tutarlıdır.
89. Öğretmen bir kural koyduğu zaman ona uyulmasını bekler.
90. Bu derste öğrencilerin kendi projelerini oluşturmalarına izin verilir.