THE DETERMINATION OF ADMISSION STANDARDS FOR TEACHER TRAINING PROGRAMS A DELPHI STUDY

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By

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ABSTRACT

DETERMINATION OF THE ADMISSION STANDARDS FOR TEACHER TRAINING PROGRAMS: A DELPHI STUDY

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This study dealth with three basic questions. The first question was related to the determination of admission standards for teacher training programs. The second question examined if consensus was established amid teachers, academicians, principals and parents on the determined admission standards.

The third question was formulated as to examine the extent to which some of the determined standards were represented in the students already admitted into teacher training programs at METU.

The subjects of the study consisted of 37 teachers, 41 academicians, 33 principals, 27 parents and 113 students. These subjects were selected from 2 public and 2 private high schools in Ankara and the 5 universities of which one was in Istanbul and the other four were in Ankara.

The data about admission standards was collected through a Delphi questionnaire developed and administered by the researcher. The data needed to examine the representation of

some of the standards was collected through already developed scales and from the student files available at registration office at METU. The analyses were carried out in the computer facilities of METU by utilizing the sub-programs frequencies, condescriptive, crosstabs, and t-test of the SPSS (Statistical Packages for Social Sciences).

As a result of analysis a set of standards to be used for the admission of students into teacher training programs was determined. In general a consensus was established amid teachers, academicians, principals, and parents concerning the use of the standards for the admission of students into teacher training programs.

Further analysis revealed that among the examined standards some were represented in the present higher education admission system whereas the affective ones were not yet included in the system. The degree of representation was partially reflected in the mean scores of the examined standards.

In general then, the study showed that there is a raised need for a broader set of standards to be used for the admission of students into teacher training programs. This set included a number of affect- related standards. This outcome was largely consistent with the results and suggestions observed in theoretical and empirical literature.

Key Words: Teacher Education, Teacher Training, Admission Standards for Teacher Trainig Programs, Teacher Charcteristics, Teacher Quality, Delphi Study.

ÖZET

Bu çalışmada üç temel soru ele alınmıştır. Birinci soru öğretmen yetiştirme programlarına aday kabulunde kullanılacak ölçütlerin saptanması ile ilgilidir. İkinci soru belirlenen ölçütlerin öğretmen yetiştirme programlaria aday kabulunde kullanılması konusunda görüş birliği oluşturmaya yöneliktir.

Çalışmanın üçüncü sorusu belirlenen ölçütlerden bir kısmının, halen ODTU'de öğretmen yetiştirme programlarına yerleştirilmiş öğrencilerde ne derece temsil edildiği konusu ile lgilidir.

Araştırmaya 37 öğretmen, 41 öğretim üyesi, 33 müdür ve müdür yardımcısı, 27 veli ve 113 öğrenci katılmıştır. Adı geçen guruplar Ankara da bulunan 2 devlet, 2 özel liseden, biri İstanbulda olmak üzere 5 ünivresiteden seçilmiştir. Veriler Nisan 1990 - Mart 1991 tarihleri arasında biri araştırıcı diğerleri hazır araçlar kullanılarak toplanmıştır. Üçüncü soru ile ilgili diğer veriler ODTU öğrenci işleri dairesi başkanlığınkaki öğrenci dosyalarından alınmıştır.

Toplanan veriler ODTU bilgisayar olanaklarından yararlanılarak analiz edilmiştir. Analizler SPSS içinde yeralan Paket Programlarının "frequencies, condescriptive, crosstabs ve t-testi" alt programları kullanılarak yapılmıştır.

Yapılan analizler sonucunda, öğretmen yetiştirme programlarına aday seçimi için bir ölçütler kümesi tespit edilmiştir. Tespit edilen bu ölçütlerle ilgili öğretmenler, öğretim üyeleri, müdür ve müdür yardımcıları ve veliler arasında genel bir görüş birliği olduğu saptanmıştır.

Analizlere göre incelenen bazı ölçütlerin yerleştirilen öğrencilerde temsil edildiği duyuşsal özelliklerin yeterince tensil edilmediği gözlenmiştir. Ölçütlerlerin temsil dereceleri bu ölçütlerle ilgili ortalama ve standart sapma puanlarında yansıtılmıştır.

Genel olarak daha geniş bir ölçütler kümesine ihtiyaç duyulduğu ve bu kümenin zihinsel olduğu kadar duyuşsal ölçütleri de kapsadığı oraya çıkmıştır. Bu sonuç hem teorik hem de ampirik bulgularla tutarlık göstermektedir.

Anahtar Sözcükler: Öğretmenlerin Yetiştirilmesi, Öğretmen Eğitimi Öğretmen Yeriştirme Programlarına Giriş Özellikleri, Öğretmen Özellikleri, Öğretmen Kalitesi, Ölçüt Tespiti, Delfi Tekniği.

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CHAPTER ONE

INTRODUCTION

In our rapidly expanding world individual, group and social needs are continuously forcing human beings to strive for the better. The attempt of reaching individual and social welfare brings about the need for improved and more extensive education which most people believe will help to achieve their expectations. Thus, the results of education prove the assumption that education itself assists persons to obtain more prestigious positions. When education is examined as a "system," it is then possible to understand what an important role the teacher plays in the educational process.

The basic constituents, as most educators agree, of education are teachers, students and curricula. These three form a strong triangular relationship, and any misfit among them directly affects the quality of education. This understanding is supported by Stinnett (1967), Karagözoglu (1987) and Kavcar (1987).

Stinnett(1967) puts forth his understanding that; the foundation for education is the quality of the teacher. It is unlikely that the student will get a superior education unless the teacher is superior. With good leadership and appropriate teaching aids, the teacher's effectiveness can be enhanced but the most ingenious plans of inspired administrators and the best

array of instructional devices are of little avail if the teacher is ignorant, unskilled or indifferent. Similarly, Karagözoğlu(1987) stated that among the three constituents mentioned above the teacher seems to have more effect than the other two.

A stronger understanding has been introduced by Kavcar. He says unless the quality of teacher is improved, it would be difficult to talk about the quality of education. Finally he added that the quality of the product can never surpass the quality of its producer (Kavcar, 1987).

Pektaş (1989) supports this view by stating that the quality of education is directly related to the quality of teachers, and the research studies conducted in this area proved such a relationship.

The above mentioned understanding puts a special emphasis on the quality of the teacher. Therefore it would be very helpful at this point to clarify two things. One is the meaning of quality, the other is the concepts of "teacher" and "teacher education." That means it is also necessary to clarify the basic rationale and the understanding underlying of the process of training quality teachers.

The concept "quality" is defined and explained in numerous ways by different researchers and educators. Among these

Alaylıoglu and Oguzkan(1968) define quality as the state which indicates characteristics or attributes of something. Rich (1981) has a somewhat different conception. He says quality may be kept equal with the availability of resources and fitness to the physical, vocational, civic, and economic conditions. Bellon & Bellon (1982) have a different definition of quality, which is they say a term highly value-bound with its meaning and definition changing from one culture to another. Furthermore Oguzkan (1983, p: 628) conceived quality as superiority and excellence. Finally, quite similar to the understanding of Rich (1981) and Oguzkan (1983), Halsey (1986) defines quality as the degree of excellence, grade or superiority, or judgements about some distinguishing features (Halsey, 1986 p:817).

In relation to the given definitions, quality seems to be culture-bound, and it indicates a certain degree of distinguishing characteristics or attributes. In that sense teachers as professionals are expected to posses a certain degree of distinguishing features, which may differ from one state or district to another.

On the other hand, quality should be maintained throughout an educational system's complementary and interacting components. In other words the input, process and output of the system should function equally well. As it was mentioned previously, the teacher is one of the important constituent governing input and process of educational system, where he/she takes part in both.

As an input constituent teacher's quality adds to the total quality of the system. Furthermore, during the execution process teacher contributes to the functioning of the system and ultimately to the final quality of products. For these reasons it would be wise to screen for the quality of those who desire to be prepared and trained for teaching.

In this respect, in order to increase teacher quality, there is a need for studies aimed at determining the standards to be used in the admission of students into teacher education programs in different systems. Since the basic concern of such studies is teacher education and the role of the teacher in the education system, then it is necessary to look first at how the "teacher" concept is presented in the literature.

The following paragraphs will proceed with definitions, with various teacher conceptions and models finally the issue of teacher education will be dealt with. The concept "teacher" as many other concepts, is described and defined in different ways. This is due to the philosophical understanding of those who introduced it.

Until recently, teacher has been defined as a person who teaches something to or instruct others (Alaylıoğlu and Oğuzkan, 1968; Good, 1973). Formally Teaching is defined a special profession that enables the realization of the educational and related administrative functions (Basic Law of National Education 1739 item 43)(Sezgin, 1987, p:9). Somewhat, a

similar definition but one that specifies the place of employment is introduced by Thomas and Page (1979). They state that a teacher is a person especially employed by a school to teach. Still a similar definition to the previous two, defines the teacher as a person who transmits knowledge and gives instruction to others (Good, 1973). These definitions generally stress the idea that a teacher is a person who imparts knowledge which is far from today's present understanding.

The following three definitions are broader in meaning. The first two are introduced by Good and the third one by Alaylioglu and Oğuzkan. A teacher is a person who, because of rich or unusual experiences or education in a given field, is able to contribute to the growth and development of other persons who come in contact with him (Good, 1973, p:550). A person who has completed a professional curriculum in a teacher education institution and whose training has been officially recognized by being awarded an appropriate teaching certificate (Good, 1973, p:550) The last one covers most features introduced in the previous definitions. It is stated that the teacher is a person who is assigned the responsibility to guide young people by providing experiences to children in public and private education institutions, or a person who contributes to other people's development via his/her knowledge and experiences; or a person who has completed the requirement of teaching profession (Alaylıoğlu and Oğuzkan, 1968).

All the definitions presented stress a different aspect of the concept; some place stress on teacher's being a subject-matter specialist and responsible for transmitting knowledge to others; some tend to introduce the idea of a responsible person for others' growth and development and still others indicate the professional framework of teaching. All these are true, but insufficient by themselves because a teacher is first of all a professional and has gained this right through long study and hard effort.

Then of course, a teacher is responsible for imparting knowledge, organizing and leading experiences necessary for a child's and youth's growth and development, for establishing relations with his environment within and out of school, for equipping children and youth with most contemporary skills needed for today and tomorrow. And finally, a teacher is a person responsible for the development of his own profession. One should remember that none of the above features taken alone is meaningful. This can only happen if and only if all the above mentioned features are hooked together to form a meaningful whole.

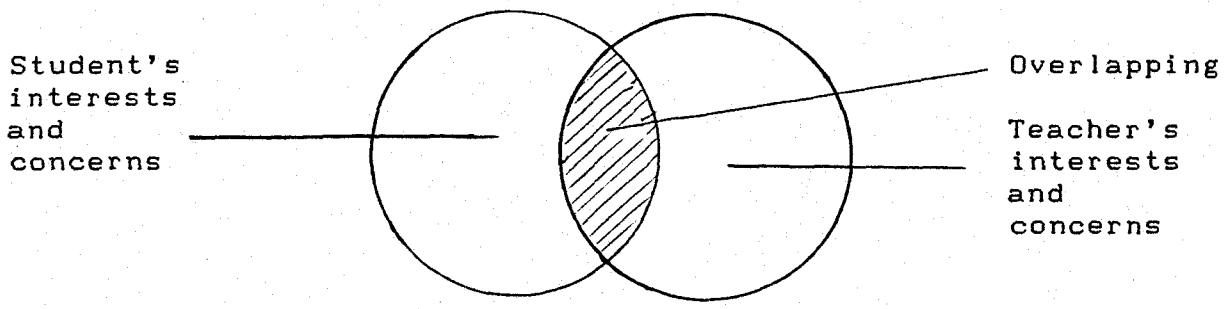
In addition to the definitions provided above, many other writers, instead of defining the concept, tried to explain their conception of teaching. Lane and Beauchamp (1955) for example claimed that a teacher is a friend to each child, a challenger to child's learning, child's advocate, helping his

growth and development. It may be helpful to widen each of the above mentioned conceptions.

The teacher as a friend resembles a strong, sympathetic and an interesting adult whom children may find in the school, talk to and reveal some depth of his soul. Furthermore, the children should find some people who care for them and will help them. In that sense the teacher represents the only chance for such a person who is more experienced (Lane and Beauchamp, 1955).

The teacher as the challenger to each child plays a distinctive role in each child's life of learning. This occurs especially when there is an overlapping of interests and concerns. It is doubtful if a teacher can teach a child anything except that which the child is interested and about which he is concerned. The overlapping of interests may be represented by the interlocking circles, where the overlap is the significant part indicating learning. In the figure given below the shaded area represents the overlap of interests and concerns.

Figure 1. The interaction of teachers and students interests and concerns.



(Lane & Beauchamp 1955, p: 197)

According to Lane and Beauchamp (1955) the teacher as the advocate of children has to see whether children get a fair deal, because he knows their needs. So one of his roles is to look over the community to see if the necessities for child's growth are present. And if they are not, he must present the facts that stimulate the community until they are provided.

The teacher as the facilitator of growth is a mature adult who is recognized as the status leader and who manages the environment and circumstances so as to facilitate growth. Maslow's theory of motivation suggests many implications for education. In this theory Maslow sees the teacher as a growth facilitator, which he called a "taoistic helper." In contrast to the traditional view where the teacher has been perceived as a boss, lecturer and reinforcer, Maslow's ideal teacher is receptive rather than intrusive and helps all students to learn what kind of people they are. The teacher's goal is always to take students from where they are toward self-actualization. (Lane & Beauchamp, 1955; Smith and Lusterman, 1979)

A more extensive list of roles that the teacher is expected to perform has been introduced by Havighurst and Neugarten (cited in Oguzkan,1987). In this list the teacher is defined as a mediator of learning, deciplinarian, person of culture, parent substitute, judge, confidant, professional expert and community leader. The teacher as a mediator of learning transmits knowledge

and directs and guides learning activities. The teacher as a disciplinarian needs to maintain order in the classroom if the activities are to be carried out (Oğuzkan, 1987).

At the lower levels of the education system the teacher plays the role of parent by helping the child with his clothing, comforting him and showing him affection. Female teachers represent a mother figure while male teachers are seen as fathers by the young children. Teachers are also expected to evaluate the work of students, assign grades, and decide whether to promote or not to promote the child. In that sense he/she is perceived as a judge. Teachers as professional experts are expected to be the most knowledgeable persons, in many communities, on matters related to child development and learning (Oğuzkan, 1987)

The teacher as confidant is defined also as a friend by Lane and Beauchamp(1955) which is previously explained. The two roles, community leader and the person of culture are more valid for rural than for urban areas (Oğuzkan,1987, p:127-130). Wrag(1989) defined teacher as a social worker who deals with social problems; as a moral guardian that helps to reduce crime rate; and as a jailer because he keeps in school reluctant pupils who would sooner be out of it. Armstrong et al., (1985) defined three additional responsibilities for the teacher including counseling, administration and curriculum development.

Teachers' counseling responsibilities involve accepting teaching as one of the helping professions. It requires many

personal contacts with young people in the classroom. Of course most secondary schools and elementary schools have full-time or part-time counselors, but the existence of professional counselor in an institution by no means relieves teachers from various counseling responsibilities.

The learner/counselor ratio is so high in most schools that counselors are forced to spend their time in working with most difficult situations of youngsters. They cannot spend time counseling every learner in the institution. If youngsters were very well acquainted with their teachers and if they felt comfortable around them, teachers were sought by youngsters when they had a problem they wished to talk about (Armstrong et. al. 1985).

According to Gibson and Mitchel (1981) the teacher is expected to perform the role of listener-advisor, referral and receiving agent, human potential discoverer, career counselor, human relations facilitator and guidance program supporter.

Next, teachers have to be prepared for approaches about the learner's personal difficulties. Furthermore, teachers need to know when a problem is beyond their capacity to help and when to refer a youngster to a counselor or some other specialist for assistance (Armstrong et. al. 1985).

Teachers' administrative responsibilities consist of professional tasks that they find challenging, because they are individuals who work in large governmental enterprise. For many

reasons they have to keep attendance records, grade reports, and cumulative records of learners. (Armstrong et al.1985).

Teachers' curriculum development responsibilities require them to adapt themselves with the curriculum development process, from which they derive great pleasure of working in their own classroom, with programs they have helped to plan and organize (Armstrong et. al.1985). Another, and perhaps a more reasonable point for teachers' participation in curriculum development process is teachers themselves experience the difficulties that arise during the implementation of curriculum. It should also be mentioned that teachers have to organize and reorganize school and classroom activities in order to make them more attractive and more motivating.

The definitions, descriptions and roles presented up to this point indicate the responsibilities the teachers were expected to take in the arena of education. Since teachers are assigned so many responsibilities it is natural to accept them as the foundation of the educational system or the architects of future societies.

To perform all the above mentioned roles successfully, teachers would no doubt have to be well educated. In that sense teacher training institutions together with their staff should answer two important questions:

1- Who should be allowed to enter teacher training programs?

2- What kind of curricula should the accepted students follow?

Of these two questions first one is of the basic concern of this study. The first question can be stated in different forms such as;

- Who should be admitted to the teacher training programs? or,
- What criteria should be used in the admission of students to teacher training programs? or
- What criteria should teacher training institutions have for the admission process?

Whatever way the question is posed, it is implied that the institutions have to establish a set of criteria to use for the admission of students to their programs. The reason for setting down admission standards is expressed in the following lines. Watts (1984), and Awender (1986) argued that the welfare of pupils cannot be left to the purview of a teacher (the education of youth is too important to place in the hands of individuals who have joined teaching profession for trivial considerations) who may or may not possess the intellectual and social abilities necessary to be a good educator. Faculties of education must take the major responsibility for refining the admission process so that only those who exhibit the best potential are welcomed to education. Kaya (1984) indicated that if we want to have well trained individuals who can contribute to self development and development of the state, a system should be established where teachers are equipped with all necessary qualities.

Özçelik (1990) states that the main problem of teacher education in Türkiye is that teacher training institutions admit students on the basis of University Entrance Examination (UEE), but the teaching profession has the interest, attitude and ability dimensions as well. Weaver (1983), Fisher and Feldman (1985) suggest a need for attracting better candidates to teacher training institutions.

Olsen (1985) says that graduates who plan to be enrolled in education are poorer on selected measures when compared to students who plan to enter other majors. Nuther (cited in Fisher and Feldman 1985) found that majority of students who drop-out of teacher education had no experience with teacher education programs, and few had taken teacher education courses. Additionally, some students indicated a great interest in another field as reason of droping-out teacher education programs. At Illinois State University many students who did not complete the program discovered for one or another reason that teaching was not for them, whereas others withdrew or were withdrawn because they did not meet teacher education requirements. Therefore it was suggested that the academic standards by which students were admitted to teacher education programs should be closely examined(Fisher and Feldman, 1985).

A more thought-provoking suggestion is put forth by Richey (1973). He argued that a career in education is a phase of life planning which involves fundamental values of life and which is

integrally related to life and citizenship. An individual normally seeks to do things that seem to be important for him. In other words, his/her values provide the foundation for his/her goals. It is important, therefore, that an individual's vocational goal be consistent with what he/she desires, strives for and approves of in life.

Theories concerned with vocational choice try to explain how individuals come to choose and eventually enter a different occupation. Related theories are broadly classified by Crites(1969) as non-psychological, and psychological.

Non-psychological theories of vocational choice attributes the choice phenomenon to some factors external to individual. That means, individual interests, personality, and intelligence are less considered to be either directly or indirectly related to occupational choice. It is stated that chance, laws of supply and demand, and folkway are the basic factors effective in vocational choice (Crites, 1969).

To the contrary, psychological theories of vocational choice focus more upon the individual person. The basic assumption underlying these theories is that "individual has some freedom in the choice of occupation and he/she can exert at least a little control over his/her occupational future"(Crites, 1969).

The developmental theories of vocational choice propose that the decisions involved in the selection of an

occupation are made at a number of different points in the individuals life, so occupational choice constitute a process which starts at childhood and ends in early adulthood (Crites, 1969). In that respect, It was Super who formulated a theory of vocational development where he claimed that people differ in their abilities, interests and personality. It was also noticed that individual's interests do distinguish one occupational group from another (Pietrofesa and Splete, 1974). Moreover, it was ~stressed that each occupation require a characteristic pattern of abilities, interests and personality traits to allow some variety of occupations for each individual and some variety of individuals for each occupation (Crites, 1969).

This brief summary of vocational choice theories indicates that there are different factors influencing individuals choice of an occupation. Then, it would be significant to check and match the characteristics required by an occupation and the individual's potential and desires.

Careful selection of students for teacher training programs is one of the attempts put forth to raise the quality of education and necessarily teacher quality. In that sense in the United States of America (USA) many states and institutions established sets of admission standards indicating that such an act will help in improving the quality of teachers. In relation to this view, the report of the USA Department of Education entitled "The Nation Responds" cites numerous instances of

increased public support as a result of attention called by recent studies and resultant reforms initiated by educators. Among these reforms, the admission standards was one of the attempts to raise the quality in education. The two leading opinion researches Robert, M. Teeter and Peter Hart agreed with the May 1983 Gallop Poll, indicating that the American tax payers would support increased funding for education but only if quality was assured (Sandefur, 1984).

Furthermore, in the USA, requirements for admission into teacher education programs vary enormously. Some institutions require a minimum SAT or ACT scores, where some colleges and universities require passing of anyone or more tests measuring basic skills, while others require prior work experience with students or asked for recommendations and interview to decide who would enter into a teacher preparation program in their institutions (Feistritzer,1984).

In a study of requirements for student entrance into teacher education programs eleven states were surveyed on state and institutional levels. It was found that all states except Arkansas had passed legislation on admission requirements for teacher education programs. At institutional level it was found that most responding institutions used overall grade point average, a course in education, recommendation by faculty, written language proficiency, health, personal qualities, mathematics proficiency, interviews, written autobiography and

personality tests as admission requirements (Simmons & Janet, 1982).

The data presented up to here largely reflect the standing in teacher training and the attempts that have been going on in the countries abroad. It might also be helpful for the aim of this study to summarize very briefly the situation in Türkiye.

In Türkiye as in other countries teaching has been, and still is, valued very much even from the very early years of the Ottoman Empire. The well-known "Palace" schools (Enderun Mektebi) of the empire selected the teachers for the mentioned schools. Those who applied for teaching have been expected to:

- **be physically and mentally healthy,**
- **posses high abilities,**
- **be productive and have a production power,**
- **have a strong character and personality,**
- **be patient, and**
- **be social and have a high respect.**

During the last years of the Ottoman Empire and the beginning years of the Turkish Republic little has been done about teacher training. Between 1924-34 the teachers of the School for visually impaired were passed through a careful health control. After 1940 the teachers for all levels of teacher training institutions were selected on the following bases:

- **degree of graduation**
- **attitudes and behaviors in the school**
- **health**
- **reference letters prepared by school teachers committee, indicating that the candidate can**

become a teacher (Çaglar,1987)
- get a very high degree or grade in both written and oral examinations.

The applicants were selected and accepted to teacher training institutions according to the above mentioned criteria (Çaglar,1987).

After 1946 a different practice has been observed. Higher Village Institutes that trained teachers and administrators accepted candidates with the following characteristics. The applicants had to have;

- an excellent graduate degree
- two years qualified teaching practice
- recommendation by teachers committee as a
- candidate for higher education
- no dicipline penalty and
- excellent grades on both written and oral examinations (Çaglar,1987).

By 1959 a new procedure of student selection was put into practice (Kavcar, 1987). This model worked as a basic source of students for Secondary School Teacher Training Institutions. This source was Primary School Teacher Training Institutions, where students were admitted on the basis of the results of two examinations. The seniors of Primary School Teacher Training Institutions formed a good pool of candidates for the secondary school teacher training institutions. The procedure of selection can be summarized as follows: The teacher committee of each institutions selected candidates for secondary school teacher training institution. The teacher committee

searched for the following characteristics: IQ, ability, study and work habits, behaviors and character. Those who possessed such qualities would be suggested candidates to Secondary School Teacher Training Institution. Thus, a new pool has been formed and institutions themselves selected the most able ones from the above mentioned pool (Kavcar, 1987).

In the present system in Türkiye, which was established in 1974, most of the higher education institutions admit students through the University Entrance Examination (UEE). The UEE is prepared, organized and administered by the Student Selection and Placement Center (ÖSYM). The main objective of the UEE is selection and placement of students, with high academic potential, in the higher education programs according to their scores in the selection and placement examination, their high school grade point average, personal preference of higher education programs, and the quotas and prerequisites of higher education programs (Küçükahmet 1987; Tezbaşaran, 1988; ÖSYM, 1988; ÖSYM, 1989; ÖSYM, 1990).

Regarding the present system, Küçükahmet (1987) indicates that in addition to the two examinations administered by ÖSYM there is a need for determining teaching attitudes of applicants prior to admission into teacher training programs. Kuzgun (1985) put forth a very important fact that to be successful in any program of higher education the applicants must posses some special (additional) skills. Unfortunately it is not yet

possible to determine or measure these special skills through the UEE. Özçelik (1990) while discussing the problems of teacher education, says that teacher training institutions are admitting students only through UEE, but the teaching profession has the interest attitude and ability dimensions as well. The scores gained on UEE may be misleading, in that sense in addition to the UEE, other criteria should also be utilized for the admission of students into teacher training programs (Özçelik, 1990, p:31-32).

The above stated views are supported by Oğuzkan F. (1987) and by Külahçı and Külahçı(1987). Oğuzkan F.(1987) says that today's high school graduates who accomplish the requirements of the UEE can enter into teacher training institutions and colleges. Only few departments such as music, physical education and arts education, require an additional examination. However, it might be very beneficial if special personality characteristics are examined in the teacher candidates. Determining criteria for personality characteristics and developing related instruments could be a proper subject of research and investigation. Finally, Külahçı & Külahçı (1987) also mentions that it is time to examine the present selection system through which prospective teachers were admitted.

Considering all related literature, the basic purpose of the present study is to determine the standards by which students could be admitted into teacher education programs. The second aim is to examine the representation of some of admission

standards on which consensus was established trough the present study.

CHAPTER TWO

STATEMENT OF THE PROBLEM

Introduction

In the preceding chapter the researcher has tried to provide background for the presentation of the research problem of this study. The purpose of this chapter is to present the problem, the overview of the procedures and the significance of the study.

The Problem

As it was indicated in the previous chapter, improving the quality of education is largely attributed to the improvement of teacher quality. In that respect it seems necessary to put special attention on admission standards to teacher training programs, which constitutes one dimension of quality improvement in teacher education. From this point of view, the following problem statements are formulated:

- What standards should be used for admitting students to various teacher training programs, according to academicians, teachers, parents and principals?

- Is there a consensus among the above - mentioned groups on the standards to be used in the admission of students into teacher training programs?

- To what extent are the standards on which consensus is formed represented in the students already admitted to specific teacher training programs in Türkiye?

Overview of the Procedure

Academicians, teachers, principals and parents constituted the panel members of the Delphi panel in the first phase of the study.

Academicians dealing with teacher education were selected from the faculties of education in five universities. With this restriction, lists of academicians were formed a then subjects from each university were selected. The five universities and their members [Ankara Universitesi(AU), Boğaziçi Universitesi(BU), Gazi Universitesi(GU), Hacettepe Universitesi(HU) ve Orta Doğu Teknik Universitesi(METU) were selected because of their long experience in the teacher education process.

Teachers of four high schools in Ankara were also randomly selected representing Mathemathics, Chemistry, Physics, Psychology, Philosophy, Logic, History, Geography, Literature, Biology, and Foreign Language Teaching.

All principals and assistant principals of the same high schools were included because of the limited number of this staff in high schools in general.

Parents were the most difficult group to select. There were two restrictions for their inclusion in the sample. First, they were expected to be higher education graduates or to have an equivalent degree and second their child/children had to be the regular students in the selected high schools. Furthermore, because of privacy matters, it was difficult to reach the parents, and therefore random selection was not actualized in the ideal sense.

The participants of the second phase of this study consisted of students already admitted into specific teacher training programs in the faculty of education at METU (1989-90). This group consisted of freshmen first term students coming from Chemistry, Biology, Physics, Mathematics and English teaching programs.

The data were gathered by the researcher himself starting in April 1990. Data regarding the determination of admission standards were collected in two consequent rounds by utilizing a six point Likert type questionnaire which was based on the theoretical considerations of the "Delphi Technique".

Data about the extent to which the determined standards existed in the students already admitted into teacher training programs (1989-90) were also collected by the researcher himself during the first three months of 1991. For this purpose, the already developed and available instruments were utilized.

The validity of the questionnaire used to determine admission standards was estimated through the review of

literature, comments and suggestions of the academic staff of the Department of Educational Sciences and Foreign Language education at Middle East Technical University (METU). Furthermore, the questionnaire was administered to a group of academicians who were not directly specialized in teacher education.(n=10) The trial run was carried out for the purpose of checking the clarity of statements included in the questionnaire. The Cronbach's coefficient alpha was utilized in estimating the reliability of the instruments.

The already developed instruments with the estimated validity and determined reliability were used to gather data in regard to the third question examined in this study.

The data were analysed by utilizing the measures of central tendency and the statistical technique named "Chi square". These statistics enable one to determine mean values, standard deviations, variances, ranges and frequencies of the standards under examination and, to decide whether the groups' opinions were independent of each other in relation the admission standards. Analysis of data was carried out by running condescriptive frequencies and Crosstabs subprograms of SPSS (Statistical Packages for the Social Sciences) in the computer facilities of METU (Nie, at. al., 1975).

Significance of the Study

From the theoretical point of view, the present study is of interest because it attempts to verify the belief that controlling

the quality of input (entry characteristics) will help to obtain higher quality output, whether this happens in industry, economy or education. Once the quality of raw material is determined and known, it will probably be easier to work out the raw material and prepare the processing units more precisely, and consequently come up with a better product. In this sense the results of the study will lead to the selection of students into teacher training program on broader (more extensive) measures.

From the practical point of view, determination of standards for the admittance of students into teacher training programs will initiate new studies on the construction of instruments, revision of the curricula, and shift the dimension of concern from the need for standards, to the question of what standards will be stronger determiners of effective teaching in the long run. It is hoped that these standards will help in clearing up the present incredible impression attributed to teacher education students. It is also hoped that this study will initiate much more comprehensive studies on the same and related topics.

Finally, it is hoped that this study will fill in even a small part of the gap existing in the Turkish literature concerning the admission issue.

CHAPTER THREE

REVIEW OF THE LITERATURE

Introduction

This chapter is devoted to the presentation of theoretical and empirical background for this study. It consists of two parts; the first part addresses itself to the presentation of theoretical background related to admission standards. The second part deals with the research studies related to determination of standards to be used in the admittance of students into teacher training programs.

Theoretical Background Related to Admission Standards

Corey (1959) quoted,John Stainback who expressed his thought and feeling about teacher as follows:

"I have come to believe that a great teacher is a great artist, and there are as few as there are any great artists. It might even be the greatest of the arts since the medium is the human mind and spirit... Further, he said that his teachers loved what they were doing. They did not tell-but catalyzed a burning desire to learn. Under their influence, the horizons sprung wide and fear went away and the unknown became knowable... Moreover, it was claimed that "every prospective teacher may be the magic who will one day light up the years for boys and

girls yet unborn." (in Corey 1959, p.71).

This thought pointed out the value of teaching profession and implied the idea that teacher education is a very important process, on which educators, associations, and education boards should pay big attention. As it was indicated in the first chapter, quality of education and quality of school is largely related to the quality of teachers.

In that respect it was proposed that; "The most pressing problems faced by the school could be substantially resolved if teachers were well-enough prepared, so the most sensitive and rewarding point at which to initiate any problem of school improvement is in teacher education" (Corey, 1959, p.64).

For well- trained teachers many educators and researchers had spent their energies on teacher education perspectives, teacher's characteristics, and in the last decade attention was largely devoted to standards used in admittance of students to teacher education programs. Each of the above mentioned concerns will be examined in the following paragraphs.

The philosophy, varying social structure, culture and basically the national goals held, had a big impact on formulation of teacher education and, relatively on the understanding of teaching. In that sense, various authors mentioned different perspectives, aspects and summarized three

megatrends related to teacher education.

In the teacher education process Watts (1984) mentioned three perspectives. In the first one, it was held that the central issue lies in the goals of public school system and the role of the teacher. If the primary goal of the school system was to impart knowledge and if teaching was simply a matter of presenting facts and information to students, then teaching could be defined as a relatively simple activity. Teachers who are no more than dispensers of facts and information have little need for extensive pedagogical knowledge and skills. They only need a broad knowledge and content they are presenting.

The second perspective according to Watts (1984) was one where the most important goal of the school should be to enhance the student's self-concept. In a related study by Book et. al.(in Watts 1984) a sample of preservice teachers ranked enhancing student's self-concept as the most important goal of teaching, above promoting academic achievement and creating a good learning environment. This perception advanced the notion that schools should primarily focus on socializing children in an extended child care capacity which implicitly embarced the belief that teachers were born not made. If one accepts this view, than mastery of content and pedagogical ability could be considered to have secondary importance. Logically then, any formal preparation for teaching would consist of courses and

activities designed to develop and enhance counseling and psychotherapeutic skills (Watts, 1984).

The third perspective, where teachers were seen as providers of pedagogical services and students of teaching process, requires teachers to utilize their pedagogical abilities to facilitate students acquisition of knowledge and skills and thus enhance their intellectual development (Watts 1984).

These three perspectives, if integrated together may be more helpful for teacher training. Referring to the first chapter of this study, teachers were neither defined as dispenser of knowledge, nor simply as parents or a providers of pedagogical services. They are expected to perform multiplicity of roles within the consideration that all these roles are complementary. Otherwise, "preparation for facts and information dissemination could be done much more thoroughly, efficiently and economically with computer programs, audio-visuals and written materials." Also the view of teaching as an extended form of parenting, about which there is little to learn other than through instincts and one's own experiences, may be the nemesis which diminishes preservice teacher's valuing of pedagogy courses as professional attitudes (Book, Byers and Freeman, 1983 p:10 in Watts, 1984 p:40).

The system of teacher education in both Canada and US had been subjected to frequent attacks from all sector society (Awender and Harte, 1986). Criticisms had been increased over the

past several years. With the growth of technology, the environment, confronting today's education had become more diverse and complex; consequently, the quality of teacher education programs came under increased scrutiny.

This problem, as indicated by Awender and Harte (1986), may be attributed to five aspects of teacher education programs. They were; perceived status of faculties of education, research and development practice, curriculum design and implementation, admission standards for students, and practicum. Of these five aspects the fourth, which was related to standards used for the admission of students into teacher education programs, had to be closely examined. This was due to the limited criteria used by faculties of education. Although it was true that supplementary data were sometimes obtained through interviews, letters of recommendation and an examination of related experiences, this information was only used to supplement applicants academic average (Awender and Harte, 1986).

Although faculties of education had justification for the limited admission policies, they should take the major responsibility for refining admission process so that only those who exhibit the best potential are welcomed into teacher education programs (Awender and Harte, 1986).

Cruicksbank and Cruz (1989) analyzed teacher education reports (TER) over a 32-month period beginning in Februrary 1986 and ending in September 1988 and, identified three megatrends

which may be used in the improvement of teacher education programs.

The first megatrend covered the thought that "there is a movement toward the involvement of classroom teachers in both the advancement and governance of teacher education." (Cruicksbank and Cruz 1989). In 1976 National Education Association (NEA) reported that teachers , not the state education departments, should have sole authority to license themselves and approve tertiary teacher education programs. Also it was the belief of NEA that teaching profession must govern itself and each state should have a professional standard board formed of public school classroom teachers. This board should have the legal responsibility for determining policy and procedures for teacher certification and programs designed to improve teacher education. (Cruicksbank and Cruz, 1989 p. 49).

Next, the representative Assembly of National Education Association passed a resolution calling for more direct involvement in evaluating and improving standards for teacher preparation and certification, improving standards for entrance into the profession, and adding prescribed curriculum to preservice programs. Other bodies besides organized teaching were also fostering classroom teacher involvement in teacher education (Cruicksbank and Cruz 1989).

The second megatrend that consisted of seven subtrends, indicated a need for the movement toward the improvement of

teacher education programs. This act had been a long-term goal of those within and outside the field of education. The above mentioned subtrends could be listed as follows ; improve general education of teachers, enhance the subject-matter competence of teachers, [(even it was found that majority of teachers (1,592 polled in 1986) felt academically well-equipped)], and ensure that teachers have ancillary subject-matter knowledge (Cruicksbank and Cruz 1989).

Of these subtrends the fifth one is related to either lengthening the period of preservice teacher preparation or displacing it to a postbaccalaurate programs. The sixth subtrend was about identifying and recognizing the examplory teacher preparation programs. The last subtrend under this rubric was about the movement to improve the socialization and induction process when preservice teachers move to become full-time professionals (Cruicksbank and Cruz 1989).

The last (third) megatrend identified by Cruicksbank and Cruz (1989 p. 52) indicated that there was a movement toward improving the teaching force.

In the teacher education report summarized by Cruicksbank and Cruz (1989) America Education Secretary proposed that if American is to offer its children an excellent education there is a need for excellent teachers who are well-trained in their field, enthusiastic, and committed to the teaching profession.

Of the five subtrends included in the third megatrend the third subtrend was related to the establishment of higher standards for the admission of students into teacher education programs. With specific reference to teacher education report prepared in 1986, Cruicksbank and Cruz (1989) proposed that it could be a disservice to one's children if teachers entered the classroom without mastering the basics. Such an act would simply perpetuate poor quality education. A further attempt was to establish federal foundations so, better candidates could be recruited and support provided for outstanding high school graduates who demonstrated an interest in teaching (Cruicksbank and Cruz 1989).

Finally, it was pointed out that there was an increasing interest toward teaching profession. This idea was supported in a Phi Delta Kappa survey summarized by Cruicksbank and Cruz (1989) where twenty two percent of all respondents liked to become teachers.

The suggested perspectives, megatrends and related subtrends, and the five aspects of teacher education program clearly indicated the intentions and attempts made for the improvement of teacher education and consequently quality of education. All the attempts and studies presented in the former paragraphs provided useful information for researchers and teacher training institutions, but the perspectives, megatrends and the aspects of teacher education programs may be more

contributory if it was supported with other aspects like teacher characteristics.

Studies on teaching effectiveness had paid a special attention regarding teacher charecteristics which includes: personal charecteristics, perception regarding self, perception of others and teaching, instructional procedures and styles of interaction. (Smith and Lusterman, 1979).

In summarizing the literature on cognitive charecteristics of teachers, Klausmeier (1975, p.175-6 in Smith and Lusterman, 1979) reported that intellectual ability, total grade point average, subject matter preparation, student teaching grade, and information about child development and learning had been found to be related to teaching effectiveness. However, this relationship was so low that evaluation of teachers on these charecteristics had limited usefulness for predicting the effectiveness of individual teacher. Recently much attention had been directed toward assessing the affective charecteristics of teachers, it was stated that affective differences among teachers were probably more important in determining teaching success than were cognitive differences.

Perception of self included being close to others, being able to deal with problems, and being trustworthy. Perception of others included accepting others ability to solve problems, be friendly, worthy, motivated and helpful. Perception of teaching

included freeing rather than controlling, having holistic perspective,disclosing one's feelings to others and seeing one's roles as helping. (Smith & Lusterman,1979)

Person's attitudes, or predisposition to act in a positive or negative way toward persons, ideas, and events are a fundamental dimension of his personality. Although little empirical evidence exist relating specific attitudes to teaching effectiveness, almost all educators are convinced that teacher attitudes are very important in the teaching profession. Attitudes have a direct effect on one's behavior, they determine the way one views oneself and interacts with others. It was also believed that there are four major categories of attitudes which affect teaching behavior. These are: attitude toward oneself, attitude toward children and relationship with them, attitude toward peers and parents, and attitude toward subject matter. (Ryan and Cooper, 1972, p.179)

Each of the above mentioned attitudes are briefly summarized in the following paragraphs. Self-understanding indicates that before a teacher know and understand student(s) he must work at understanding and knowing himself. Empirical evidence from psychology indicated that a person who denied or was unable to cope with his/her own emotions was unlikely to cope with other's feelings (Ryan and Cooper, 1972).

Attitudes toward children refers to their being sensitive observers of adult behavior. They also frequently recognize and

were preoccupied with aspects of teacher attitudes toward them. Strong dislike for a particular pupil, biases, low learning expectations, bias toward certain kind of student behavior were some attitudes that could reduce teacher's effectiveness. Few teachers were entirely free of such attitudes, thus, it is important that the prospective teacher confront his own attitudes early. (Ryan nd Cooper, 1972).

Attitudes towards peers and parents are very important because teacher is not isolated in his classroom. He interacts daily with fellow teachers, administrators and other school personnel, and he must often have very sensitive dealing with parents. It could happen that a teacher who is very gifted in his work with children has a disastrous professional life because of his uncontrolled attitudes toward adults he encountered. However, most teachers do not have significantly different attitudes toward adults from that they hold toward children possessing similar charecteristics. (Ryan and Cooper, 1972).

Attitudes toward subject matter covers most striking charecteristics of the excellent teacher's enthusiasm for what he will teach or facilitate. The teaching profession should not be filled with individuals who did not care about the students. Teachers should not let students "feel that they wanted soon to get rid of the class and rush back to the staff-room to have his cup of tea." The teacher should be enthusiastic for his subject so as to make learning a pleasure which otherwise could be done

through the computers more effectively (Smith & Lusterman,1972).

In recent years, research on inservice teacher's thinking has demonstrated that teacher's attitudes and beliefs influenced their perception and understanding of classroom events, and may, therefore, affect their behavior. This realization stimulated interest in the thinking of preservice teachers. According to Weinstein (1989) students begin teacher education programs with their own ideas that teaching is a simple activity. These perceptions of teaching were incomplete, for that reason thoughtful teacher educators might ask; what were the perceptions about teaching and learning held by students? (Weinstein,1989,p.53). Research by Book, Byers, and Freeman (1983) also suggested that teacher candidates began programs with a great deal of confidence in their ability to teach, moreover, their data indicated that entering teacher candidates believed in enhancing student's self-esteem as being more important than maximizing student achievement.

In addition to the explained charecteristics,interest and communication are also the very important aspects for effective teachers. Interest, as it is the case with many social science concepts, is not well- defined. The present definitions are generally operational. For example, Strong defines it as one's indifference, like or dislike for a person, object or an

activity. Furthermore he adds that interest is also a drive that determine direction of one's behaviors (cf. Kuzgun, 1980). According to Anne Roe, interest is something that a person is occupied with and pays attention without an intentional effort (cf. Kuzgun, 1980).

Kuzgun (1980), defines interest as a reaction of approach or avoidance, display interest or disinterest to an object, subject or an individual. She further points out that interest is shaped as a result of interaction with the environment. In that sense, for an interest to crystallize, individual has to be effective and rewarding in his interactions. For such an event, individual's perceptions and evaluation power for a field of interest has to be developed. A person with a well crystallized interest is open to any stimuli. Although the studies on interest and ability relationship yielded a low correlation, Strong claimed that a person has a high success if s\he is interested in a subject and possess the ability required by that subject (cf. Kuzgun, 1980).

Several studies were carried on the determination of interest categories. Strong developed the so called "Strong Vocational Interest Blank" (SVIB) which consisted of eight categories. The first five includes occupations, school subjects, amusements, activities and type of people. The remaining three parts require the subject to rank the given activities of preference, compare his interests in pair of items, and rates his

present abilities and other charecteristics (Anastasi, 1968). Thurstone determined four types of interests. These are science, language, people and business. Lurie also determined four types; as theoretical, social, material, and religious interest. Strong, on the other hand, factored out science, people language, things vs people system and contact interests. Still, Kuder extracted the following type of interests: scientific, social-service, literary, mechanical,clerical, computational, persuasive, artistic and musical. Finally, Super examined all the above mentioned types of interests and synthesized the following types of interests; scientific, social welfare, literary, material, system, contact, artistic and musical (Super, 1949 p:381).

In addition to the mentioned studies George and Berliner (1984) stated that student's interests may vary according to age, sex, SES, previous education, time, stages of development and conditions he lives in.

"The inventoried interests, however, as assessed by SVIB and Kuder indicated that there are only slight changes in interest with increasing age, and that most of these occur during adolescence. Strong has reported, as summarized by Crites (1969), that two-thirds of the changes that take place in interests is between ages 15 and 18 and the other third being between the ages of 18 and 25, so by early adulthood they have developed as much as they ever will. Similarly, studies of Kuder have indicated that, although there may be some changes in the ranks of

interests in high and low patterns during the adolescent years, the patterns remain relatively stable" (Crites, 1969 pp:30-1).

As in all fields, in teaching too, interests were thought to be effective in selecting a career. Theoretically, at least, it seemed possible that high school graduates or eleventh graders' interests are stable enough for deciding to select a career. Adolescence is a period of development when lycee student's interests generally increase. Interests observed at the beginning of adolescence are new whereas some might be brought from childhood. Childhood interest are replaced by adolescence period interests. The new ones constitute the base of the adulthood interests. By the end of this period the variety in interest decreases, they get much more definite. Physical appearance, health, voice, writing, money, autonomy course success and professional preference are the most explicit interests of this period (Duman ve Avcı,1990).

Education has been defined as the process of interaction and communication. In the formal education process educated is in a continuous written and oral communication with teachers, friends, books and other written resources. In such a process teachers and students receive and give massages to each other (Smith and Lusterman 1979 , Duman ve Avcı 1990).

In a similar way McCaleb (1984) stated that the interactive nature of instruction made effective verbal

communication essential to effective teaching. Duman ve Avcı (1990) further added that an effective teaching and learning could not be possible, no matter how well the education and instruction process was prepared, and no matter how interested students were, if they could not understand teacher's verbal explanations and other written materials.

All the explanations given about communication can be related with the concept of "cues" which constituted one of the main components of quality of instruction in Bloom's Theory of School Learning (Bloom, 1974).

Cues include instructions as what is to be learned as well as the direction as what the learner is to do in the learning process. Cues may be presented in different forms. In most group instruction in the school the major cues tend to verbal in nature. Of course not all cues need to be verbal. They may be in the form of visual stimuli, tactile, kinesthetic and olfactory. The communication may not only be verbal, it can also take various forms.

For cues it is important to note that learners may differ in the extend to which they learn from a particular cue, just as they may differ in the extend of receiving the messages.

Furthermore, what a teacher communicates to students for the aim of directing them to learn a particular task, can be accepted as cues (Bloom, 1974).

Indeed, communication was most frequently found on lists of teacher competencies, where it was defined as one of the six competencies essential for all teachers. Unfortunately many of the competences statements did not explicitly cover communication, but instead, referred to the related skills such as questioning, giving directions, counseling students, managing the class and conferencing with parents (McCaleb, 1984) which is still related to the concept of cues mentioned above.

Smith and Lusterman put forth a much stronger view which clarified the difference among teaching and other professions. It was claimed that teachers must be in a continous interaction with individual students, group of students, whole classes, other teachers, administrators, community members and school boards (McCaleb 1972, p.189).

Another evidence that communication is of major contribution to teaching ability was the use of "speech tests" for admission to teacher education programs (McCaleb,1984).

The characteristics that were expected of teachers can be used as indicators in preparing teacher education programs and consequently in educating them. Furthermore, it might be proper to check, even in brief, why students preferred teaching?, what factors affected their choice?, when they decided to enter teacher education programs? and why they dropped teacher education programs?.

In relation to these questions Fisher and Feldman (1985) indicated that it was often difficult for institutions to determine an exact number of students who removed themselves from teacher education, but experiences showed, it could be as many as one-third of the number who professed at one time or another an interest in teaching. Nutter (in Fisher and Feldman 1985) found that majority of students who dropped out of teacher education had no experiences with the program, and few had taken only one professional education course. Some students who dropped out of teacher education cited a great interest in another field as a primary reason.

Fisher and Feldman (1985) noticed that at Illinois State University (ISU), which had one of the largest teacher education program, the number of juniors or seniors admitted to teacher education in recent years exceeded 950 annually, but as many as 15% of these students, each year, were not able to complete the program. Many of the students who did not complete the program discovered for one or another reason that teaching was not for them, whereas others withdraw or were withdrawn, because they did not meet teacher education requirements (Fisher & Feldman, 1985).

In the studies summarized by Duman and Avcı (1990), Baymur found that students were mostly faced with teachers' undesired behaviors toward school and students. On the other hand, in the study sponsored by the Ministry of Nation Education

(MNE) related to "The Problems of Secondary Education Students" the results indicated that teaching and medicine were the two mostly preferred and most honored professions (Duman ve Avcı, 1990).

Somewhat a similar set of studies were summarized by Oğuzkan(1985) where Fielstra for example asked 230 students to rate eleven factors that were motivating them to teach. Results showed that teachers were rated as the primary factor that motivated them to select teaching. Hanbrich (1957, in Oğuzkan, 1985) on the other hand searched an answer to the question "why students selected teaching.?" Findings indicated that 34% of the students cited job security, 25% stressed the status of profession, and 26% of participants pointed out desire to work with children. Fox also came out with similar findings (Oğuzkan, 1985).

Supplementary to the above mentioned data teaching a subject, continuing ones own education, and serving for society were among the less cited factors that motivated students to select a career in teaching (Oğuzkan, 1985). Wood(1987), Book and Freeman (1986) intended to determine the time students decided to enter teacher education programs. The data gathered from 413 students showed that; of the participants 19% made their decision during primary education, another 19% during secondary education, 16% after high school graduation, 34% after entering college, and 12% were still undecided, so about 40% of students thought to enter teaching institutions. The public

outcry that, teacher education was low in some qualities turned attention to examination of criteria used to screen those students who wish to begin their study to become teachers. (Fisher & Feldmann, 1984)

In the last decade teacher education institutions, education boards, teacher associations were greatly inclined toward attracting better candidates to teacher education programs. During the recent past when there was a definite teacher shortage, school of education accepted virtually all applicants who presented themselves. The rationale then was that any one with the slightest potential for success in teacher education program could be allowed to enroll. It was a great desire for teacher educators to reach the time when admission standards could be raised. That day had come but, teachers, public school administrators and general public were becoming increasingly concerned with the admission issue because misfits were still continuing to enter the program. This reality implied that each teacher training institution should have developed an improved selection procedures and criteria for the admission of students into teacher education programs (Sinclair & Picogna, 1973).

Wilson and Mitchell (1985) believed that selection for entry into teacher training had been receiving closer attention as a part of movement for improved quality of education. Moreover, Serengil(1989) added that teacher institutions should select

their students. This process should be based on the use of tests on mathematics, language, general ability and an interview. All these could be thought as the basic criteria for the admission of students into teacher education programs (Serengil, 1989 p.171).

Although in the promises for reforms in teacher education it was not explicitly stated, rformist actions were implied by authors and written down in various reports. An assumption included the statement that "only if one raised the standards for admission of students one would have competent teachers who are capable of educating individuals to the highest level of academic achievement." (Demetrulias et al. 1989 p.66) This declaration had a strong appeal to legislators, parents and general public. A widespread belief that higher standards would increase teacher competence had lead many states to legislate admission requirements for entry into teacher education programs (Demetrulias el. al. 1989).

According to Fisher and Feldmann (1984) the efforts, to improve the quality of teacher education students, had been varied. This variety was observed also in admission requirements to teacher education programs. Where admission of a student to teacher education generally meant that the individual had the academic ability, personal traits and whatever else was needed to be an effective student in a particular program. The agencies concerned with teacher education found it necessary to reexamine the selection procedures being used to

admit students into teacher preparation programs. Innovative programs, counseling systems, in depth field experience, and other concepts that a college may initiate would have some impact on student, however, the maximum effect would primarily be determined by the students themselves, that is; the type of student who had been admitted into the teacher education programs (Sinclair & Picogna, 1973).

It was Tüzün's (1989) claim that teaching is a profession which required special abilities, for that reason a center should be established that would direct able students to teaching. This attempt could be effective for having quality teachers (Tüzün, 1989 p: 203). Clark (1984) came up with a similar conclusion that all recent reports on the reform in education had been about raising standards for teacher education students at the point of admission.

In a profession where there was so much talk about attracting better people, it was a surprise that so little research had been done regarding charecteristics of persons who entered the profession, and the relationship among these conditions of entry and subsequent success. If research studies could show that charecteristics of students who entered teacher preparation programs were clearly related to their success as teacher education students, than a better understanding of how students came to choose teaching as an occupation assumes great importance. Teaching as an occupational choice was a neglected

aspect of research which need to be pursued (Scholack, 1979 in Book, et. al., 1983).

Furthermore, by understanding the charecteristics of career aspiration and perception of teaching with which preservice teachers enter a teacher preparation program, the faculty could then more appropriately adjust course content to overcome any misconception that might happen in the preservice teacher's learning (Book, et., al, 1983). In Sweden for example those who liked to become teachers were supposed to posses the following characteristics; writing composition, language ability related to comprehension and writing, ability to establish relationship with children and attitudes related to teaching profession. Related research studies indicated that students admitted on the above mentioned standards generally were successful (Sixten, 1974 p: 151 in Türkoglu, 1988 s:133).

In a study conducted in Finland with 72 teachers of ten (10) years experience, a low relationship has been found between entry characteristics and professional success, but other related studies indicated a strong relationship between selection and post-school success (Martin, 1980 p:44 in Türkoglu, 1988 p: 134).

Demetrulias et. al. (1989) in a discussion suggested that standardized tests as single admission standard may not be reliable predictors of ability to teach and caused educational,

social and cultural problems by exacerbating teacher shortages and eliminating minority teachers. For that reason legislators, federal agencies, boards of education and university systems must continue to reexamine the use of standardized tests and grade point averages as predictive variables of teacher performance in the classroom.

Standardized test scores, said Mercer (1984), as major criteria by which students were admitted to colleges and universities may have a predictive power, but alternative criteria existed and should receive serious consideration. Alternative standards for admission into teacher education programs according to Mercer(1984) included student's past accomplishments,variables related to success (with specific reference to blacks) of students.

About the past accomplishments it was asserted that Educational Testing Services (ETS) ranked people by individual merit. However, such an assertion did not reflect student's real performance (Mercer, 1984). Several related studies summarized by Mercer(1984) indicated that past accomplishments were the best predictors of later accomplishments, so admission committees who wished to select students with greatest potential for future accomplishments should look for such an evidence.

Early decision on goals, motivation, type of high school curriculum, participation in high school activities,

organization, student attitudes and perceptions were thought as variables related to success. It was also suggested that further studies be conducted to determine the usefulness of the identified variables as predictive measures (Mercer 1984).

Ford Foundation's value-added admission system is one in which students are admitted and evaluated on the basis of their potential for learning and growth rather than on their past achievement as indicated by grades and test scores (Mercer, 1984)

The individual students and their teacher should routinely receive results from both local and national tests, so by providing students teachers, institutions, and policy makers with this feedback, received testing and grading procedures will better serve educational process. This feedback will be useful in evaluating educational programs and will also provide valuable data in diagnosing the educational progress of individual students (Mercer, 1984).

The competence assessment (mastery) model explained by Mercer(1984) is a proposal outlined by the Florida A & M university college of education. In the model it is suggested that those who desire to teach should take the following tests; SAT or ACT, leadership, sensitivity, oral and written communication, organizing and planning, perception and analytical, decision-making, flexibility and adaptability.

Leadership as one of the required qualities refers to the ability to take charge, direct, coordinate, and maintain control of situations. Second, sensitivity is another characteristic which was explained as the ability to be sensitive to others' needs, feelings, to develop rapport and to accept interpersonal difference. The third aspect, oral and written communication was related to the ability of clearly expressing and presenting information both orally and through written means. Organizing and planning implies the ability of structuring the tasks, plans, objectives, categorizing information, and establishing priorities. Perception and analytical were explained as the ability to identify, assimilate, comprehend the critical elements and to attend details of a problem (Mercer 1984).

Of the last two aspects decision-making was related to the ability to use logical and sound judgement in choosing a particular course of action. Whereas flexibility and adaptability were described as te ability to alter normal posture affected by change in situation (Mercer 1984). In addition to all data presented the "The Theory of School Learning" developed by Bloom also provides a theoretical support for this study. The theory basically deals with student characteristics. Of these characteristics central in determining student's learning level was "Cognitive Entry Behaviors"(CEB) that were defined as the prerequisite learning held to be necessary for the learning on which instruction is to be provided. It was assumed that a

student enters each learning task with a particular history of past learning and development which would determine the nature of the interaction of the student with the learning task. The prerequisite learning needed for one task was termed CEB which meant the knowledge, skills, and competence essential to the learning of a particular task. Considered in terms of measurable variables it was assumed that much of the variation in learning may be attributed to relevant knowledge, skills and previous achievement that student has at the beginning of the task(s) (Bloom, 1976).

Longitudinal studies on achievement over one or more years revealed that achievement variation of students at the beginning of the year was related to the variation in achievement over the subject prior to the beginning of the year. (Bloom 1976).

The second variable in Bloom's theory is Affective Entry Characteristics"(AEC) defined as student's motivation to learn new tasks. Bloom explained that students showed a great variation in the affect with which they approach a task even before they received any instruction on it. Some students, said Bloom, approached a subject with evident interest and desire. They appear to regard it as desirable to them, others approach it as a duty and requirement. Finally some approach it with evident discomfort. They have some fear and expect only negative things. Related to this thought Bloom asserted that individuals vary in what they were emotionally prepared to learn as expressed

in their interests attitudes and self-views. If students entered a learning task with enthusiasm and evident interest learning became much easier. In other words, for a student to learn a new task(s) he should have an openness, desire, and sufficient confidence in himself (Bloom 1976).

The last independent variable of the theory is the "Quality of Instruction" (QI) which has been defined as the extent to which cues, practice, and reinforcement of learning were appropriate to the characteristics of the learner. Especially cues have an important place in the communication process which has been previously mentioned.

Bloom's theory proved that the above mentioned first two variables accounted for about 65% of the variation in students achievement level if they were treated jointly. If they were put as unique variables into the regression equation then CEB accounted for about 50% , and AEC for about 25% percent of the variation in the outcomes related to achievement (Bloom, 1976).

Bloom's Theory of School Learning dealt with the student charecteristics that affect the achievement on a specific learning task. In that respect if one knew what charecteristics the student have the instruction will be formulated accordingly. Consequently, admission standards will function in a somewhat similar way, because knowing the charecteristics of the learner

admitted into a program could facilitate the organization of the curricula and related activities.

Consequently, the theory explained above will be reflected in the outcome of the program. The rational can be expressed within the following anology. First, students will study what they desire and second the curriculum will largely fit the student's desires. So, the result will be the sum of two vectors pointing to the same direction which will always be grater than any of these two vectors alone.

The data presented clearly indicated that most researchers, educators and experts asked for well educated teachers not only in their subject area but also in all specified aspects necessary for quality teachers. Among the thoughts of this decade about the improvement of teacher quality one is concentrated on the standards for admission of students into teacher training programs. It was widely suggested that the nature of standards could largely contribute to the improved teacher quality, help in selecting appropriate candidates and even diminish a small part of the gap present in the international and national (Turkish) literature on teacher training and the nature of admission standards.

Research studies related to admission standards

This section provides research studies regarding the standards used in the admission of students into teacher training programs.

The related literature indicated that teacher education has a long history, but studies on admission standards did not go so far back, the previous studies generally included suggestions about the determination of admission standards which has started to penetrate into the literature of educational research.

At the turn of this century educators shifted their interests and research studies on characteristics which made individual successful in the teaching profession. Samples for these studies generally were drawn from large masses of students, administrators, teachers and experts. Some of these studies were summarized by Oğuzkan (1985).

In the study called "The Common Wealth Teacher Training" twenty-five teacher qualities were determined and rated by students. The first five covered fluency, open minded, creativity, organization and training ability. In 1947 Paul Witty (cited in Oğuzkan, 1985) asked to a sample of (n=12000) students to list the most preferred teacher characteristics. It was observed that these characteristics were basically of affective nature. In Türkiye Kocaçınar conducted a series of studies

between the years of 1956-61 where he intended to identify teacher qualities. Findings generally were similar to those of Paul Witty, that is, students largely valued the affective aspects which may be listed as merry, active, responsible, well-dressed, loyal to the teaching profession, physically and spiritually healthy and posses sets of suitable behaviors (Oguzkan 1985, p:61).

Simmons and Janet (1982) stated that the general public, the profession, colleges and universities have the responsibility for preparing teachers. The public through legislation, demanded better prepared, competent teachers. In that sense leaders from departments, school and colleges of education need to get together and unite their effort to develop some standards applicable state-wide for the improvement of teacher quality (Simson, and Janet, 1982, p:1)

Related to the above mentioned goal, a study was conducted at state and institutional levels to determine the requirements for admission into teacher education programs in eleven southern states. Of the states participated in the study Arkansas and Georgia had no specific requirements, whereas the remaining nine states generally used one or more of the following; Scholastic Aptitude Test (SAT) or American College Test (ACT), basic skills which included reading, writing, oral and written communication, fine arts, social studies, mathematics, science, and computational skills (Simmons and Janet, 1982) (See Appendix N).

It was also noticed that ten of the eleven states invited for this study had recently (1979-1982) adopted actions regarding the admission requirements for undergraduate programs of teacher education (Simmons and Janet, 1982).

The admission requirements used by universities and colleges were gathered by asking the institutions to send their present standards. Of the institutions eighty-four responded (70%). The following table shows the standards and the percentage of institutions that used the indicated standards (Simmons, Janet, 1982).

Table 1. Standards, numbers and percentages of the institutions that used them.

Criteria	# of institutions using this criteria	Percentage of institutions using this criteria
General grade point average	77	92
Course in education	45	53
Recommendation by faculty	39	45
Written language proficiency	36 (70)	42 (83)
Health	34	40
Standards for personal qualities	24	28
Speech and hearing	23	27
Math proficiency	less than 20 percent	

Summarized from Simmons and Janet, 1982.

Closely related to the written language proficiency was the requirement for completion of an English course. If the requirements of the written language proficiency and completion of on English course were put together, seventy institutions, or 83 percent, would have this requirement (Simmons and Janet, 1982).

In addition to faculty interviews, written autobiography, personality tests, speech courses, specific math courses, Minnesota Teacher Aptitude Inventory, State Board or Regents examinations were used by less than ten percent of the institutions (Simmons and Janet, 1982).

Laman & Reeves (1982) aimed to determine the status of teacher admission in institutions which are members of the American Association for College Teacher Educationion (AATE). A questionnaire similar, in most respects, to the instrument of 1972 was used to invite responses both structured and unstructured from teacher training personnel in each institution. Replies from 121 institutions were studied. The findings regarding admission standards are reported in table 2.

Table 2. A comparison of criteria, of 1982- 1972 by percentage, used to admit students into teacher education programs.

Criteria	1982 Yes	1982 No	1982 Other	1972 Yes	1972 No	1972 Other
Preadmission interview	41.3	54.5	4.1	40	46.1	13.9
Formal application	91.7	8.3	---	91.1	7.8	1.1
Physical examination	19.0	73.6	7.4	41.1	54.4	4.4
Psychological examination	6.6	89.3	4.1	12.8	83.8	3.3
Speech test	48.8	51.2	---	46.6	51.6	1.6
Written language test	38.0	54.5	7.4	---	---	---
Standardized test	41.0	55.4	3.3	17.2	79.4	3.3

(Laman & Reeves, 1982; Table 1 p:3)

In an effort addressed to the problem of developing constructive suggestions for change in teacher education programs, a survey was run in a number of institutions of the California Council on the Education of teachers which offered a basic teaching credential. The survey results indicated that almost all institutions used multiple admission criteria (Barenes and Tierny, 1983).

Of the participating institutions about two- thirds required a personnel interview, letters of recommendation, a

writing sample and some work experience with children. It was observed that multiple admission criteria was used at the California institutions (Barnes and Tierney, 1983).

In the USA the National Commission on Excellence in Education requested a survey that would provide input from schools, colleges and departments of teacher education. Survey questions sought information on preference for recommendations to make curriculum more rigorous, raise entrance criteria and extend programs beyond four years. Questionnaires were sent to 432 institutions with the response rate of ninety-two percent (National Center for Educational Statistics, 1983).

It was found that the department heads preferred making curriculum more rigorous and raising admission standards as methods of improving the quality of teacher education. Little support was given to the recommendation that programs should be extended beyond four years (National Center for Educational Statistics, 1983).

Similarly Cobb et al.(1984) summarized the study related to admission standards at the state of Kentucky. He noticed, the state of Kentucky had recently raised its standards for persons who applied for admission to teacher education. The plan mandated by the State Board of Education involved, selection and retention process for candidates who apply for initial admission to the program. The applicants were expected to perform on multifaced

criteria, which included acceptable performance in basic skills as well as evidence of appropriate characteristics. (Cobb et al., 1984).

A much broader study has been summarized by Sandefur (1984). He noticed that since 1977, the criteria for admission to teacher education programs have changed. The most significant aspect of this change was the requirement for competency testing in the basic skills areas of reading, writing, and mathematics. The next most significant change according to Sandefur (1984) was the increase in grade point average required for admission.

In a survey conducted by AACTE (cited in Sandefur,1984) it is found that 64% of all reporting institutions (365) used screening test for admission. Of the institutions requiring tests; 86% required tests of basic skills which included reading mathematics and writing. About 35% of the institutions reported tests other than the ones indicated above (Sandefur, 1984). (The activities of the states are reported in Appendix O). Colorado, Indiana, Kansans, New Mexico, South Carolina and Mexico used basic skills tests which varied in their contents. For example basic skills test used at Texas included mathematics, reading and composition whereas at Colorado it included oral communication, written communication and mathematics. Other states as Alabama, Florida and Tennessee used SAT or ACT,still others used GPA scores. Nevada and Missouri prepared new plans

for admission standards (For More Detailed information (Sandefur, 1984)(See Appendix O).

Interesting results have been put forth by Feitsritzer (1984) who noticed that many institutions of higher education had well defined, much-less rigorous, standards for admission into teacher education programs. Fewer than one in ten (1/10) use high school class rank or high school average as criteria for acceptance into teacher education. About 82% said they do not use a SAT or ACT cut of scores as entrance requirements. The table given below shows the standards and the percentage of the standards indicating their use by private and public institutions.

Table 3. Percentage of institutions that used the following criteria for admittance into teacher education .

	High School Class Rank	H.S GPA	SAT	ACT	COLLEGE GPA	REC.	INTERVIEWS	EXP.with CHILDREN
Private	9	7	19	21	81	57	46	40
Public	9	12	17	14	76	71	57	38

HS: High School , Rec: Recommendation, Exp: Experience

(Feitsritzer, 1984 p.10 Table 5)

The above sketched table shows that college GPA rather than high school were used. Furthermore GPA, recommendations,

interviews, and experience with children were used more frequently than high school class rank, high school GPA, SAT and ACT.

Next is a study of twofold purpose conducted by Fisher and Feldmann (1984). The first purpose was to determine the requirements for admission to teacher education currently used by institutions, and the second was to determine if there was any difference in admission to teacher education requirements among different types of institutions.

For the above mentioned purposes, a letter was sent to 530 National Center for American Teacher Education (NCATE) institutions requesting information on their admission to undergraduate education program requirements. Three hundred twenty seven (327) institutions provided information that could be used in the tabulation of results (Fisher and Feldmann, 1984).

Of the responding institutions only nine (2.8%) did not have requirements for admission, beyond ones used by universities. Among the standards most frequently cited was GPA. Only 9.7% had no GPA requirement. Approval by faculty or administrators was part of the admission in 234 (71.6%) of the institutions (114; 34.9% approval by advisor, 102; 31.2% recommendation by other faculty, 66; 20.2% interview by committees and 14; 4.3% approval by administrators). Only 24.2% of the

institutions used some type of ability test, of which ACT (6.4%) and CAT (3.7%) were the two most popular. Other tests like SAT, National Teacher Examination (NTE), regency exam, college board scores were identified by 46 (14.1%) of the institutions(Fisher and Feldmann, 1984).

Personality and attitude test as admission requirements were reported by 23 (7%) of the institutions. About 49 institutions looked for mathematics ability. Other criteria reported by institutions were speech and hearing clearance (60; 18.3%), health clearance (53; 16.2%), interest and computer literacy (2; 0.6%)(Fisher and Feldmann, 1984). Additionally a wide range of courses and competence exams as language and speech were also extensively used. (144-34.8%) (Fisher and Feldmann, 1984).

Book and Freeman (1986) tried to identify differences among the candidates who entered elementary and secondary teacher education programs. The particular concern was on characteristics that have implication for courses and program development in teacher education. Specifically, differences among entry-level elementary and secondary candidates' academic backgrounds, previous teaching experiences, reasons of pursuing a career in teaching, self-confidence in their teaching abilities and perceived source of professional knowledge were examined.

The sample was formed of 174 elementary and 178 secondary teacher education program candidates who took part in that study. Each participant had been asked to complete the Michigan State University (MSU) Entering Teacher Candidate Survey. The instrument consisted of 210 questions divided into six sections. The six sections covered high school background and activities, college background, career plans, general orientation to teaching, general background information, and educational beliefs. Chi-square test was used to compare responses of the mentioned groups (Book and Freeman, 1986).

Analysis of the data indicated that relative to their elementary counterparts secondary teacher candidates had stronger background in science and mathematics, whereas elementary candidates were more likely to take three or more years of social science courses such as psychology, sociology and anthropology (Book and Freeman, 1986).

Second, elementary teacher education program candidates served more as Sunday school teachers (27% vs 13%), participated in other teaching activities (48% vs 38%), and worked with handicapped children (30% vs 18%) when compared with their secondary counterparts (Book and Freeman, 1986).

Findings concerning the career decision showed that elementary candidates' reasons for choosing teaching tended to be child-centered while secondary candidates were attracted by

a desire to teach a subject matter. In sum, elementary and secondary candidates were most likely to check two reasons: The first was that through teaching one can help students to gain a sense of personal achievement and self-esteem (96% elementary females, 97% secondary females, and 81% secondary males). Second, through teaching one can help youngsters become excited about learning new things (for detailed information see Appendix P) (Book and Freeman, 1986, p.47-9).

During the same period a study was conducted by Cody (1987) to determine "if there was any consensus among superintendents, chairpersons of the boards of education and principals in North Carolina about their perceieved importance of teaching competence considered most and least critical to secondary teacher job performance" (Cody, 1987, p:2531).

Data were gathered from 289 respondents who were mailed a questionnaire (The North Carolina Teacher Appraisal Instrument) containing 34 competency statements. Respondents rated the five most and five least critical ones. It was found that planning, presenting, practicing and correcting student work was rated by about all respondents as most critical for secondary teachers (Cody, 1987).

Similarly, Somkroot (1987) compared the perceptions of presidents and vice presidents of 36 teacher colleges of Thailand regarding five operational issues. These were administrative,

academic, admission, financial and cooperative ones. A 104 item questionnaire was designed and the analysis of variance was used to determine if there were statistical differences between groups at 0.05 probability level. It was suggested that in order to improve teacher education, admission standards for teacher education programs should be raised and more research should be done.

In the study with a sample of 512 college bound high school students from five St. Louis country districts, Reynolds (1987) investigated the level of interests and the factors influencing interests toward teaching as a career. Data were analyzed through Chi-square tests. The results showed that there were considerable differences in the perception of teaching as a profession between respondents who indicated that they were interested in teaching and those who were not.

Wyer(1987) tried to determine the degree of importance placed on various criteria used by high school principals and vocational directors in selecting applicants for Trade (T) & Industry (I) positions. The population consisted of 251 principals and directors. Data were collected via a two section opinionnaire. The first section requested personal data, experience, and responsibilities of the administrator.

Section two consisted of 75 items that were rated for perceived importance in the selection and recruitment of T & I

applicants. It was found that ability to teach, work with children, maintain order, motivate learning, be reliable and trustworthy, demonstrate high knowledge and skills, have a high level of academic achievement, and serve public were the criteria rated as most important in the selection of T & I applicants. Furthermore, it was concluded that principals' and directors' preference for predictors of success varied, but both used similar criteria for selection. Vocational directors indicated preference for high academic achievement (Wyer, 1987, p:638).

The purpose of the study conducted by Johnson (1986) was to investigate the requirements used for admission to elementary teacher education programs. Population of the study was twenty-three (23) Southeastern landgrand institutions and nine (9) state institutions (Johnson, 1986, p:2128)

A questionnaire of nine items related to admission requirements for elementary teacher education programs was developed and sent to the institutions. It was found that the primary criteria for admitting students to these programs were grade point average, and test scores. The SAT was the most commonly used standardized test(Johnson, 1986).

Frankhauser (1987) examined the programs for training teachers for the deaf in the United States. For this purpose, a questionnaire was sent to directors of all 81 existing training programs. Four basic factors were investigated; admission

criteria, trends in applicants and accepted candidates, marketing practices,and conditions affecting the training programs. Results revealed that programs for training teachers of the hearing impaired use traditional criteria for admission and majority of directors use limited marketing techniques and population in recruiting applicants to their programs.

Hypes(1988) pointed out that "ever since the first teacher education program, critics have claimed that the quality of teacher candidates was poor and the education programs did not vigorously screen out undesirables. Cries for reform of teacher education were loud, and it is still so. Reforms and changes in 1980's had been rapidly implemented to increase the quality controls in teacher education. Questions about admission, exist and retention were raised, these questions were investigated in the summer of 1987 for the state of Tennessee.

For the above mentioned purposes, a questionnaire was sent to the 38 approved teacher education institutions in Tennessee. The results of the study indicated that changes occurred in Tennessee teacher education programs, and institutions required more objective, defensible admission, retention and exit criteria. Few differences were found between public and private institutions, 4 and 5 years programs (Hypes, 1988, p:112).

The data presented showed that the determination and raising of the standard for admission into teacher education

programs was a factor which could lead to improved teacher quality. It was also observed that a more extended and comprehensive research is generally suggested by those dealing with the teacher education. Another interesting observation was variety in the number and nature of standards used, and the priority given to these standards (Hypes, 1988).

The studies presented are largely related to general literature. Although they have a universal nature, it is useful for the present study, for the general literature and for those who would deal with a similar study, to see the present situation in Türkiye.

It is unfortunate that an exactly identical study was not found in the Turkish literature examined by the researcher. The studies available mostly deal with teacher education rather than with admission standards. The following paragraphs in general summarize the present situation in Turkiye.

In the present system of Türkiye, with little exception, most teacher training institutions accepts student through the University Entrance Examination (UEE) which is administered by the Student Selection and Placement Center (ÖSYM). Information about the UEE was given in the first chapter of this study.

In addition to the UEE, some institutions have certain quotas and prerequisites (see Appendix R, table e, f.) These

quotas and prerequisites can be summarized as follows. The graduates of trade, vocational and technical schools or eguivelents high school were supposed to examine table six of the UEE catalog (Tabel-6. **Lycee and equivalent schools applying programs leading to an occupation and the higher education programs identified by Higher Education Council**) before they decide at any higher education program. (See Appendix R , table e item no=1). Since some higher education institutions' medium of instruction is English, French or German the students who prefer any of these programs provided in these institutions were expected to attend the related foreign language sub-test. Moreover, they are also expected to attend a proficiency examination administered by the institution itself after they are admitted. Those who did not succeed in the proficiency exam have to attend a year of preparatory language school. (see appendix R, table- e, items 4, 6, 21, 22, 23, 32, 33) (ÖSYM, 1989).

Finally, it was declared that a certain number of students who ranked the teacher education programs among their first ten(10) choices would be financially supported by the Ministry of National Education (MNE). This support includes accommodation, various expenses and tuition fees (see Appendix R, table e, item no=1)(ÖSYM, 1989).

Careful examination of teacher education programs and prerequisites of the related universities indicate that all

these institutions use quota related to equivalent programs. Similarly, all except French and German teaching allows some financial support provided by MNE for the students who had ranked teacher education programs among their first ten choices and were placed into these programs. Prerequisites related to preparatory language school and medium of instruction are used by METU, Marmara and Bosphorus universities. Departments of language teaching require students to attend the related foreign language sub-test in UEE,this situation is pointed out in the explanations number twenty-one, twenty-two and twenty-three (see Appendix, R table e).

Unfortunately, none of these prerequisites or quotas express the student characteristics related to teaching. Students entering the UEE were supposed to answer the related tests, which are indicated in the table 4. It shows teacher education programs included in this study and, the type of composite scores required for these programs.

Table - 4. Teacher education programs and the type of points required (ÖSYN, 1989).

Programs	L	TSs	Ss	M	S	TM	MS
Chemistry teaching				X			
Physics teaching				X			
Biology teaching					X		
Turkish lit teaching		X					
History teaching		X					
Foreign language teaching	X						
Geography teaching		X					
Math teaching				X			

L: Language; TSs: Turkish and Social studies
Ss: Social studies; M: Mathematics; S: Science
TM: Turkish and Mathematics: MS: Mathematics and Science

Furthermore in table 5 it may be observed that each teaching area required students to answer different sub-tests. Teaching of Chemistry program for example requires Mathematics sub-test, Science sub-test and Turkish sub-test. Relatively, the scores obtained on Science and Turkish sub-tests influence the final scores as much approximately as half of Mathematics sub-test scores.

Table - 5. Standard weights of the tests for each teacher education program (ÖSYM, 1989).

	The Sub-tests and their relative weights					
PROGRAM	Science	Math	Turkish	Social studies	Foreign language	High school success
Teaching of Chemistry	1.9	3.1	1.3	----	-----	0.8
Teaching of Physics	1.9	3.1	1.3	----	----	0.8
Teaching of Biology	3.1	1.9	1.3	----	----	0.8
Teaching of Mathematics	1.9	3.1	1.3	----	----	0.8
Teaching of Turkish Literature	-----	0.5	2.9	-----	-----	0.8
Teaching of Geography	-----	1.3	1.9	----	----	0.8
Teaching of F.Language	----	----	1.3	1.3	3.7	0.8

On the other hand the scores gained on Science sub- test (Chemistry, Physics and Biology.) play a primary role, whereas mathematics and Turkish sub-tests have a secondary role in the total scores of Biology teaching.

Aşkın (1989) said that "They become teachers because they were poor, their fathers died during the war of independence so they decided to apply to Teacher Training Institutions, but these institutions had high criteria for the admission. They required the applicants to perform well in a an oral examinations, written examination and a try-out. They further looked at physical posture and appearance. Finally, it was a committee that decided whether the applicants could or could not be admitted to the program (Aşkın, 1989, p:125).

Although it is not directly related to the purpose of the present research, the study by Karagözoglu(1987) is comprehensive enough to introduce general information about those who preferred teacher training programs in 1986. The related data indicated that students placed into four year teacher education programs could be identified with the following qualities (Karagözoglu, 1987).

First, most students placed in four year teacher education programs (TEP) came from middle or low income families (See Appendix R, table a). Second, among those placed in four year TEP, 3% came from private colleges where the medium of instruction is English, French or German, 5% came from Teacher Lycee, and about 56% came from public academic lycee (see Appendix R, table b). Third, only 12.7% of students placed in four year TEP ranked it among their first three choices, and about 70% ranked TEP among 7th to 18th choice (see Appendix, R, table c). This situation has

changed by about five percent in 1990 in favour of teacher education programs. The following table shows the situation of 1986 and 1990.

Table - 6. Comparison of percentages of preferrence ranking of students admitted into teacher trainig programs 1986 - 1990.

Order of Preference	1986 %	1990 %	Difference %
1 - 3	12.7	17.32	4.38
4 - 6	15.4	21.10	5.70
7 - 9	16.5	21.99	5.49
10 - 12	16.8	17.14	0.34
13 - 15	18.0	12.62	-5.38
16 - 18	18.8	9.88	-8.92
19 - 24	1.4	0.04	-1.36

Finally, of the students placed into four year TEPs, the high school academic success of 53.5% boys and 58.4% girls, ranged from 51 to 70 on a 100 points scale. That is, most students who entered TEP during 1986 had about an average high school academic success (see Appendix, R, table d) (Karagözoğlu, 1987).

The study of Karagözoglu(1987) provided meaningful information about the students entering teacher education

programs. These data implied that the characteristics of applicants should be improved.

The present literature, in Turkiye, examined by the researcher indicated that most educators strongly suggested the improvement of teacher quality. For the realization of this purpose one of the solutions lies on raising the admission standards. Unfortunately, there exists no empirical evidence on the subject of admission standards.

For that reason a study designed to determine standards of admission into teacher education programs was expected to offer significant insights into the national, and to some extent, international literature.

Consequently, in the light of presented research context, the present study aimed to determine the standards through which students could be admitted into teacher trainig programs in Türkiye via Delphi Technique, consensus on these standards, and the extent to which some of the standards were represented in the students already admitted into teacher trainig programs.

CHAPTER FOUR

DESIGN OF THE STUDY

Introduction

This chapter is devoted to the presentation of procedures utilized. It covers the problem statements, subjects of the study, instruments, collection of data, definition of terms, analysis of data and limitations of the study.

The Problem Statements

Improving the quality of education is largely related to the improvement of teacher quality. In that sense it was decided to give special attention to the determination of admission standards for teacher training programs, which constituted one dimension of quality improvement in teacher training. For that purpose the researcher formulated the following problem statements.

1- What standards should be used for admitting students into various teacher training programs, according to the academicians, teachers, administrators and parents?

2- Is there a consensus among academicians, teachers, principals and parents on the standards to be used in the admission of students into teacher training programs?

3- To what extent were the standards, on which the consensus was formed, represented in the students already admitted into specific teacher training programs at METU Türkiye.

Subjects of the Study

Considering the first two questions of the study a Delphi panel was formed. It consisted of teachers, academicians, principals and parents. The panel had to be carefully selected, because, "teacher training" is a sensitive and a critical processs. Since it was the the Delphi panel who would decide on the standards to be used for the admittence of student into teacher training programs most concerned people had to be included. The Delphi panel consisted of teachers, academicians, principals and parents.

Academicians: This group was composed of the selected members of Faculties of Education from five different universities. They were currently teaching and/or contributing to the teacher training and to the field of Educational Sciences.

This group was formed of 41 people from Faculties of Education of Ankara, Bogaziçi, Gazi, Hacettepe and Middle East Technical Universities. In selecting this group priority was given to professors, associate professors, assistant professors and instructors respectively. The above mentioned members and

institutions were included in the study due to their long experience and contribution to teacher training (table 7).

Besides academicians, **teachers** were also accepted as most directly involved and most frequently confronted with the problems of teaching profession. They are assumed as the most responsible ones for the growth and development of the profession. Furthermore, they also are assumed to have a strong sense about the characteristics that an applicant should posess for a teacher training program. The participants of this group were expected to be either graduates of Faculties of education, its equivalent or at least had a teaching sertificate.

This group was composed of high school teachers of biology, chemistry, physics, mathematics, philosophy, history, psychology, Turkish language and literature, and foreign language who were employed at Ankara Atatürk Anadolu Lisesi(AAAL), Ankara Bahçelievler Cumhuriyet Lisesi(BCL), Ankara Türk Egitim Derneği Özel Lisesi(TED) and Ankara Özel Yükseliş Lisesi(ÖYL). Based on the stratified random sampling technique 37 teachers were included in the study (table 7).

Principals: Principals were included in this study because they have the responsibility of executing school related laws, rules, bylaws, regulations and the curriculum. Since they are in a continous interaction with teachers and students, officially they are responsible, to a certain extent, about the general

success of the school. This group consisted of 33 principals and assistant principals from the senior high schools mentioned above. Since their number was limited they were all included in the Delphi panel (table 7).

Parents: This group was assumed to be in a continous relationship with teachers and school. They are largely concerned with the success of their children. Throughout the literature, in many studies, they had been consulted and their opinions were asked about teachers and teacher quality. In this study also parents were consulted about standards to be used in admitting students into teacher training programs. They were selected among those who graduated from higher education institution. The reason for being so selective is, because, standards need to be determined and the participants could understand some concepts related to teacher characteristics and could deal with them. About 40 pupils were invited, but only 27 participated in the study (table 7).

In response to the third question of the study related data was collected on a group of students who were already admitted into teacher training programs. Participants of this group were all Science Education and Foreign Language Education freshmen first term students at METU.

Table 7. The Delphi panel

participants and their characteristics	Related Institutions	First Round contacted (n)	First Round Returned (n)	Second Round Contacted (n)	Second Round Returned (n)
TEACHERS					
-have a teaching					
-sertificate or graduate	TED	13	13	11	11
of teacher training	ÖYL	12	11	9	9
program	AAAL	15	13	12	12
-still teaching at a	BCL	5	5	5	5
senior high school					
GROUP TOTAL		45	42	37	37
ACADEMICIANS					
	AU	13	8	8	6
-graduate degree	BU	8	8	8	7
in educational	GU	9	6	7	6
sciences	HU	10	10	9	9
	METU	13	13	13	13
GROUP TOTAL		53	45	45	41
PRINCIPALS					
-graduate of educational					
administration or					
-graduate of educational	TED	11	11	10	8
sciences or	ÖYL	9	9	9	9
-have a teaching	AAAL	9	9	9	8
certificate	BCL	10	8	9	8
-have administrated					
at senior high school					
GROUP TOTAL		39	37	37	33
PARENTS					
-at least higher					
education graduate		31	31	31	27
TOTALS		168	155	150	138

TED : Ankara Türk Eğitim Derneği
ÖYL : Özel Yükseliş Lisesi
AAAL : Ankara Atatürk Anadolu Lisesi
BCL : Bahçelievler Cumhuriyet Lisesi

AU : Ankara Universitesi
BU : Bosphorus University
GU : Gazi Universitesi
HU : Hacettepe University
METU : Midle East Technical University

The Science Education department at METU has four options. These are biology, chemistry, mathematics and physics teaching. Selection of students from METU was due to the practical reasons, especially when collection of data was considered. In addition, these students had no education course(s) during freshmen (table 8).

Table 8. The summary table of the first year students who participated in the study.

Department	number of students
Science Education	
Chemistry teaching	22
Biology teaching	21
Physics teaching	18
Mathematics teaching	28
Foreign Language Education	
English teaching	24
Total	**113**

The Instruments

In this study two sets of instruments were utilized for data gathering purposes. The first was a six point Likert type Delphi Questionnaire used to collect data for the first two questions of this study. Concerning the data for the third question four attitude scales, student records and files available at the registration office of METU and an information sheet were used.

Delphi Questionnaire was constructed on basis of theoretical considerations of Delphi Technique introduced by Olaf Palmer. The technique operates on the principle that -"several heads are better than one" when identifying problems, solving problems, or when making conjecture about future. The technique has three chief features; anonymity, controlled feedback and statistical group responses (Cochran, 1983).

Delphi Technique is being used as an aid to decision making and in most instance for the formation of consensus which seems more accurate then the decision made by face to face groups. The use of self-rating of panel members and the feed-in of relevant facts as a part of controlled feedback helps to improve the group's responses (Dalkey,1969; Ok,1986; Paykoç and Ok, 1990)

The Delphi Questionnaire was developed by the researcher. First, a broad review of literature concerning the admission standards was examined. Second, a long list of different characteristics was formed and then organized under six categories as a six point Likert type scale which ranged from strongly disagree(1), disagree(2), tend to disagree(3), tend to agree(4), agree(5) to strongly agree(6).

Next, the prepared draft was given to five staff members of Educational Sciences department at METU to examine the formulated statements. Then, before the questionnaires were sent to the panel members of the first round they were administered to

a group of academicians who were not directly specialized on the subject of teacher education (n=10). Finally, the Delphi Questionnaire used in the first round covered 36 items summed under six categories with one open ended question under each category (Appendix A). In the open ended questions the Delphi panel members were requested to express their suggestions if they had any.

The Delphi Questionnaire used in the first round was revised and rearranged for the second round, after the suggestions obtained in the first round were examined and evaluated. As a result one item was excluded and four new items were added. Consequently, the Delphi Questionnaire II prepared for the second round covered 39 items summed under six categories (see Appendix B).

The content validity of the Delphi Questionnaire was checked by a review of relevant literature, related research studies, and by a group of academicians in the Department of Educational Sciences at METU and a specialist from Student Selection and Placement Center(SSPC). As a result of their judgements, some items were changed and some were restated. Furthermore, the content and especially face validity was also examined by a trial run in which the questionnaire was administered to a group of (n=10) academicians from the field of education. The suggestions obtained from the panel members in the

first round were also considered in the formulation of the Delphi Questionnaire II (both versions are presented in Appendies A, B).

It should be noticed that the academicians who participated in the trail run were not included in the Delphi panel and the data obtained in the trail run was not included in the final analyses. The trial run indicated that Delphi Questionnaire was understandable and the Delphi panel members could respond to the items as it was expected.

The reliability of the Delphi Questionnaire was estimated by utilizing Cronbach's alpha formula. In order to calculate Cronbach's alpha the reliability subprogram of SPSS (Nie, et al.1975) was run and it was found as 0.93 indicating a high internal consistency.

The third question of this study was related to the determination of the extent to which some of the standards on which consensus was formed, were represented in the students already admitted into teacher training programs at METU. The data concerning this question were collected by utilizing a set of already developed instruments. This set included four attitude scales and an information sheet.

The first scale was used to determine the students attitudes toward teaching as a profession, which was considered as an admission standard according to the findings on the first

two questions. This scale was developed by Aşkar and Erden in three subsequent steps (Aşkar and Erden, 1987). First, a group of 100 students were asked to write a composition reflecting their thoughts and feelings about teaching profession. As a result a five point Likert type scale was built consisting of 14 negative and 14 positive attitude reflecting statements(Aşkar and Erden, 1987). In the second step the scale was administered to 235 students from METU and HU. The students were asked to respond to each item as completely disagree(1), disagree(2), undecided(3), agree(4) or completely agree(5). After runing the item-test correlation and factor analysis 28 items scale was reduced to 10 items (6 positive and 4 negative)(see Appendix D). In the final step the scale was administered again to 326 students from METU and HU. At the end of this application reliability was estimated utilizing Cronbach's alpha and, factorial validity was determined by using factor analysis. As a results of analyses alpha was found as .80 and two factors were extracted which explained 49.9% of variance in the test scores (Aşkar and Erden, 1986; 1987). This scale was also used by Aşkar and Erden(1986) and by Aşkar and Çelenk(1988) to determine students attitudes toward teaching profession. In both studies the Cronbach's alpha coefficient was found as 0.82. The researcher also had calculated Cronbach's alpha coefficient, which was found as 0.82.

The second scale was used to determine **subject** related **attitudes** of the students already admitted into teacher training

programs at METU. According to the findings of the first two questions this item was considered as an admission standard. Subject related attitudes included; attitudes towards mathematics, chemistry, biology and physics. Attitudes towards mathematics were determined by utilizing a scale developed by Aiken (see Appendix E). It was a 24 item five points Likert type scale to be answered as strongly disagree (DS), disagree (D), undecided (U), agree (A) or strongly agree (SA) (Aiken, 1979).

This scale was used by Aiken to determine the attitudes of Iranian Middle school students. The same scale was utilized by Aksu(1985) to examine the sex and departmental differences on attitudes toward Mathematics of secondary school prospective teachers (Aiken, 1979; Aksu,1985). Aksu(1985) utilized the English form of the scale in her study. The reliability of the scale was calculated by using Cronbah's alpha. The reliability was found as 0.81 by Aiken and 0.77 by Aksu. Researcher had also checked the reliability through the same procedure and found it as 0.67. The researcher had also used the English form of the scale. The students were strongly requested to ask if they had any problem concerning the meaning of even a single word or statement in the scale. In such case they were advised to rate the statement only after they were made clear about the problem they faced.

The scales used to determine attitudes toward chemistry, biology and physics (see Appendies F, H, I) were reproduced from

the scale developed by Aiken(1979) to determine students attitudes toward science. The format of this scale was similar to the mathematics attitude scales. Since the information concerning the reproduced scales was not reached in Türkiye the reliability of each scale was estimated. For this purpose Cronbach's alpha was utilized and it was found as 0.88 for chemistry, 0.87 for biology and 0.70 for physics. The reproduced scales were also English and the same procedure as in the administration of mathematics attitude scale was followed.

A Turkish attitude scale developed by Berberoglu(1990) was aimed at examining attitudes toward chemistry (see Appendix G). Although the scale developed by Aiken and the one developed by Berberoglu were different in the number of attitude statements and to some extent in content the aim of using the scale developed by Berberoglu was to observe the pattern of responses of students to an attitude scale in Turkish.

The initial form of the scale developed by Berberoglu consisted of 30 items, of which 15 were negatively stated. Items in the original form were stated by using Edward's criteria for attitudinal statements. For selecting items and obtaining validity evidence the original form was administered on a sample of 243 students at METU coming from different departments. Students were asked to reflect their reactions on a five point Likert type of scale as completely disagree, disagree, undecided, agree or completely agree(Berberoglu, 1990).

Principle component factor analysis and group differences were used as evidence of construct validity. Items for the final scale were selected as a result of factor analysis. For reliability Cronbach alpha was computed. As a result of these analyses 16 items were selected (10 positive, 6 negative) for the final form of the scale. Cronbach's alpha of the 16 items was found as 0.92 (Berberoğlu, 1990; 1990). The researcher in this study had also estimated the reliability of the scale and it was found as 0.94.

The data about students'preference ranking of the program in which they were placed in by SSPC and, the reason for choosing that program was collected via an information sheet prepared by the researcher (see Appendix C).

The remaining data was taken from students files present at student registration office of METU. The files included; high school diploma grades, student selection examination scores, and student placement examination scores.

The student selection examination includes a verbal and quantitative sub-test. The verbal test aims to measure the ability to reason, using social science concepts and generalizations, proficiency in Turkish language -the mother tongue. The quantitative sub-test aims to measure the ability to make use of basic mathematical concepts and rules, and the

ability to reason by using natural science concepts and generalizations (ÖSYM, 1988).

The student placement examination includes a test for natural sciences, a test for mathematics, a test for Turkish language and literature, a test for social sciences and a test for a foreign language. The aim of the UEE was the prediction of the prerequisites necessary for higher learning. In other words the test battery used in the student placement examination is prepared to measure the candidates' level of prior achievement in the respective fields which can be assumed to make up most of the necessary cognitive prerequisites of higher learning in those fields of study (ÖSYM, 1988, p:16).

Collection of Data

The data on admission standards were collected via the Delphi Questionnaire during April 1990 through December 1990. Related data was collected in two successive rounds. The first round has been initiated in April 1990. The researcher first visited the previously mentioned high schools and universities to get the lists of academicians, teachers, and principals.

For the first round about 56 teachers, 60 academicians, 48 principals, and 40 parents were invited. Of these subjects 45 teachers, 53 academicians, 39 principals and 31 parents were contacted. With a return rate of 88%, 42 teachers, 45

academicians, 37 principals and 24 parents returned the Delphi questionnaires in the first round. After results of the first round were evaluated and organized, the Delphi Questionnaire II was formulated. It's structure was different from the first one in the sense that it included mean scores and standard deviations of each item(statement) of the first round. The second round was also carried out by the researcher The questionnaires were administered to the same Delphi panel members who returned the questionnaires in the first round.

The researcher faced a difficulty during the second round in collecting data from parents. The reason was, only 11 questionnaires were returned in this round. This number was far from being sufficient, so the researcher had to repeat the data collection process concerning parents. As a result 31 parents returned usable questionnaires in the first round and 27 in the second. There was also some loses concerning the academicians, teachers and principals. Of 45 academicians contacted 41 returned the questionnaires. Of teachers 37 responded to the questionnaire. Five teachers were on leave or else during the data collection process. Of principals 38 were contacted and 33 returned questionnaires. Three assistant principals rejected to answer the questionnaire and two were on leave when the Delphi questionnaire of the second round was administered.

Besides all the explained instances the return rate in the second round was 91% . On the other hand, when the initial number

of participants contacted was considered the return rate decreased to 82.0% .

The data related to the third problem statement of this study was collected during the first three months of 1991. For that purpose researcher made use of students' files and records available at the Registration Office at METU. The data collected included; Student Selection Examination Scores (SSE), Student Placement Examination Scores (SPE), High School Diploma Grades (HSDG), number of correct answers on Turkish sub-test (TUR) of SPE number of correct answers on Mathematics sub-test (MAT) of SPE, number of correct answers on Natural Sciences sub-test (NS) of SPE number of correct answers on Social Sciences sub-test(SS) of SPE and the number of correct answers on Foreign Language sub-test of SPE.

These data was collected for the students coming from Foreign Language Education Department (FLE) and Science Education Department which include chemistry (CHED), biology (BED), physics (PHED) and mathematics (MED) teaching (table. 8).

In order to gather data related to the Attitudes toward teaching as a profession the researcher administered the "Attitudes Toward Teaching Profession Scale" to the students mentioned above. For the purpose of collecting data about "Subject related attitude" the MAS, CAS, BAS and PAS were administered. These scales were written in English. The Turkish

attitude scale developed by Berberoglu(1990) to measure attitudes toward chemistry was also administered to the chemistry teaching students. All these scales were administered during the first three months of 1991 at METU where the medium of instraction is English.

Analysis of Data

In this study the data related to admission standards were analyzed by utilizing the frequencies, condescriptive, t-test and Crosstabs sub-programs of SPSS (Statistical Packages for Social Sciences)(Nie, et al., 1975).

In determining admission standards to be used in the admission of students into teacher training programs according to teachers, academicians, princials and parents the means, standard deviations and percentages of each item were used. The statistics helped to see the degree assigned to each item as an admission standard, by the Delphi panel members and the group forming the panel.

The two-tailed t-test was used to examine the consensus, on admission standards to be used for teacher traning programs, with in the groups by comparing means in the two rounds. The X statistics was used to examine if consensus was established between groups together with skewness, kurtosis and percentages of each item.

In carrying out chi-square analysis each item in the Delphi questionnaire was treated as a dependent limited category variable and each group was treated as an independent limited category variable.

Conserning the extent of representation of some of the standards in the students already admitted into teacher training programs at METU the mean value of each standard was examined together with its minimum and maximum values.

Limitations of the Study

This study cover only some of the teacher training programs. The others like; fine arts, physical education and sports, industrial arts, Religion education, technical and vocational education and guidance and psychological counseling were not included in this study.

Findings related to the third question of the study includes only a small group of students at METU.

The instruments used to examine the representation of some of the admission standard were the already developed ones which may need to be further develped and reexamined.

Findings related to the third question should not be generalized beyond the group that participated in the study.

CHAPTER FIVE

PRESENTATION OF THE FINDINGS

Introduction

This chapter is devoted to the presentation of the results of the study which were obtained by analyzing the data in the way explained in the preceding chapter. The findings concerning the determination of admission standards, consensus on standards and the situation of the admission standards present in the students already admitted into teacher training programs at METU Science Education and Foreign Languages departments, all were presented under separate rubrics. Therefore, this chapter consisted of three separate sections.

Findings related to the admission standards for some teacher training programs

In presenting the findings, the researcher first reported the means and the standard deviations of the four groups,on a six point scale, regarding the admission standards for teacher training programs. Next, regarding the same standard the percentages of rating on a five point scale which follows as "strongly disagree"(1), "disagree" (2), "tend to disagree"(3), "tend to agree"(4), "agree"(5) and "strongly agree" (6) were also reported. The means, standard deviations, percentages and

frequencies of each item are presented in appendixes J, K and L.

Regarding the **cognitive characteristics** the following results were obtained:

The means and the standard deviations of the four groups, related to the use of **"the prerequisite knowledge and skills necessary to succeed in a teacher training program"** as an admission standard, were; $\bar{x}$=5.08; s=0.87 for teachers, $\bar{x}$=5.22; s=0.69 for academicians, $\bar{x}$=4.81; s=1.24 for principals, $\bar{x}$=5.11; s=0.79) for parents and $\bar{x}$=5.07; s=0.95 for the whole group. Of these groups; 94% (n=36 one response was omitted) of teachers, 100% (n=41) of academicians, 88% (n=33) of principals, 96% (n=27) of parents and 95% (N= 137 one case was missing) of the whole group rated this standard as tend to agree (4), agree (5) or strongly agree (6)(see Appendixes J, K, L item 1).

The means and the standard deviations of the four groups, related to the use of **"problem solving ability"** as an admission standard, were; $\bar{x}$=5.11; s=0.66 for teachers, $\bar{x}$=5.29; s=0.75 for academicians, $\bar{x}$=4.69; s=1.20 for principals, $\bar{x}$=5.07; s=0.87 for parents and $\bar{x}$=5.06; s=0.90 for the whole group. Of these groups; 97% of teachers, 98% of academicians, 87% (n=32 one response was omitted) of principals, 96% of parents and 95% (N= 137 one response was omitted) of the whole group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 2).

The means and the standard deviations of the four groups, related to the use of" **creativity"** as an admission

standard were; $\bar{x}$=5.27; s=0.73 for teachers, $\bar{x}$=5.04; s=0.85 for academicians, $\bar{x}$=5.09; s=0.68 for principals, $\bar{x}$=4.47; s=1.51 for parents and $\bar{x}$=5.05; s=0.96 for the total group. Of these groups; all teachers, 98% of academicians, 97% of principals, 85% of parents and 96% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 3).

The means and the standard deviations of the four groups, related to the use of **"higher level thinking skills"** as an admission standard, were; $\bar{x}$=5.04; s=1.14 for teachers, $\bar{x}$=5.29; s=0.75 for academicians, $\bar{x}$=5.24; s=0.56 for principals, $\bar{x}$=5.33; s=1.00 for parents and $\bar{x}$=5.23; s=0.88 for the total group. Of these groups; 92% of teachers, 98% of academicians, all principals, 96% of parents and of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 4).

The means and the standard deviations of the four groups, related to the use of **"achievement level at high school"** as an admission standard, were; $\bar{x}$=3.75; s=1.30 for teachers, $\bar{x}$=4.14; s=1.17 for academicians, $\bar{x}$=3.81; s=1.51 for principals, $\bar{x}$=3.92; s=1.21 for parents and $\bar{x}$=3.87: s=1.31 for the total group. Of these groups; 38% of teachers, 22% of academicians, 36% of principals, 26% of parents and 30% of the total group rated this standard as strongly disagree (1), disagree (2) or tend to disagree (3) (see Appendixes J, K, L item 5).

The means and the standard deviations of the four groups, related to the use of **"ability to establish quantitative**

relationships " as an admission standard, were; $\bar{x}$=4.41; s=.99 for teachers, $\bar{x}$=4.65; s=0.86 for academicians, $\bar{x}$=4.36; s=1.16 for principals, $\bar{x}$=4.23; s=1.37 for parents and $\bar{x}$=4.44; s=1.07 for the total group. Of these groups; 84% of teachers, 92% of academicians, 72% (n=32 one response was omitted) and principals, 73% (n=26 one response was omitted) of parents and 81% (N=136 two responses were omitted) of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 6).

The means and the standard deviations of the four groups, related to the use of **"references submitted by principals and teachers committee about cognitive characteristics** as an admission standard, were; x=3.75; s=1.24 for teachers, $\bar{x}$=3.96; s=1.14 for academicians, $\bar{x}$=4.27; s=1.38 for principals, $\bar{x}$=3.74; s=1.79 for parents and $\bar{x}$=3.87; s=1.38 for the total group. Of these groups; 49% of teachers, 23% (n=40 one response was omitted) of academicians demicians, 27% of principals, 41% of parents and 34% (N=137) of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 7).

Regarding the language proficiency the following results were obtained.

The means and the standard deviations of the four groups, related to the use of **"ability to understand concepts and written expressions"** as an admission standard, were; $\bar{x}$=5.39; s=0.59 for teachers, $\bar{x}$=5.73; s=0.50 for academicians, $\bar{x}$=5.51 s=0.57 for principals, $\bar{x}$=5.70; s=0.54 for parents, and $\bar{x}$=5.58; s=0.56 for

the total group. The whole panel rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 8).

The means and the standard deviations of the four groups, related to the use of **"ability to understand oral expressions"** as an admission standard, were; $\bar{x}$=5.43; s=0.56 for teachers, $\bar{x}$=5.76; s=0.49 for academicians, $\bar{x}$= 5.51 s=0.57 for principals, $\bar{x}$=5.59 s=0.50 for parents and $\bar{x}$=5.58 s=0.54 for the whole group. Of these groups; all rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 9).

The means and the standard deviations of the four groups, related to the use of **"ability to express oneself in written form"** as an admission, standard were; $\bar{x}$=5.19; s=0.66 fot teachers, $\bar{x}$=5.49; s=0.78) for academicians, $\bar{x}$=5.36; s=0.63 for principals, $\bar{x}$=5.19; s=0.79 for parents and $\bar{x}$=5.32; s=0.73 for the total group. Of these groups; all teachers and principals, 98% of academicians, 96% of parents and 99% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 10).

The means and the standard deviations of the four groups, and of the total group related to the use of **"ability to express oneself orally"** as an admission standard, were; $\bar{x}$=5.27; s=0.77 for teachers, $\bar{x}$=5.68; s=0.57 for academicians, $\bar{x}$=5.61; s=0.56 for principals, $\bar{x}$=5.37; s=0.63 for parents and $\bar{x}$=5.49; s=0.65 for the total group. Of these groups; 97% of teachers, all academicians, principals and parents, 99% of the total group

rated this standard as 4, 5 or 6 (see Appendixes J, K, D item 11).

The means and the standard deviations of the four groups, related to the use of **"knowledge of vocabulary"** as an admission standard, were; $\bar{x}$=4.94; s=0.81 for teachers, $\bar{x}$=5.42; s=0.59 for academicians, $\bar{x}$=5.28; s=0.78 for principals, $\bar{x}$=5.19; s=0.92 for parents and $\bar{x}$=5.21; s=0.77 for the total group. Of these groups; 95% of teachers, all academicians, 97% of principals, of principals and of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 12).

The means and the standard deviations of the four groups, related to the use of " **references submitted by principals and teachers committee about the language proficiency"** as an admission standard, were; $\bar{x}$=4.00; s=1.27 for teachers, $\bar{x}$=3.87; s=1.10 for academicians, $\bar{x}$=4.42; s=1.30 for principals, $\bar{x}$=4.15; s=1.49 for parents and $\bar{x}$=4.09; s=1.28 for the total group. Of theses groups; 32% of teachers and academicians, 15% of principals, 30% of parents and 28% of the total group rated this item as 1, 2 or 3 (see Appendixes J, K, L item 13).

Regarding interest and attitudes the following results were obtained:

The means and the standard deviations of the four groups, related to the use of " **interest towards educational sciences"** as an admission standard, were; $\bar{x}$=4.86; s=0.95 for teachers,

x=4.85; s=0.94 for academicians, x=5.03; s=0.88 for principals and x=4.94; s=0.91 for the total group. Of these groups; 95% of teachers and academicians, 94% of principals, 93% of parents and 94% of the total group rated this item as 4, 5 or 6 (see Appendixes J, K, L item 14).

The means and the standard deviations of the four groups, related to the use of **"subject related attitude"** as an admission standard, were; x=5.00; s=1.03 for teachers, x=5.29; s=.87 for academicians, x=5.24; s=0.75 for principals, x=5.15; s=0.95 for parents and x=5.17; s=0.90 for the total group. Of these groups; 95% of teachers, of academicians and of the total group, 94% of principals and 93% of parents rated this item as 4, 5 or 6 (see Appendixes J, K, L item 15).

The means and the standard deviations of the four groups, related to the use of **"attitudes towards individuals in ones environment"** as an admission standard, were; x=4.76; s=1.14 for teachers, x=4.56; s=1.05 for academicians, x=5.00; s=1.06 for principals, x=4.47; s=1.16 for parents and x=4.73; s=1.09 for the total group. Of these group; 86% of teachers, 82% (n=39 two responses were omitted) of academicians, 91% of principals, 89% of parents and 87% (N=136 two responses were omitted) of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 16).

The means and the standard deviations of the four groups, related to the use of **"interest in reading"** as an admission

standard, were; $\bar{x}$=5.38; s=0.64 for teachers, $\bar{x}$=5.20; s=0.78 for academicians, $\bar{x}$=5.24; s=1.12 for principal, $\bar{x}$=5.04; s=0.90 for parents and $\bar{x}$=5.23; s=0.86 for the total group. Of theses group; all teachers, 95% of academicians, 94% of principals, 96% of parents and of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 17).

The means and the standard deviations of the four groups, related to the use of **"interest in helping others'** as an admission standard, were; $\bar{x}$=5.05; s=0.94 for teachers, $\bar{x}$=5.17; s=0.77 for academicians, $\bar{x}$=5.09; s=1.07 for principals, $\bar{x}$=5.31; s=0.79 for parents and $\bar{x}$=5.15; s=0.90 for the total group. Of these groups; 95% of teachers, 98% of academicians, 88% of principals, 96% (n=26 one response was omitted) of parents and 94% (N=137 one response was ommited) of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 18).

The means and the standard deviations of the four groups, related to the use of **" Interest in teaching'** as an admission standard, were; $\bar{x}$=5.51; s=0.31 for teachers, $\bar{x}$=5.64; s=0.64 for academicians, $\bar{x}$=5.42; s=0.87 for principals, $\bar{x}$=5.62; s=0.46 for parents and $\bar{x}$=5.50; s=0.68 for the total group. Of these groups; all teachers, academicians and parents, 97% of principals and 99% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 19).

The means and the standard deviations of the four groups, related to the use of **"desire to deal with children/youth** as an

admission standard, were; $\bar{x}$=5.51; s=0.56 for teachers, $\bar{x}$=5.56; s=0.67 for academicians, $\bar{x}$=5.51; s=0.83 for principals, $\bar{x}$;5.52; s=0.70 for parents and $\bar{x}$=5.53; s=0.69 for the total group. Of these groups; all teachers, academicians and parents, 97% of principals and 99% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 20).

The means and the standard deviations of the four groups, related to the use of " **attitude towards teaching as a profession**" as an admission standard, were; $\bar{x}$=5.39; s=1.09 for teachers, $\bar{x}$=5.37; s=0.70 for academicians, $\bar{x}$=5.06; s=.1.14 for principals, $\bar{x}$=5.70; s=0.54 for parents and $\bar{x}$=5.36 s=0.93 for the total group. Of these groups; 95% of teachers, 98% of academicians, 91% of principals, all parents and 96% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 21).

The means and the standard deviations of the four groups, related to the use of " **desire to contribute to others growth and development**" as an admission standard, were; $\bar{x}$=5.41; s=0.99 for teachers, $\bar{x}$=5.28; s=0.75 for academicians, $\bar{x}$=5.39; s=0.97 for principals, $\bar{x}$=5.48; s=0.75 for parents and $\bar{x}$=5.38; s=0.87 for the total group. Of these groups; 97% of teachers, 97% (n=40, one response was omitted) of academicians, 94% of principals, 96% of parents and 96% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 22).

The means and the standard deviations of the four groups, related to the use of **"references submitted by principals and teachers committee about interest and attitudes"** as an admission standard, were; $\bar{x}$=4.11; s=1.31 for teachers, $\bar{x}$=3.93; s=1.08 for academicians, $\bar{x}$=4.79; s=1.02 for principals, $\bar{x}$=4.22; s=1.50 for parents and $\bar{x}$=4.24; s=1.25 for the total group. Of these groups; 30% of teachers, 29% of academicians, 6% of principals, 30% of parents and 24% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 23).

Regarding the personality, the following results were obtained:

The means and the standard deviations of the four groups, related to the use of **"written autobiography"** as an admission standard, were; x=3.43; s=1.50 for teachers, x=4.10; for academicians, x=3.97; s=1.45 for principals, x=4.22; s=1.12 for parents, x=3.91; s=1.43 for the total group. Of these groups; 43% of teachers, 25% of academicians, 36% of principals, 19% of parents and 31% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 24)

The means and the standard deviations of the four groups, related to the use of **"personal records available in the high school"** as an admission standard, were; x=3.81; s=1.24 for teachers. x=4.02; s=1.19 for academicians, x=4.06; s=1.39 for principals, x=4.22; s=1.01 for parents and x=4.02; s=1.22 for the

total group. Of these groups; 33% (n=36, one response was omitted) of teachers, 34% academicians and principals, 26% of parents and 32% of the total group rated this item as 1, 2 or 3 (see Appendixes J, K, L item 25).

The means and the standard deviations of the four groups, related to the use of " **desire to work cooperatively in groups**" as an admission standard, were; $\bar{x}$=4.70; s=1.08 for teachers, $\bar{x}$=4.85; s=0.94 for academicians, $\bar{x}$=5.00; s=0.94 for principals, $\bar{x}$=4.89; s=0.80 for parents and $\bar{x}$=4.86; s=0.95 for the total group. Of these groups; 92% of teachers, 95% of academicians, 91% of principals, 93% of parents and of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 26).

The means and the standard deviations of the four groups, related to the use of " **evidence for leadership qualities**" as an admission standard, were; $\bar{x}$=4.43; s=1.26 for teachers, $\bar{x}$=4.76; s=0.94 for academicians, $\bar{x}$=4.63; s=1.16 for principals, $\bar{x}$=4.56; s=1.05 for parents and $\bar{x}$=4.60; s=1.10 for the total group. Of these groups; 84% of teachers, and of principals, 93% of academicians, 81% of parents and 86% of the total group rated tis standard as 4, 5 or 6 (see Appendixes J, K, L item 27).

The means and the standard deviations of the four groups, related to the use of " **desire to establish relationships**" as an admission standard, were; $\bar{x}$=5.08; s=0.83 for

teachers, $\bar{x}$=5.12; s=0.81 for academicians, $\bar{x}$=5.33; s=0.65 for principals, $\bar{x}$=5.37; s=0.74 for parents and $\bar{x}$=5.21; s=0.77 for the total group. Of the four groups; 97% of teachers, all academicians, principals and parents, 99% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 28).

The means and the standard deviations of the four groups, related to the use of**"patience, tolerance and subsistence characteristics"** as an admission standards, were; $\bar{x}$=5.46; s=0.69 for teachers, $\bar{x}$=5.39; s=0.80 for academicians, $\bar{x}$=5.55; s=0.62 for principals, $\bar{x}$=5.52; s=0.89 for parents and $\bar{x}$=5.47; s=0.75 for the total group. Of these groups; 97% of teachers, 98% of academicians and of the total group, all principals and 96% of parents rated tis standard as 4, 5 or 6 (see Appendixes J, K, L item 29).

The means and the standard deviations of the four groups, related to the use of **" respect among peers and in community"** as an admission standard, were; $\bar{x}$=5.30; s=0.80 for teachers, $\bar{x}$=4.88; s=0.84 for academicians, $\bar{x}$=5.42; for principals, $\bar{x}$=5.22; s=1.03 for parents and $\bar{x}$=5.19 for the total group. Of these groups; 97% of teachers and of principals 95% of academicians, 93% of parents, and 96% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 30).

The means and the standard deviations of the four groups, related to the use of **"references submitted by principals and teachers committee about personality"** as an admission

standard, were; $\bar{x}$=3.95; s=1.35 for teachers, $\bar{x}$=4.00; s=1.22 for academicians, $\bar{x}$=4.51; s=1.20 for principals, $\bar{x}$=4.19; s=1.64 for parent and $\bar{x}$=4.15; s=1.35 for the total group. Of these groups; 46% of teachers, 32% of academicians, 15% of principals, 30% of parents and 31% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 31).

Regarding research the following results were obtained:

The means and the standard deviations of the four groups, related to the use **"perception of research"** as an admission standard, were; $\bar{x}$=4.92; s=0.95 for teachers, $\bar{x}$=5.00; s=0.89 for academicians, $\bar{x}$=4.97; for principals, $\bar{x}$=5.04; s=0.85 for parents and $\bar{x}$=4.89; s=0.95 for the total group. Of these groups; 95% of teachers, 93% of academicians, 91% of principals, 96% of parents and 93% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 32).

The means and the standard deviations of the four groups, related to the use of **" desire to conduct and participate in research studies"** as an admission standard, were; $\bar{x}$=5.03; s=0.99 for teachers, $\bar{x}$=5.00; s=0.95 for academicians, $\bar{x}$=5.21; s=0.74 for principals, $\bar{x}$=5.11; s=0.80 for parents and $\bar{x}$=5.08; s=0.88 for the total group. Of these groups; 97% of teachers and of principals, 93% of academicians, 96% of parents and of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 33).

The means and the standard deviations of the four groups, related to the use of " **predisposition in relating research findings**" as an admission standard, were; $\bar{x}$=5.00; s=0.87 for teachers, $\bar{x}$=5.10; s=0.84 for academicians, $\bar{x}$=5.06; s=1.03 for principals, $\bar{x}$=5.00; s=0.92 for parents and $\bar{x}$=5.04; s=0.88 for the total group. Of these groups; all teachers, 97% of academicians, of principals and of parents and 97% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 34).

The means and the standard deviations of the four groups, related to the use of **"references submitted by principals and teachers committee about research"** as an admission standard, were; $\bar{x}$=3.76; s=1.14 for teachers, $\bar{x}$=3.87; s=1.24 for academicians, $\bar{x}$=4.45; s=1.18 for principals, $\bar{x}$=4.11; s=1.42 for parents and $\bar{x}$=4.02; s=1.26 for the total group. Of these groups; 38% of teachers, 39% of academicians, 15% of parents and 30% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 35).

Regarding the characteristics summed under the category the following results were obtained:

The means and the standard deviations of the four groups, related to the use of **"health in general"** as an admission standard, were; $\bar{x}$=4.21; s=1.25 for teachers, $\bar{x}$=4.68; s=1.08 for academicians, $\bar{x}$=4.76; s=1.20 for principals, $\bar{x}$=4.44; s=1.19 for parents, and $\bar{x}$=4.53; s=1.19 for the total group. Of

these groups; 30% of teachers, 12%of academicians, 15% of principals, 15% of parents and 18% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 36).

The means and the standard deviations scale of the four groups, related to the use of **"posture and physical appearance"**as an admission standard, were; $\bar{x}$=4.32; s=1.42 for teachers, $\bar{x}$=4.63; s=1.11 for academicians, $\bar{x}$=4.76; s=1.30 for principals, $\bar{x}$=4.26; s=1.43 for parents and $\bar{x}$=4.51; s=1.31 for the total group. Of these groups 27% of teachers, 12% of academicians, 18% of principals, 26% of parents and 20% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 37).

The means and the standard deviations of the four groups, related to the use of **"future plans concerning the profession"** as an admission standard, were; $\bar{x}$=5.11; s=1.02 for teachers, $\bar{x}$=4,76; s=0.92 for academicians, $\bar{x}$=5.18; s=0.77 for principals, $\bar{x}$=5.30; s= 0.78 for parents and $\bar{x}$=5.06; s=0.90 for the total group. Of these groups; 95% of teachers and of academicians, 97% of principals, 100% of (all) parents and 96% of the total group rated this standard as 4, 5 or 6 (see Appendixes J, K, L item 38).

The means and the standard deviations, of the four groups, related to the use of **" manual skills"** as an admission standard, were; $\bar{x}$=4.03; s=0.42 for teachers, $\bar{x}$= 3.88; s= 1.21 for academicians, $\bar{x}$=4.49; s= 1.37 for principals, $\bar{x}$=4.52; s= 1.31 for

parents and $\bar{x}$=4.19; s=1.27 for the total group. Of these groups; 32% of teachers, 39% of academicians, 18% of principals, 19% of parents and 28% of the total group rated this standard as 1, 2 or 3 (see Appendixes J, K, L item 39).

Furthermore, if each item was examined on the basis of its mean, for the Delphi panel as a whole, the following could be presented as the ones with the higher mean values. These were:

- Ability to understand written expressions and concepts	5.58
- Ability to understand oral expressions	5.58
- Desire to deal with children/ youth	5.53
- Interest in teaching	5.50
- Ability to express oneself	5.49
- Patience, tolerance and subsistence characteristics	5.47
- Desire to contribute to others growth and development	5.38
- Attitudes toward teaching as a profession	5.36
- Ability to express oneself in a written form	5.32
- Higher level thinking skills	5.23
- Interest in reading	5.23
- Knowledge of vocabulary	5.21

Examination of means of each item for each particular group in the Delphi panel (teachers, academicians, principals and parents) reveled that the highest means were obtained for the following items:

Teachers;

- Interest in teaching	5.51
- Desire to deal with children/youth	5.51
- Patience, tolerance and subsistence characteristics	5.46
- Ability to understand oral expressions	5.43
- Desire to contribute to others growth and development	5.41

- Ability to understand written expressions and concepts 5.39
- Attitudes toward teaching as a profession 5.39
- Interest in reading 5.38
- Respect among peers and in community 5.30
- Creativity 5.27
- Ability to express oneself 5.27
- Problem solving ability 5.11
- Future plans concerning the profession 5.11

Academicians

- Ability to understand oral expressions 5.76
- Ability to understand written expressions and concepts 5.73
- Ability to express oneself 5.68
- Desire to deal with children/ youth 5.56
- Interest in teaching 5.46
- Knowledge of vocabulary 5.42
- Patience, tolerance and subsistence characteristics 5.39
- Attitudes towards teaching as a profession 5.37
- Problem solving ability 5.29
- Higher level thinking skills 5.29
- Subject related attitudes 5.29
- Desire to contribute to others growth and development 5.28

Principals

- Ability to express oneself orally 5.61
- Patience, tolerance and subsistence characteristics 5.55
- Ability to understand written expressions and concepts 5.51
- Ability to understand oral expressions 5.51
- Desire to deal with children/ youth 5.51
- Interest in teaching 5.42
- Respect among peers and in community 5.42
- Desire to contribute to others growth and development 5.39
- Ability to express oneself 5.36
- Desire to establish relationships 5.33
- Knowledge of vocabulary 5.28
- Higher level thinking skills 5.24
- Subject related attitudes 5.24
- Desire to conduct and participate in research studies 5.21

Parents

- Ability to understand written expressions and concepts 5.70
- Attitudes toward teaching as a profession 5.70
- Interest in teaching 5.62
- Ability to understand oral expressions 5.59
- Desire to deal with children/ youth 5.52
- Patience, tolerance and subsistence characteristics 5.52
- Desire to contribute to others growth and development 5.48
- Desire to establish relationships 5.37
- Higher level thinking skills 5.33
- Interest in helping others(directing, informing ect.) 5.31
- Future plans concerning the profession 5.30
- Respect among peers and in community 5.22

Careful examination of the above mentioned items indicated that all Delphi panel attributed high importance to affective and communicative characteristics together with the cognitive characteristics, when the concern was on admission standards.

Findings related to the group consensus on the admission standards for teacher training programs

In response to the second question of this study t-test, chi-square, frequencies, skewness and kurtosis of each item were examined. First, the t-test was utilized to examine if there was any statistically significant mean difference between the two Delphi rounds. The results of this analysis are summarized in table 9.

Table 9. The t-test results of the two Delphi rounds

Groups	$\bar{x}$	$\bar{x}$	$\bar{x} - \bar{x}$	df	t
Teachers	187.73	183.16	4.75	36	1.35
Academicians	186.38	188.54	2.15	40	0.76
Principals	188.73	191.91	3.18	32	0.78
Parents	194.59	190.81	3.87	26	1.03

p=0.05

The examination of table 9. clearly indicates that there was no significant difference between means of the first and the second round of Delphi at p=0.05 for both one taile and two tailed t-test. That is, consensus as deterined bt t-test was established within each group.

A further analysis was carried out by utilizing the χ^2 statistics. It was observed that many items had expected cell frequency less than five. Since empty cells may caues some biases the operation was carried by reducing the six point scale to two such as disagree and agree, but still there were items with expected cell frequency less than five. In this case, only some items (table 10) were examined after reducing the six point scale to two Strongly disagree(1), Disagree(2) and tent ot disagree(3) as Disagreemant and, tent to agree(4), agree(5), and strongly agree(6) as Agreement. This analysis indicated

that although two items' chi square values were very close to the critical values at 0.05 level of significance as it is observed in table .10. It was found that item 23 which is **"references submitted by principals and teachers committee about interests and attitudes"** and, item 31 which is "personality" demonstarted some association which still was not statistically significan ($\chi^2(7.78)=7.60$; $\chi^2(7.78)=7.75$). In general, there was not a significant assocation between items' rating and the group by which they were rated.

Table. 10 The chi-square values of the items examined.

item no	χ^2	df
5	3.16	3
7	7.07	3
13	3.04	3
23	**7.60**	**3**
24	5.36	3
25	0.64	3
31	**7.75**	**3**
35	6.27	3
37	3.32	3
39	5.58	3

In table 10 it is observed that, except items 23 and 31, there was no significant associations between the examined items' rating and the groups by which they were rated.

Next, in relation to the consensus on standards to be used in the admittance of students into teacher training programs, the skewness and kurtosis of each item in the Delhi

Questionnaire were examined. It was observed that all but;

item 3 as rated by teachers,
item 24 as rated by academicians,
item 34 as rated by teachers and parents,
item 35 as rated by parents,
items 38,39 as rated by academicians

were negatively skewed. That was, large frequencies tent to be concentrated toward the high end of the scale (agree and strongly agree). On the other hand, the skewness of the above mentioned items were positive and close to zero (see Appendix M). On the other hand, when the frequencies of these items were examined, it was observed that the frequencies of item 3 were concentrated toward agree and strongly agree, the frequencies of item 24 were distributed over the six degrees, the frequencies of item 34 and 39 were distributed over tent to agree, agree and strongly agree. The frequencies of item 35 and 38 were also distributed over the six degrees (see Appendix K).

The examination of the kurtosis of each item for each group constituting the Delphi panel, indicated that most items were leptokurtic (peaked), which means the responses on the six point scale were concentrated around a certain degree(s)(See Appendix M).

All these statistics, in general, indicated that consencus was established among teachers, academicians, principals and parents in relation to the use of the items, included in the Delphi questionnaire, as the admission standards for teacher training programs.

Findings Related to the Third Question of the Study

The aim of the third question of this study was to examine the extent of representation of those items that were used or considered as admission standards (by the delphi panel members) for teacher training programs. In that sense the researcher examined only those standards for which data or data gathering instruments were already available. In relation to above mentioned aim the following standards were examined:

- **The prerequisite knowledge and skills needed to be successful in a teacher training program ($\bar{x}$=5.07, s=0.95, A=95%, DA=5%**
- **Achievement level at high school ($\bar{x}$=3.87, s=1.31, A=70%, DA=30%)**
- **Ability to establish quantitative relationships ($\bar{x}$=4.44, s=1.07, A=81%, DA=19%)**
- **Ability to understand written expressions and concepts ($\bar{x}$=5.58, s=0.56, A=10%)**
- **Ability to express oneself ($\bar{x}$=5.49, s=0.65, A=98%, DA=2%)**
- **Knowledge of vocabulary ($\bar{x}$=5.21, s=0.77, A=97%, DA=3%)**
- **Subject related attitudes ($\bar{x}$=5.17, s=0.90, A=95%, DA=5%)**
- **Interest in teaching ($\bar{x}$=5.50, s=0.68, A=100%)**
- **Attitudes toward teaching as a profession ($\bar{x}$=5.36, s=0.93, A=96%, DA=4%).**

Findings related to the **prerequisite knowledge and skills** indicated that it was represented in the verbal and

quantitative sub- tests of first stage, and in the Natural Sciences, Mathematics and Foreign language sub-tests of the second stage of the University Entrance Examination (UEE) the extent of the representativeness of prerequisite knowledge and skills in the students already admitted was reflected in the mean scores of SSE, SPE, mean number of correct responses on mathematics, natural sciences, and foreign language sub-test of UEE. The mean scores of SSE of students already admitted into teacher training programs (table. 11) at METU, indicated that the scores of these students had higher scores about 25 to 50 points when compared to the cut-off score required for being invited to the second stage of UEE.

Table 11. The mean scores and standard deviations on SSE of UEE for the students already admitted into teacher training programs at METU.

Department	$\bar{X}$	s	Max	Min
FLE	134.92	29.28	151.80	129.90
CHED	144.59	8.98	158.00	129.20
BED	145.24	7.56	156.50	130.00
PHED	154.72	13.57	181.10	132.20
MED	161.82	14.32	187.00	138.80

The SPE mean scores of these groups differed from one another, but it should be noticed that these means were not obtained from the same sub-tests. In that sense it may not be proper to make any comparison between FLE and other students (Table 12).

Table 12. The mean scores and standard deviations of SPE of UEE for the students already admitted into teacher training programs at METU - 1989.

Dep.	$\bar{X}$	s	Max	Min
FLE	476.04	11.46	489.10	436.00
CHED	456.00	15.77	483.30	412.00
BED	447.10	7.89	460.70	431.30
PHED	466.62	6.87	481.70	454.30
MED	518.32	24.38	594.30	469.20

As it is seen in table 12 although mathematics, chemistry and physics teaching students means were different. they were admitted on the basis of the same composite scores. The type of composite scores and the respective weights were summarized in table 5.

The correct answers on Mathematics sub-test of UEE indicated that although the students were supposed to answer mathematics sub- test the mean of correct answers differed (table 13).

Table 13. The means of correct answers on Mathematics sub-test (k=53) of UEE for the students already admitted into teacher training programs at METU- 1989.

DEP	$\bar{X}$	s	Max	Min
CHED	24.54	4.66	31.0	15.0
BED	17.43	5.40	28.0	4.0
PHED	25.61	5.22	36.0	18.0
MED	32.34	5.62	43.0	18.0

This table indicated that, except mathematics teaching student, non of these groups had more than 50% correct answers

on this test. It should also be noticed that FLE students were not supposed to answer mathematics sub-test in the University Entrance Examination(UEE).

The means of correct answers on natural sciences sub test of UEE indicated that non of the groups achieved more than 50% of correct answers (table 14).

Table 14. The mean of correct answers on natural science sub- test (k=60) of UEE for the students already admitted students into teacher training programs at METU 1989.

Dep.	$\bar{X}$	s	Max.	Min.
CHED	14.15	6.44	27.0	1.0
BED	21.95	4.34	31.0	14.0
PHED	20.33	6.54	31.0	7.0
MED	23.94	8.46	42.0	7.0

In table 14 it is observed that the Biology teaching student who were admitted on the bases of Science composite scores (table 5) were over performed by mathematics and physics teaching students. It should be noticed that the English teaching students were not expected to answer natural science sub-test.

On the other hand english teaching students had more than 50% correct answers on the social sciences sub- test (x=43.71, k=71) but, the science and mathematics teaching students were not expected to answer this sub test in the UEE. It was interesting that the english teaching students at METU had about 68.3 correct answered out of 75 on the English sub-test of UEE.

The **high school achievement** is also represented in the present admission system. The high school grade point average was included to UEE. The respective weights of this score is 0.8 for those who attend the examination for the first time (table 5). This makes about 10% of the total respective weights which could be accepted as a measures of the extent to which high school grade point average was represented. The diploma grades of students admitted into teacher training programs at METU (table 15)

Table 15. The Diploma grades out of ten(10) of students already admitted into teacher training programs at METU 1989.

Dep.	$\bar{X}$	s	Max	Min
FLE	7.58	1.12	9.77	5.91
CHED	7.91	0.96	9.61	6.10
BED	7.74	1.38	8.86	5.61
PHED	7.57	1.38	9.74	5.61
MED	8.86	0.76	9.73	6.07

indicated that these student were similar except mathematics teaching students when the grade point average means were considered.

Findings, conserning the **ability to establish quantitative relationships**, which was considered as an admission standard, indicated that it is represented in SSE and mathematics sub-test of UEE. The extend of representation was reflected in the mean scores of SSE and, in the mean of correct responses on mathematics sub-test. Careful examination of table 11. and table 12. demonstrated that the FLE student were not required to

answer the mathematics sub-test. On the other hand, this test has the highest respective weights in the composite scores of chemistry, physics and mathematics teaching students. Furthermore it should be noticed that a single sub-test used in the UEE was utilized to measure more then one characteristics of the applicants and vice-versa.

Findings concerning the **ability to understand written expressions and concepts and ability to express oneself verbally** which were considered as admission standards, indicated that, both were represented in the UEE verbal sub-test of the first stage and Turkish language sub test of the second stage.

The extent to which these standards were represented in the students already admitted into teacher training programs, was reflected in the mean scores of SSE and the mean scores of correct answers on Turkish language sub-test (table 16).

Table 16. The means and the standard deviations of correct answers on Turkish language sub-test (k=65) of students already admitted into teacher training programs at METU 1989

Dep.	X	s	Max	Min
FLE	53.90	3.82	59.0	47.0
CHED	38.40	8.69	53.0	21.0
BED	38.81	10.76	53.0	15.0
PHED	33.33	12.14	58.0	7.0
MED	39.50	12.44	58.0	10.0

Careful examination of this table indicated that more than 50% of the questions in the Turkish language sub-test of

second stage of UEE were correctly answered by the students already admitted to teacher training programs at METU. The english teaching students achieved highest mean, where as physics teaching students achieved the lowest mean when compared to mathematics, chemistry and biology teaching.

Concerning the **Subject related attitudes** that was considered as an admission standard, findings indicated that it was not represented in the present higher education admission system. The extent to which this standard was represented may be partialy studied by administering subject related attitude scales. In this study such an operation was done and, the related means are summarized in table 17.

Table 17. The means and the standard deviations on subject related attitudes of students already admitted into teacher training programs at METU 1989.

Dep.	$\bar{X}$	s	Max	Min	N
CHED	89.46	12.10	155.0	65.0	22
BED	90.50	13.09	120.0	67.0	21
PHED	94.56	7.78	112.0	85.0	19
MED	93.96	6.84	108.0	83.0	28

The above presented findings indicated that the subject related attitudes of students already admitted into teacher training programs at METU tended to be about close to positive. The chemistry teaching students atitudes determined through the scale developed by Berberoglu demonstrated a similar trend when the indexes of the two scales were examined index=3.90).

Concerning **Attitudes toward teaching as a profession** that was considered as an admission standard, findings indicated that this standard was not presented in the present higher education admission system. The extent to which this standard was represented in the students may be partially determined by the related attitude scale. Such a work was carried out and, the results are summarized in table 18.

Table 18. The means and standard deviations of the attitudes toward teaching as a profession of students already admitted into teacher training programs at METU 1989.

Dep.	$\bar{X}$	s	Max	Min
FLE	35.54	6.61	48.0	20.0
CHED	36.36	6.03	48.0	23.0
BED	39.47	5.29	50.0	29.0
PHED	36.89	8.03	48.0	31.0
MED	39.61	6.31	50.0	20.0

In table 18 it is observed that the attitude scores of the already admitted student were not that high. The means were concentrated around undecided or close to agree. it is further observed that the attitude mean scores of english teaching students were lower than those of mathematics and biology teaching students whereas chemistry and physics teaching students had about similar means.

Concerning the **Interest in Teaching** that was considered as an admission standard, findings indicated that it was partially represented in the present higher education admission system. The

extent of representation may be partially determined by some indirect measures. Such a study was carried out by examining the students preference ranking of the programs in which they were placed. The students preference ranks are summarized in table 19.

Table 19. The percentages of the preference ranking order of the students already admitted into teacher training programs at METU 1989.

Rank interval	Departments FLE %	CHED %	BED %	PHED%	MED %
1- 5	**91.6**	9.1	4.8		53.6
6-10	8.4	**59.0**	43.0	**55.5**	32.2
11-15		22.6	**47.7**	22.4	3.6
16-24		9.6	4.8	16.8	3.6

Table 19 indicated that about 92% of english and 54% of mathematics teaching students at METU had ranked the teacher training program(s) among the first five choices in the UEE and they were placed in these higher education programs. It is unfortunate that the same findings could not be observed for chemistry, biology and physics teaching students.

Concerning the reasons of selecting teaching, it was found that 53.6% of mathematics, 33.3% of physics, 27.3 % of chemistry, and 20.8% of English teaching students indicated that they preferred the program because they wanted to become teachers. On the other hand 66.7% of english teaching students indicated other reasons for preferring the English teaching. It might be interesting to notice that 38.1% of Biology and 22.2% of Physics

teaching at METU indicated that they preferred teacher training programs because they wanted to be placed in any of the higher education programs. About 22.2% of physics teaching students at METU indicated that they selected the program because their teachers encourages them to do so.

As a conclusion, in this study a set of standards was determined on which, in general, a consensus was established amid teachers, academicians, principals and parents.

Concerning the representation for the examined standards it was generally observed that except attitudes toward teaching as a profession and attitudes toward subject matter, the others were partially represented in the present higher education admission system. It was also observed that the standards for which representation was examined and the ones with the highest means were similar in general.

Regarding all the data it was observed that there is a need for a more comprehensive set of standards to be used in the admittance of students into teacher training programs. It is finally assumed that the determined set of standards will contribute to the improvement of teacher quality.

CHAPTER SIX

DISCUSSION IMPLICATIONS AND SUMMARY

Introduction

In this chapter the discussion and interpretation of the findings reported in the previous chapter are presented. Then, some recommendations for further research are provided and, finally, a summary of the study is given.

Discussion of the Findings

This study first dealt with the determination of the standards to be used in the admission of students in to teacher training programs. Second, it was examined if there existed any consensus among teachers, academicians, principals, and parents in relation to the admission standards for teacher training programs. Finally, it dealt with the extent to which some of the standards were represented in the students already admitted into teacher training programs at METU.

The admission standards determined in this study were grouped under six categories; cognitive characteristics, language proficiency, interests and attitudes, personality, research and others.

The means and the standard deviations of items, considered as admission standards under the category cognitive

characteristics, ranged from 4.44 to 5.32 except for achievement level at high school ($\bar{x}$=3.87, s=1.31) and references submitted by principals and teachers committee about cognitive characteristics (x=3.87; s=1 38). 30% and 35% of Delphi panel members rated these two standards as strongly disagree, disagree and tend to disagree respectively.

Findings related to the use of achievement level at high school as an admission standard were similar to those of Fitritzer (1984) and Demitrulias et. al. (1989) in the sense that there was some concern about its use, and different from the other studies (Simmons and Janet, 1982; Sandefur, 1984; Fisher and Feldman, 1984; Johnson, 1986 and Wyer, 1987), where priority was given to GPA as an admission standard. Findings related to the use of references submitted by principals and teachers committee about cognitive characteristics were different from those of Askin (1990), Fisher and Feldman (1984), Feistzritzer (1984) and Barns and Tierney (1983) because the means for each group forming the Delphi panel was about 4.00.

The panel members mentioned that if valid and reliable references could be obtain from principals and teacher committee about cognitive characteristics, then it can be used as an admission standard. More than 81% of the panel members considered the other items as the admission standard for teacher training programs.

The second category consisted of items related to language proficiency. The means of items considered as admission standards ranged from 5.21 to 5.58 except for references submitted by principals and teachers committee about language proficiency ($\bar{x}$=4.09; s=1.28). Similarly, about 28% of Delphi panel members rated this standard as strongly disagree, disagree or tend to disagree. The remaining standards were rated as tend to agree, agree or strongly agree by at least 97% of Delphi panel members.

These results indicated that language proficiency is an important factor in the teaching and teacher training process. These findings also demonstrated the idea that communication and its role in the process of education is a very important factor. Many studies (Simmons and Janet, 1982; Fisher and Feldman, 1984; Duman and Avci, 1990) came up with the similar outcomes, which may lead to a kind of universality when the language proficiency is considered.

Interest and attitudes consisted the third category of the items considered as the admission standards. The means of these standards ranged from 4.75 to 5.53 except for references submitted by principals and teachers committee about interests and attitudes ($\bar{x}$=4.24; s=1.25). Similarly 24% of Delphi panel members rated this standard as strongly disagree, disagree or tend to disagree. The remaining standards were rated by at least 87% of the Delphi panel members as strongly tend to agree, agree or strongly agree.

These findings were generally similar to the findings obtained in the theoretical and the empirical studies (Lane and Beauechamp, 1955; Ryan and Cooper, 1972; Bloom,1976; Kuzgun, 1980; Fisher and Feldman 1985; Oğuzkan, 1985; 1987; Küçükahmet, 1987; Wyer, 1987; Cruiksbank and Cruz, 1989; Çağlar, 1989; Türkoğlu, (1989). The same has been reflected in the Bloom's "Theory of School Learning". These findings had also proved the belief that affective characteristics play an important role in the teaching profession. The same thought has been put forth by Klausmeier (in Smith and Lusterman, 1979), Ryan and Cooper (1972).

Personality is an important dimension that should be considered for any profession. In this study, also, a set of items were examined under the same category. It was found that only three items had means higher than five. The mean for written autobiography ($\bar{x}$=3.91, s=1.34) was lowest amid the other standards constituting this category. Next, was the mean of "personal records available at the high school" (x=4.02, s=1.22). The mean for " references submitted by principals and teachers committee about personality " was 4.15.

A similar trend was observed on the percentages of these standards. 31% of the Delphi panel members rated written autobiofgraphy, 32% rated personal records available at the high school, and 31% rated references submitted by principals and teachers committee as strongly disagree, disagree or tend to disagree.

These results indicated that, although personality is important for a profession, because of the privacy matters, it should be carefully used as an admission standard. It was also observed that the Delphi panel members were concerned about the objectivity and validity of such an admission standard. By keeping this worn in mind it was mentioned that such an admission standard could be appropriate.

In the empirical studies examined a similar results were observed (Lane and Beauchamp, 1955; Simmons and Janet, 1982; Oguzkan, 1985; 1987; Kavcar, 1987; Wyer, 1987 and Türkoglu, 1988). As in all studies examined, in the present study too the very priority was not placed on personality. Furthermore, since teachers are the professionals supposed to deal with human beings, personality dimension should not be ignored and, in theory and reality it is not. The problem felt about using personality as an admission standard may be related to the difficulties people feel about obtaining a valid and reliable measures.

Research is one of the important activity of this and the coming century. Because people are in a continuous development the importance of research can not be denied if one wish to adjust to the contemporary development. In that sense a set of items were examined under the category "research".

Findings indicated that perception of research, desire to conduct and participating in research and, predisposition in

relating research findings were the standards with the means of 4.89, 5.08 and 5.04 respectively. The mentioned standards were rated by 93%, 96% and 97% of the Delphi panel members respectively as tend to agree, agree, or strongly agree.

As in the previous categories in this one as well, references submitted by principals and teachers committee about research demonstrated a similar trend. It was rated by about 30% of Delphi panel members as strongly disagree, disagree, or tend to disagree. It was interesting to observe that in non of the examined research studies "research has been mentioned as an admission standard.

The final category in this study included items that were difficult to place under any of the previously mentioned categories (It should be noticed that the researcher did not aim to make clear cut categories). The findings indicated that the means of the items under the rubric "others" ranged from 4.19 to 5.06. "Future plans concerning the profession" had the highest mean in this category ($\bar{x}$=5.06; s=0.90). The means of the other items in this category were closed to "agree".

About 94% of Delphi panel members rated future plans concerning the profession as tend to agree, agree, or strongly agree. Health in general, posture and physical appearance and, manual skills were rated in the same way by 82%, 80% and 72% respectively. Although the percentages were found to be slightly

higher than those in the literature, findings were still similar.

The results of experimental and theoretical findings indicated that admission into teacher training programs should be based on broader standards and, the affective dimension should be included in the admission process. It was also observed that the affective standards were among those with the highest means together with the ones related to the language proficiency.

It was noticed that findings obtained in response to first question, demonstrated that as in many countries in Türkiye as well there is a need for a more comprehensive set of admission standards.

The second question of this study aimed to determine if consensus was established among the Delphi panel members in relation to standards to be used for the admittance of students into teacher training programs.

All the statistical analyses carried out for that purpose indicated in general that, consensus was established regarding the admission standards for teacher training programs. Although the six point Likert scale was reduced to two degrees such as disagree and agree in carrying the chi-square analysis there were still some items with the expected cell frequency less than five. For that reason only some items were examined.

The dependence observed in two items (23 and 31) may be attributed to Delphi panel members sensitivity about the

objectivity, validity and reliability of information that could be obtained from the mentioned resources. Furthermore, some Delphi panel members were also concerned with whether to include personality among the admission standards.

The Skewness and the Kurtosis values of the items considered as admission standards could be interpreted as the indicators of consensus among the Delphi panel members, because, most items were negatively skewed and peaked. The variations in the values of Skewness and Kurtosis for the groups of the Delphi panel could be related to the concentration of large frequencies on one or two degrees on the six point scale while the other degrees remained disregarded. For the same reason some items were not as peaked as the others.

The final question dealt with in this study was related to the examination of the extent to which some standards were represented in the students already admitted into teacher training programs at METU. It is important to notice that only some of the items considered as admission standards were treated. The reason was, including all the items required an additional set of instruments, a team work which is more than an individual effort and developing instruments for each determined standard would take a very long time. Furthermore, the aim of the study was not to develop or reproduce instruments. Due to the mentioned reasons, priority was given to those standards for which data or data gathering instruments were already available.

Of the standards treated, prerequisite knowledge and skills, achievement, quantitative relationships, ability to understand written expressions and concepts, expressing oneself and, knowledge of vocabulary all were represented in the UEE, the present higher education system in Türkiye. In the UEE one sub-test may be used as to include one or more characteristics or a single characteristics may be observed in more than a single sub-test.

For the above mentioned reason it was difficult for the researcher to conclude about the representativeness of each standard examined. It should be also mentioned that represented characteristics were not evenly distributed in the already admitted students. The English teaching students for instance were not required to answer mathematics, and natural sciences sub-tests in the UEE. However, it is known that mathematics and science lay at the very base of science pyramid.

Furthermore, although, mathematics, chemistry, biology and physics teaching students were expected to become teachers, they were not required to attend the social sciences sub-test of the UEE. This situation may be a matter of discussion if teaching profession is a meter of concern.

On the other hand it is fortunate for the teaching profession that the students already admitted into teacher training programs at METU answered correctly more than 50% of the questions in the Turkish language sub-test of UEE. This evidence has

demonstrated the need for the admission standards related to the language proficiency.

The consistency observed between the standards determined in this study and the characteristics measured in the UEE examination might be accepted as the evidence of validity of the study conducted and the UEE as well. It may also be thought that the Delphi panel considered the determination of admission standards as an important step toward the improvement of teacher quality.

The attitudes toward teaching as a profession, subject related attitudes and, interest in teaching were considered as admission standards for teacher training programs by Delphi panel members.

Of these three standards "interest in teaching" was partially represented in the present higher education admission system. In that sense each applicant was required to rank the higher education program s/he wished to be placed in. It was assumed that ranking the programs is a reflection of interest in a higher education program. In relation to this assumption, Uzel (1987) indicated that the students take into consideration their interests when making their higher education program choice. Kuzgun(1976) also found that students ranked "interest" the third among other factors when job satisfaction was of concern (Uzel, 1987).

In relation to the extent of representation of this standard it was found that 53.6 % of mathematics, non of physics, 9.1% of chemistry, 4.8% of biology and 91.6% of English teaching students already admitted into teacher training programs at METU ranked the mentioned programs among the first five choices. On the other hand only 20.6% of English teaching students indicated that they selected the program, because they wanted to become teachers. 66.7% of English teaching students put forth other reasons for selecting English teaching. In regard to these findings, if preference ranking was reflecting interest toward higher education programs, except mathematics teaching students the other's interests can not be accepted as very high and reflective enough. It could be said that, since interest was an important factor for many professions, it is then necessary to check the possibility for including other measures of interest in teaching among the higher education admission standards.

Although attitudes toward teaching as a profession were considered as admission standard for teacher training programs by Delphi panel but, it was not yet included amid the present higher education admission standard. It is important to stress that using attitudes toward teaching as an admission standard requires a longitudinal team work study. It is assumed that such a study will contribute to teacher training programs and consequently to the teacher quality. Ozcelik(1990) mentioned the similar point that teaching profession has the dimensions of

attitude, interest and ability. Furthermore, in the psychological theories of vocational choice it is stated that individual interest do distinguish one occupational group from the other(Pietrofes and Splete, 1974). power, but it is hoped that it will contribute to the teacher training programs and to the teacher quality. Ozcelik (1990) has stressed on the same point that teaching profession has the "interest, attitude and ability" dimension. In the psychological theories of vocational choice it was also claimed that individual interest do distinguished one occupational group from another (Pietrofesa and Splete, 1974).

Furthermore, **subject related attitudes were** considered as an admission standard by the Delphi panel, it was not included among the present higher education admission standards.

Findings related to the representation of this standard in the students already admitted into teacher training programs at METU indicated that the means of chemistry, mathematics, biology and physics teaching students were close to one another. It was observed that the indexes of each mentioned group were concentrated between the degrees undecided and agree on the five point Likert scale. In other words the already admitted students' may still be not very clear about the area they have already preferred.

The theoretical data demonstrates that attitudes toward subject matter cover most striking characteristics which may

influence the perception of classroom events. Teachers should be enthusiastic for their subjects so as to make learning a pleasure. The similar thought was expressed in the statement by Smith and Lusterman (1972). It was stated that "teachers should not let students feel that they wanted soon to get rid of the class and rush back to the staff-room".

The findings of theoretical and empirical literature and, the findings of this study demonstrated the need for including attitudes toward teaching as a profession and subject related attitudes amid the admission standards for teacher training programs. More to add, applicants with more positive attitudes toward both teaching as a profession and a subject matter should be attracted to teacher training programs.

In sum, the findings and the examined data indicated that: a set of admission standard was determined and supported by the theoretical and empirical results. Second, although the Delphi panel members were concerned about the use of achievement level at high school, written autobiography, personal records available at school and references submitted by principals at teachers committee as the admission standards for teacher training programs, consensus was established on all but two admission standards.

Next, it was also noticed that some of the determined admission standards were already represented in the present higher

education admission system of Türkiye. Finally, it was observed that a broader set of admission standards need to be utilized including affective characteristics. Such a movement may lead to the improvement of teacher quality.

Implications

Findings of this study has demonstrated that; the present admission standards should be extended by considering the features of the teaching profession which may lead to the improvement of input and consequently the outputs of teacher training institutions.

Findings of this study indicated that the admissions standards for teacher training programs according to Delphi panel should be composed of cognitive characteristics such as communication adn lannguage skills; affective characteristics such as interests, attitudes and personality and research. From these categories the fallowing standards should be primarily used in the decisions for the admission of students into teacher training programs:

- Ability to understand oral and written expressions,
- Desire to deal with children/youth
- Interest in teaching
- Ability to express oneself orally
- Patience, tolerence, and subsistance characteristics
- Desire to contribute to others growth and development
- Attitude towards teaching as profession
- Ability to express oneself in a written form
- Higher level thinking skills.

In the present higher education system, students are admitted largely on the bases of cognitive characteristics. The

data has indicated that besides the mentioned standards, affective ones should also be considered.

Findings have also demonstrated that communication is an important aspect of teacher training and of the profession, for that reason it should cover more space in the curricula and among the admission standards.

In considering students history as an admission standard, teacher training institutions should be very careful especially when dealing with personality which is an important aspect of the teaching profession.

Admission standards may play an important role in the improvement of teacher quality when they are taken together with other components of teacher training programs.

Based on the findings of this study the following could be suggested:

First of all, a replication of this study on similar subjects is necessary to check if it is reliable and, if it is, then the items considered as the admission standards on which consensus was formed should be tested.

The study should also be replicated including the faculty of other related and unrelated higher education institutions and, a larger number of parents. It is hoped that such an attempt will strengthen the data of this study.

Second, the concern of Delphi panel about the use of; achievement level at high school, reference submitted by principals and teachers and written autobiography as admission standards for teacher training programs need to be further examined and clarified.

In relation to the representation of some items considered as admission standards in the students already admitted a more comprehensive work is required if clearsighted conclusions are to be made.

Third, results of this study provides clues for the development of instruments like attitude scales, interest scales, creativity tests, language proficiency tests ect. Development of such instruments requires the initiation of a number of new research studies.

Furthermore, it is thought that admission standards alone may not solve the whole problem. For that reason, a more comprehensive approach needs to be fallowed in the teacher training process. That is, admission, preservice and inservice training should be examined together if quality and continuity is one of the basic questions. Relatively then, the content of teacher training curricula should be revised in order to add more profession related courses. It is also thought that admission standards will bring some dynamism to the teacher training curricula.

Next, the teacher training programs, like music,arts and craft have also to be considered in order to come out with much broader scope of admission standards and a stronger consensus.

Finally, It was observed that specifically in Türkiyer there is a gap between theory and practice regarding the teacher training, and unless this gap is minimized it will be difficult to talk about general teacher quality.

Summary of the Study

This study dealt with three main questions. The first was related to the determination of the admission standards for teacher training programs. The second question was about the examination if consensus was established amid teachers, academicians, principals and parents about the use of the determined standards for the admittance of students into teacher training programs. Based on the findings of the first two questions the third question was formulated which tried to examine the extend to which some of the standards were represented in the students already admitted into teacher training programs at METU.

Review of theoretical and empirical literature indicated that many researcher of various institutions suggested the need for the more standards in the higher education admission system. Further more it was a general agreement that admission standards

will be helpful in the improvement of teacher quality. With specific reference to Turkiye many researchers put forth the need of determining admission standards but, non of the studies examined by the researcher were directly engaged into such a work. So there has been raise a need to investigate the admission standards.

From the theoretical point of view this study attempted to verify the assumption that admission standards may contribute to the improvement of teacher quality. That is, familiarity with inputs into the system makes it to go through it and come up with a predicted product.

From the practical point of view determining the admission standards will provide background for new studies in the field of teacher training, revision of teacher training curricula and the shift in the concern from uni dimentionality to multi dimensionality.

The subjects of the study consisted of 37 high school teachers, 41 academicians, 33 high school principals, 27 parents and 113 students already admitted into teacher training programs at METU. Teachers and principals were selected from four private and public senior high school in Ankara. Academicians were selected from five universities of which four were located in Ankara and one in Istanbul. Students were the already admitted ones in the teacher training programs at METU.

The teachers were selected on the basis of stratified random sampling whereas the random selection of academicians, principals and parents and student was not ideally actualized.

The data about the first two questions of the study was collected trough a Delphi questionnaire developed by the researcher himself. Concerning the third question of the study four already developed scales and, the record and files of students at the registration office of METU were used to collect the necessary data. All the data was collected by the researcher himself during April 1990 trough March 1991.

The content validity of the Delphi questionnaire was estimated trough the review of relevant literature and, the suggestions of faculty.

The analyses of data was carried out in the computer facilities of METU by utilizing the SPSS subprograms called frequencies, condescriptive, crosstabs and t-test.

The analyses of data revealed that with some exceptions all the items included in the Delphi questionnaire were considered as admission standards by the Delphi panel members. Consensus was also established concerning the use of these standards for the admittance of students into teacher training programs. The chi-square analysis indicated that of the items examined only two seemed to be group dependent.

Amid the determined standards for which representation was examined it was observed that the affective ones were not yet included in the present higher education admission system.

In general it was observed that their is a raised need for more comprehensive set of admission standards which should include affective characteristics as well.

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APPENDIX A

Sayın .....

Öğretmen yetiştiren kurumlara aday seçiminde, adaylarda bulunması gereken niteliklerin saptanmasında kullanılacak ölçütlerin belirlenmesi amacıyla yapılacak olan bu çalışmada sizlerin bilgi ve tecrübelerinden yararlanılmak istenmektedir. Bu amaçla daha önce yurt içinde ve yurt dışında yapılan çalışmalar incelenmiş ve halen en yaygın biçimde kullanılan ölçütler altı boyutta derlenmiştir. Çalışmanın bu ilk aşamasında sizlerden her ölçütü inceleyerek ölçütün öğretmen yetiştirme programlarına aday seçiminde kullanılıp kullanılmaması konusundaki görüşünüzü 1'den 6'ya kadar olan ölçek üzerinde belirtmeniz istenmektedir.

Araç içindeki herhangi bir ölçütün boş bırakılması ölçeği geçersiz saymaya sebebiyet vereceğinden işaretlenmemiş ölçüt bırakmamanız önemle rica olunur.

Toplanan bu veriler bilimsel araştırma dışında hiç bir amaçla kullanılmayacaktır.

```
                        ****************************************
 ******************     * Değerli yardımlarınız için teşekkür eder*
*  Bu aracın en geç *    *                                       *
*                   *    * saygılarımı sunarım.                  *
* .............    *    *                                       *
*                   *    * Araş. Gör. Ahmet OK                   *
* tarihine kadar    *    *                                       *
*                   *    * ODTÜ Eğitim Fakültesi Eğitim          *
*iadesi rica olunur.*    *                                       *
******************     * Bilimleri Bölümü.                     *
                        ****************************************
```

DELFİ SORU FORMU I

ÖĞRETMEN YETİŞTİRME PROGRAMINA ALINACAK ADAYLARIN SEÇİMİ İÇİN KULLANILMASI GEREKLI ÖLÇÜTLER

Aşağıda altı alt kümeden oluşan bir ölçütler kümesi verilmiştir. Her alt kümeyi oluşturan elemanlar bir ölçütü temsil etmektedir. Bunlar öğretmen yetiştiren (Yüksek okullar ve Teknik Eğitim Fakülteleri hariç) kurumlara aday seçiminde kullanılması düşünülen ölçütlerdir. Sizler öğretmen yetiştirme programlarına aday seçiminde, aşağıdaki ölçütlerin kullanılmasına ne derece katılıyorsunuz? Görüşünüzü 1'den 6'ya kadar olan ölçek üzerinde size göre en uygun seçeneği daire içine alarak belirtiniz.

Seçenekler;

1=kesinlikle katılmıyorum
2=katılmıyorum
3=katılmama eğilimindeyim
4=katılma eğilimindeyim
5=katılıyorum
6=kesinlikle katılıyorum

şeklinde düzenlenmiştir.

****
Başarı ve Yetenek
****

1. Adayın belli bir alanda başarılı olması için gerekli önşart bilgi ve becerileri.	1	2	3	4	5	6
2. Adayın problem çözme becerileri.	1	2	3	4	5	6
3. Adayın yaratıcılık becerileri.	1	2	3	4	5	6
4. Adayın anlama, uygulama, analiz, sentez ve değerlendirme becerileri.	1	2	3	4	5	6
5. Adayın Lise başarısı (I,II,III).	1	2	3	4	5	6

6. Adayın sınıflandırma,öğrenme gücü ve sayısal ilişkileri kavrama becerileri. 1 2 3 4 5 6

7. Okul yöneticisinin ve öğretmenlerin adayın başarısı ile ilgili görüşleri. 1 2 3 4 5 6

Başka öneriniz varsa lütfen belirtiniz:

****
Dilde Yeterlik (anadil)
****

8. Adayın yazılı ifadeleri ve kavramları anlama becerileri. 1 2 3 4 5 6

9. Adayın sözlü ifadeleri anlama becerileri. 1 2 3 4 5 6

10. Adayın duygu ve düşüncelerini yazılı olarak ifade etme becerileri. 1 2 3 4 5 6

11. Adayın duygu ve düşüncelerini sözlü olarak ifade etme becerileri. 1 2 3 4 5 6

12. Adayın geniş bir sözcük/kelime bilgisine sahip olması. 1 2 3 4 5 6

13. Okul yöneticisinin ve öğretmenlerin adayın dil becerileri ile ilgili görüşleri. 1 2 3 4 5 6

Başka öneriniz varsa lütfen belirtiniz:

****
Ilgi ve Tutum
****

14. Adayın eğitim bilimine verdiği değer. 1 2 3 4 5 6

15. Adayın konu alanına ilişkin tutumu. 1 2 3 4 5 6

16. Adayın çevresi ve arkadaşlarına ilişkin tutumu. 1 2 3 4 5 6

17. Adayın öğretmeye ilişkin ilgisi. 1 2 3 4 5 6

18. Adayın öğretmenlik mesleğine ilişkin tutumu. 1 2 3 4 5 6

19. Okul yöneticisinin ve öğretmenlerin adayın öğretmenlik mesleğine ilişkin tutumu ile ilgili görüşleri. 1 2 3 4 5 6

Başka öneriniz varsa lütfen belirtiniz:

****
Kişilik
****

20. Adayın özgeçmişi. 1 2 3 4 5 6

21. Adayla ilgili öğrenim gördüğü okulda mevcut kayıtlı bilgi ve gözlemler. 1 2 3 4 5 6

22. Adayın grup içinde çalışma becerileri. 1 2 3 4 5 6

23. Adayın liderlik becerileri. 1 2 3 4 5 6

24. Adayın çevresi ile ilişki kurma becerileri. 1 2 3 4 5 6

25. Adayın sabır, hoşgörü, geçimlilik vb. özelliklerle ilgili bilgiler. 1 2 3 4 5 6

26. Okul yöneticisinin ve öğretmenlerin adayın kişiliği ile ilgili görüşleri. 1 2 3 4 5 6

Başka öneriniz varsa lütfen belirtiniz:

****
Araştırmaya Ilişkin Eğilim
****

27. Adayın araştırmaya katılma ve araştırma yapma arzusu. 1 2 3 4 5 6

28. Adayın araştırmaya ilişkin algısı. 1 2 3 4 5 6

29. Adayın araştırma bulguları arasında ilişki kurma becerileri. 1 2 3 4 5 6

30. Okul yöneticisinin ve öğretmenlerin adayın araştırmaya ilişkin eğilimi ile ilgili görüşleri. 1 2 3 4 5 6

Başka öneriniz varsa lütfen belirtiniz:

****
Diğer Özellikler
****

31. Adayın genel sağlık durumu ile ilgili bilgiler. 1 2 3 4 5 6

32. Adayın genel görünümü [giyim kuşam vs.]. 1 2 3 4 5 6

33. Adayın devlet memuru olabilme özelliği. 1 2 3 4 5 6

34. Adayın mesleğine ilişkin geleceğe dönük planları. 1 2 3 4 5 6

35. Adayın el becerileri. 1 2 3 4 5 6

36. Adayın arkadaşları ve çevresi içindeki saygınlığı. 1 2 3 4 5 6

Başka öneriniz varsa lütfen belirtiniz:

****
Yardımlarınız ve katkılarınız için teşekür eder saygılarımı sunarım.
Araş. Gör. Ahmet OK
****

APPENDIX B

Sayın .....

Öğretmen yetiştiren kurum programlarına alınacak aday seçiminde kullanılacak ölçütlerin tespiti konusunda yürütülmekte olan çalışmanın son aşamasına gelmiş bulunuyorum. Adı geçen çalışmanın bir önceki aşamasında her madde ile ilgili değerlendirmeniz ve önerileriniz incelenerek istatistiksel işlemlere tabii tutulmuş ve bu doğrultuda yeni maddeler eklenmiştir (formdaki numarasız maddeler önerileriniz doğrultusunda eklenen yeni maddelerdir). Tüm bu yeniliklerle birlikte, sizler gibi .....grubundan elde edilen sonuçlar (aritmetik ortalama ve standart sapma) her madde ile birlikte görüşünüze tekrar sunulmaktadır.

ÖRNEK:

Aritmetik ortalama ($\bar{x}$)	Standart sapma (s)	ifade	dereceler
5.67	0.798	.....	1 2 3 4 5 6

Maddelerle ilgili verilen bilgiler grubunuzun cevaplarını özetlemektedir. Aritmetik ortalama ($\bar{x}$), her ifade ile ilgili genel eğilimi göstermektedir. Standart sapma (s) ise, her ifadeye verilen cevabın genel ortalamadan ne kadar saptığını ve aritmetik ortalamanın gücünü göstermektedir.

Verilen bu bilgilerle birlikte her maddeyi inceleyerek görüşünüzü altılı skala üzerinde (1, ...,6) size uygun sayıyı işaretleyerek yeniden belirtiniz.

Çalışma boyunca gösterdiğiniz ilgi ve yardımlarınızdan dolayı teşekkür ederim.

DELPHİ SORU FORMU II

BİLGİ VE YETENEK

$\bar{x}$	s								
			Öğretmen yetiştiren kurum programına alınacak adayın:						
---	----	1	yerleşeceği programda başarılı olması için gerekli önşart bilgi ve beceriler	1	2	3	4	5	6
----	----	2	problem çözme yeteneği	1	2	3	4	5	6
----	----	3	yaratıcılık düzeyi	1	2	3	4	5	6
----	----	4	uygulama ve değerlendirme yeteneği	1	2	3	4	5	6
----	----	5	orta öğrenim başarısı (Lise I, II, III)	1	2	3	4	5	6
----	----	6	sayısal ilişki kurma yeteneği	1	2	3	4	5	6
----	----	7	başarısı ile ilgili yönetici ve öğretmenler kurulunun görüşüleri	1	2	3	4	5	6

Başka öneriniz varsa belirtiniz.

ANADİLDE YETERLİK

			Öğretmen yetiştiren kurum programına alınacak adayın:						
----	----	8	yazılı ifade ve kavramları anlama düzeyi	1	2	3	4	5	6
----	----	9	sözlü ifadeleri anlama düzeyi	1	2	3	4	5	6
----	----	10	duygu ve düşüncelerini yazılı ifade etme düzeyi	1	2	3	4	5	6
----	----	11	duygu ve düşüncelerini sözlü ifade etme düzeyi	1	2	3	4	5	6

$\bar{x}$	s								
----	----	12	kelime bilgisi	1	2	3	4	5	6
----	----	13	dil yeterliği ile ilgili yönetici ve öğretmenler kurulunun görüşleri	1	2	3	4	5	6

Başka öneriniz varsa belirtiniz:

İLGİ ve TUTUM

----	----	14	eğitim bilimlerine ilişkin eğilimi	1	2	3	4	5	6
----	----	15	öğrenim görmek istediği (Fizik, Matematik, Coğrafya vs) alana ilişkin tutumu	1	2	3	4	5	6
----	----	16	çevre ve arkadaş grupları içindeki tutumu	1	2	3	4	5	6
----	----	17	kitap okuma eğilimi	1	2	3	4	5	6
----	----	18	başkalarına yardımcı olma (bilgilendirme, yönlendirme vs.) eğilimi	1	2	3	4	5	6
----	----	19	öğretmeye iliskin ilgisi	1	2	3	4	5	6
----	----	20	öğretmenlik mesleğine ilişkin tutumu	1	2	3	4	5	6
----	----	21	çocuklarla/gençlerle çalışma arzusu	1	2	3	4	5	6
----	----	22	başkalarının yetişmesine katkıda bulunma arzusu	1	2	3	4	5	6
----	----	23	genel tutumu ile ilgili yönetici ve öğretmenler kurulunun görüşleri	1	2	3	4	5	6

Başka öneriniz varsa belirtiniz:

KİŞİLİK

$\bar{x}$	s		Öğretmen yetiştiren kurum programına alınacak adayın:						
----	----	24	özgeçmişi	1	2	3	4	5	6
----	----	25	öğrenim gördüğü kurumda mevcut kayıtlı bilgi ve gözlemler	1	2	3	4	5	6
----	----	26	grupla çalışma eğilimi	1	2	3	4	5	6
----	----	27	liderlik eğilimi	1	2	3	4	5	6
----	----	28	çevresi ile ilişki kurma eğilimi	1	2	3	4	5	6
----	----	29	sabır, hoşgörü, geçimlilik vb. özellikleri	1	2	3	4	5	6
----	----	30	arkadaşları ve çevresi içindeki saygınlığı	1	2	3	4	5	6
----	----	31	kişiliği ile ilgili yönetici ve öğretmenler kurulunun görüşleri	1	2	3	4	5	6

Başka öneriniz varsa belirtiniz:

ARAŞTIRMA

			Öğretmen yetiştiren kurum programına alınacak adayın:						
----	----	32	araştırmaya ilişkin algısı	1	2	3	4	5	6
----	----	33	araştırmaya katılma ve araştırma yapma arzusu	1	2	3	4	5	6
----	----	34	araştırma bulguları arasında ilişki kurma yatkınlığı	1	2	3	4	5	6
----	----	35	araştırma eğilmine ilişkin yönetici ve öğretmenler kurulunun görüşleri	1	2	3	4	5	6

Başka öneriniz varsa belirtiniz:

DİĞER ÖZELLİKLER

$\bar{x}$	s		Öğretmen yetiştiren kurum programına alınacak adayın:						
----	----	36	genel sağlık durumu	1	2	3	4	5	6
----	----	37	genel görünümü	1	2	3	4	5	6
----	----	38	mesleğine ilişkin planları	1	2	3	4	5	6
----	----	39	el becerileri	1	2	3	4	5	6

Başka öneriniz varsa belirtiniz:

APPENDIX C

BİLGİ FORMU

ADI :

SOYADI :

ÖSS PUANI :

BÖLÜMÜ :

BÖLÜMÜ TERCİH SIRASI :

CİNSİYET :

Şu anda okumakta olduğunuz bölümü seçme nedenleri aşağıda verilen altı cümlede özetlenmektedir. Bu cümlelerden sizin seçme nedeninize en uygun olanını işaretleyerek belirtiniz. Eğer verilen cümleler dışında bir neden mevcut ise lütfen yazınız.

¦___¦ 1. Bu bölümü öğretmenliği sevdiğim için tercih ettim.

¦___¦ 2. Bu bölümü öğretmenlerim teşvik ettiği için tercih ettim.

¦___¦ 3. Bu bölümü ailem istediği için tercih ettim.

¦___¦ 4. Bu bölümü açıkta kalmamak için tercih ettim.

¦___¦ 5. Bu bölümü üniversiteye girmiş olmak için tercih ettim.

¦___¦ 6. Bu bölümü puanımın ancak ona yeteceğini düşündüğüm için tercih ettim.

Bunların dışında bir nedeniniz varsa lütfen yazınız:

İlgi ve yardımlarınız için teşekkür ederim.

AHMET OK ODTÜ EĞİTİM FAKÜLTESİ EBB

APPENDIX D

ÖĞRETMENLİK MESLEĞİNE YÖNELİK TUTUM ÖLÇEĞİ**

Aşağıda öğretmenlik mesleğine yönelik tutum cümleleri verilmiştir. Her cümleyi dikkatli okuyarak beşli ölçek üzerinde (1= kesinlikle katılmıyorum, 2= Katılmıyorum, 3= Kararsızım, 4= Katılıyorum, 5= Kesinlikle katılıyorum) size uygun dereceyi yuvarlak içine alarak işaretleyiniz. İşaretlenmemiş tutum cümlsi bırakmamanız araştırmanın sağlığı açısından önemlidir.

Her tutum cümlesini vrilen bu ölçeğe göre değerlendiriniz.

1= Kesinlikle katılmıyorum
2= Katılmıyorum
3= Kararsızım
4= Katılıyorum
5= Kesinlikle atılıyorum

1.	Boş zamanlarımda öğretmenlik mesleği ile ilgili kitaplar okumaktan zevk alırım.	1	2	3	4	5
2.	Öğretmenlik yapmak istediğim en son iştir.	1	2	3	4	5
3.	Bence öğretmenlik kutsal bir meslektir.	1	2	3	4	5
4.	Öğretmenlik saygın mesleklerden biridir.	1	2	3	4	5
5.	Bence öğretmenlik zevkli bir meslek değildir.	1	2	3	4	5
6.	Öğretmen olmak istemem.	1	2	3	4	5
7.	Bence öğretmenli onurlu bir meslektir.	1	2	3	4	5
8.	Öğretmenlik mesleğini seviyorum.	1	2	3	4	5
9.	Öğretmenlikı benim için ideal bir meslektir.	1	2	3	4	5
10.	Bence öğretmenlik değerli bir meslek değildir.	1	2	3	4	5

**
Bu ölçek sayın Doç. Dr. Petek AŞKAR ve Doç. Dr. Münire ERDEN tarafından geliştirilmiştir. Used by permission of AŞKAR.

APPENDIX E

SCALE OF ATTITUDES TOWARD MATHEMATICS**

Directions: Draw a circle around the letter indicating how strongly you agree or disagree with each statement: SD (Strongly Disagree), D (Disagree), U (Undecided), A (Agree), SA (Strongly Agree).

1.	Mathematics is not a very interesting subject.	SD	D	U	A	SA
2.	I want to develop my mathematical skills and study this subject more.	SD	D	U	A	SA
3.	Mathematics is a very wortwhile and necessary subject.	SD	D	U	A	SA
4.	Mathematics makes me feel nervous and uncomfortable.	SD	D	U	A	SA
5.	I have usually enjoyed studying mathematics in school.	SD	D	U	A	SA
6.	I don't want to take any more mathematics than I have to.	SD	D	U	A	SA
7.	Other subjects are more important to people than mathematics.	SD	D	U	A	SA
8.	I am very calm when studying mathematics.	SD	D	U	A	SA
9.	I have seldom liked stuying mathematics.	SD	D	U	A	SA
10.	I am interested in acquiring further knowledge of mathematics.	SD	D	U	A	SA
11.	Mathematics helps to develop the mind and teaches a person to think.	SD	D	U	A	SA
12.	Mathematics makes me feel uneasy and confused.	SD	D	U	A	SA
13.	Mathematics is enjoyable and stimulating to me.	SD	D	U	A	SA

** This scale is developed by Lewis R. AIKEN

14.	I am not willing to take more than required amount of mathematics.	SD	D	U	A	SA
15.	Mathematics is not especially important in every day life.	SD	D	U	A	SA
16.	Trying to understand mathematics does not make me anxious.	SD	D	U	A	SA
17.	Mathematics is dull and boring.	SD	D	U	A	SA
18.	I plan to take as much mathematics as I can during my education.	SD	D	U	A	SA
19.	Mathematics has contributed greatly to the advancement of civilazation.	SD	D	U	A	SA
20.	Mathematics is one of my most dreaded subjects.	SD	D	U	A	SA
21.	I like tying to solve new problems in mathematics.	SD	D	U	A	SA
22.	I am not motivated to work very hard on mathematics.	SD	D	U	A	SA
23.	Mathematics is not one of the most important subjects for people to study.	SD	D	U	A	SA
24.	I dont get upset when trying to do mathematics lessons.	SD	D	U	A	SA

APPENDIX F

SCALE OF ATTITUDES TOWARD CHEMISTRY**

Directions: Draw a circle around the letter indicating how strongly you agree or disagree with each statement:

SD (Strongly Disagree), D (Disagree), U (Undecided), A (Agree), SA (Strongly Agree).

1.	Chemistry is not a very interesting subject.	SD	D	U	A	SA
2.	I want to develop my chemistry skills and study this subject more.	SD	D	U	A	SA
3.	Chemistry is a very wortwhile and necessary subject.	SD	D	U	A	SA
4.	Chemistry makes me feel nervous and uncomfortable.	SD	D	U	A	SA
5.	I have usually enjoyed studying chemistry in school.	SD	D	U	A	SA
6.	I don't want to take any more chemistry than I have to.	SD	D	U	A	SA
7.	Other subjects are more important to people than chemistry.	SD	D	U	A	SA
8.	I am very calm when studying chamistry.	SD	D	U	A	SA
9.	I have seldom liked studying chemistry.	SD	D	U	A	SA
10.	I am interested in acquiring further knowledge of chemisrty.	SD	D	U	A	SA
11.	Chemistry helps to develop the mind and teaches a person to think.	SD	D	U	A	SA
12.	Chemistry makes me feel uneasy and confused.	SD	D	U	A	SA
13.	Chemistry is enjoyable and stimulating to me.	SD	D	U	A	SA

** This scale is reproduced from Aiken's Scale of Attitudes Towad Mathematics or Science.

14.	I am not willing to take more than required amount of chemistry.	SD	D	U	A	SA
15.	Chemistry is not especially important in every day life.	SD	D	U	A	SA
16.	Trying to understand chemistry does not make me anxious.	SD	D	U	A	SA
17.	Chemistry is dull and boring.	SD	D	U	A	SA
18.	I plan to take as much chemistry as I can during my education.	SD	D	U	A	SA
19.	Chemistry has contributed greatly to the advancement of civilazation.	SD	D	U	A	SA
20.	Chemistry is one of my most dreaded subjects.	SD	D	U	A	SA
21.	I like trying to solve new problems in chemistry.	SD	D	U	A	SA
22.	I am not motivated to vork very hard on chemistry.	SD	D	U	A	SA
23.	Chemistry is not one of the most important subjects for people to study.	SD	D	U	A	SA
24.	I don't get upset when trying to do chemistry lessons.	SD	D	U	A	SA

APPENDIX G

Adı :
Soyadı :
Bölümü :

**

KIMYA TUTUM ÖLÇEĞI

Aşağıda Kimya dersi ve konuları ile ilgili tutumlara yönelik cümleler vardır. Cümleleri okuyarak size uygun gelen seçeneğe X işareti koyunuz. İşaretsiz cümle bırakmayınız.

	Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
1. Kimya çok sevdiğim bir alandır.					
2. Kimya konuları ile ilgili kitaplar okumaktan hoşlanırım.					
3. Kimya dersleri genellikle çok sıkıcı geçer.					
4. Kimya ile ilgili daha çok şey öğrenmek isterim.					
5. Fenle ilgili bir alanda çalışacak olsaydım kimyayı tercih etmezdim.					
6. Kimya derslerine çok istekli girerim.					
7. Fen Bilimleri öğretmem gerekseydi bunun kimya olmasını isterdim.					
8. Kimya çalışması zevkli bir alandır.					
9. Kimya konuları ile ilgili bir tartışmaya katılmak bana cazip gelmez.					
10. Zorunlu olmasada kimya dersi almak isterim.					

**Bu ölçek Yard. Doç. Dr. Giray BERBEROĞLU tarafından geliştirilmiştir

	Kesinlikle Katılmı-yorum	Katılmı-yorum	Karar-sızım	Katılı-yorum	Kesinlikle Katılı-yorum
11. Kimya dersinde duyduğum mutluluğu başka hiç bir derste hissetmem.					
12. "Kimya" beni huzursuz eden bir kelimedir.					
13. Kimya dersini hiç sevmem.					
14. Kimya derslerinde başka şeyler düşünürüm.					
15. Kimya konularına harcadığım zamana acımam.					
16. Kimya ile ilgili bir problemle uğraşmak bana zevk verir.					

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Yardımlarınız için teşekkür ederim.

Ahmet OK ODTU Eğitim Fakültesi EBB.

APPENDIX H

SCALE OF ATTITUDES TOWARD BIOLOGY**

Directions: Draw a circle around the letter indicating how strongly you agree or disagree with each statement:

SD (Strongly Disagree), D (Disagree), U (Undecided), A (Agree), SA (Strongly Agree).

1.	Biology is not a very interesting subject.	SD	D	U	A	SA
2.	I want to develop my biology skills and study this subject more.	SD	D	U	A	SA
3.	Biology is a very wortwhile and necessary subject.	SD	D	U	A	SA
4.	Biology makes me feel nervous and uncomfortable.	SD	D	U	A	SA
5.	I have usually enjoyed studying biology in school.	SD	D	U	A	SA
6.	I don't want to take any more biology than I have to.	SD	D	U	A	SA
7.	Other subjects are more important to people than biology.	SD	D	U	A	SA
8.	I am very calm when studying biology.	SD	D	U	A	SA
9.	I have seldom liked studying bioplogy.	SD	D	U	A	SA
10.	I am interested in acquiring further knowledge of biology.	SD	D	U	A	SA
11.	Biology helps to develop the mind and teaches a person to think.	SD	D	U	A	SA
12.	Biology makes me feel uneasy and confused.	SD	D	U	A	SA
13.	Biology is enjoyable and stimulating to me.	SD	D	U	A	SA

** This scale is reproduced from Aiken's Scale of Attitudes Towad Mathematics or Science.

14.	I am not willing to take more than required amount of biology.	SD	D	U	A	SA
15.	Biology is not especially important in every day life.	SD	D	U	A	SA
16.	Trying to understand biology does not make me anxious.	SD	D	U	A	SA
17.	Biology is dull and boring.	SD	D	U	A	SA
18.	I plan to take as much biology as I can during my education.	SD	D	U	A	SA
19.	Biology has contributed greatly to the advancement of civilazation.	SD	D	U	A	SA
20.	Biology is one of my most dreaded subjects.	SD	D	U	A	SA
21.	I like trying to solve new problems in biology.	SD	D	U	A	SA
22.	I am not motivated to vork very hard on biology.	SD	D	U	A	SA
23.	Biology is not one of the most important subjects for people to study.	SD	D	U	A	SA
24.	I dont get upset when trying to do biology lessons.	SD	D	U	A	SA

APPENDIX I

SCALE OF ATTITUDES TOWARD PHYSICS**

Directions: Draw a circle around the letter indicating how strongly you agree or disagree with each statement: SD (Strongly Disagree), D (Disagree), U (Undecided), A (Agree), SA (Strongly Agree).

1.	Physics is not a very interesting subject.	SD D U A SA
2.	I want to develop my physics skills and study this subject more.	SD D U A SA
3.	Physics is a very wortwhile and necessary subject.	SD D U A SA
4.	Physics makes me feel nervous and uncomfortable.	SD D U A SA
5.	I have usually enjoyed studying physics in school.	SD D U A SA
6.	I don't want to take any more physics than I have to.	SD D U A SA
7.	Other subjects are more important to people than physics.	SD D U A SA
8.	I am very calm when studying physics.	SD D U A SA
9.	I have seldom liked studying physics.	SD D U A SA
10.	I am interested in acquiring further knowledge of physics.	SD D U A SA
11.	Physics helps to develop the mind and teaches a person to think.	SD D U A SA
12.	Physics makes me feel uneasy and confused.	SD D U A SA
13.	Physics is enjoyable and stimulating to me.	SD D U A SA

** This scale is reproduced from Aiken's Scale of Attitudes Towad Mathematics or Science.

14.	I am not willing to take more than required amount of physics.	SD	D	U	A	SA
15.	Physics is not especially important in every day life.	SD	D	U	A	SA
16.	Trying to understand physics does not make me anxious.	SD	D	U	A	SA
17.	Physics is dull and boring.	SD	D	U	A	SA
18.	I plan to take as much physics as I can during my education.	SD	D	U	A	SA
19.	Physics has contributed greatly to the advancement of civilazation.	SD	D	U	A	SA
20.	Physics is one of my most dreaded subjects.	SD	D	U	A	SA
21.	I like trying to solve new problems in physics.	SD	D	U	A	SA
22.	I am not motivated to work very hard on physics.	SD	D	U	A	SA
23.	Physics is not one of the most important subjects for people to study.	SD	D	U	A	SA
24.	I dont get upset when trying to do physics lessons.	SD	D	U	A	SA

APPENDIX J

Means and Standard Dviations

Cognitive characteristics

The following should be taken into consideration
for candidates of teacher training programs.

Item no	Expression	Means and standard deviations									
		$\bar{x}$ Te	s	$\bar{x}$ Ac	s	$\bar{x}$ Pr	s	$\bar{x}$ Pa	s	$\bar{x}$ T	s
1.	The prerequisit know-ledge and skills necessary to succeed in T.T.P.	5.08	0.87	5.22	0.69	4.81	1.24	5.11	0.79	5.07	0.95
2.	Problem solving ability	5.11	0.66	5.29	0.75	4.69	1.20	5.07	0.87	5.06	0.90
3.	Creativity	5.27	0.73	5.04	0.85	5.09	0.68	4.74	1.51	5.05	0.96
4.	Higher level thinking skills(app, eval.)	5.04	1.14	5.29	0.75	5.24	0.56	5.33	1.00	5.23	0.88
5.	Achievement level at high school.	3.75	1.30	4.14	1.17	3.81	1.51	3.92	1.21	3.87	1.31
6.	Ability to establish quantitative relationships.	4.41	0.99	4.65	0.86	4.36	1.16	4.23	1.34	4.44	1.07
7.	Reference submitted by principals and teachers about students cognitive characteristics	3.75	1.29	3.96	1.14	4.27	1.38	3.74	1.79	3.87	1.38

Ts: Teachers Ac: Academicians Pr: Principals Pe: Parents T: Total

$\bar{x}$: Mean s: Standard deviation

Language Proficiency

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Means and standard deviations									
		$\bar{x}$ Te	s	$\bar{x}$ Ac	s	$\bar{x}$ Pr	s	$\bar{x}$ Pa	s	$\bar{x}$ T	s
8.	Ability to undestand written expressions and concepts.	5.39	0.59	5.73	0.50	5.51	0.57	5.70	0.54	5.58	0.56
9.	Ability to understand oral expressions.	5.43	0.56	5.76	0.49	5.51	0.57	5.59	0.50	5.58	0.54
10.	Ability to express oneself in written form.	5.19	0.66	5.49	0.78	5.36	0.63	5.19	0.79	5.32	0.73
11.	Ability to express oneslef orally.	5.27	0.77	5.68	0.57	5.61	0.56	5.37	0.63	5.49	0.65
12.	Knowledge of vocab-ulary.	4.94	0.81	5.42	0.59	5.28	0.73	5.19	0.92	5.21	0.77
13.	References submitted by principals and teachers committee about language proficiency.	4.00	1.27	3.87	1.10	4.42	1.30	4.15	1.49	4.09	1.28

Interests and attitudes

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Means and standard deviations									
		$\bar{x}$ Te	s	$\bar{x}$ Ac	s	$\bar{x}$ Pr	s	$\bar{x}$ Pa	s	$\bar{x}$ T	s
14.	Interest toward educational sciences.	4.86	0.95	4.85	0.94	5.03	0.88	5.04	0.90	4.94	0.91
15.	Subject related attitude(chem, math, ect)	5.00	1.03	5.29	0.87	5.24	0.75	5.15	0.95	5.17	0.90
16.	Attitudes toward individual in the environment.	4.76	1.10	4.56	1.05	5.00	1.06	4.47	1.16	4.73	1.09
17.	Interest in reading.	5.38	0.64	5.20	0.78	5.24	1.12	5.04	0.90	5.23	0.86
18.	Interest in helping others(directing, informing etc.).	5.05	0.94	5.17	0.77	5.09	1.07	5.31	0.79	5.15	0.90
19.	Interest in teaching.	5.51	0.56	5.64	0.64	5.42	0.87	5.62	0.64	5.50	0.68
20.	Desire to deal with children/youth.	5.51	0.56	5.56	0.67	5.51	0.83	5.52	0.70	5.53	0.69
21.	Attitudes toward teaching as a profession.	5.39	1.09	5.37	0.70	5.06	1.14	5.70	0.54	5.36	0.93
22.	Desire to contributed to others growth and development.	5.41	0.99	5.28	0.75	5.39	0.97	5.48	0.75	5.38	0.87
23.	References submitted by principals and teachers committe about interest and attitudes.	4.11	1.31	3.93	1.08	4.79	1.02	4.22	1.50	4.24	1.25

Personality

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Means and standard deviations									
		$\bar{x}$ Te	s	$\bar{x}$ Ac	s	$\bar{x}$ Pr	s	$\bar{x}$ Pa	s	$\bar{x}$ T	s
24.	Written autobiography.	3.43	1.50	4.10	1.15	3.79	1.45	4.22	1.12	3.91	1.34
25.	Personal records available at the high school.	3.81	1.24	4.02	1.19	4.06	1.39	4.22	1.01	4.02	1.22
26.	Desire to work cooperatively with group.	4.70	1.08	4.85	0.94	5.00	0.94	4.89	0.80	4.86	0.95
27.	Evidance for leadership qualities.	4.43	1.26	4.76	0.94	4.63	1.16	4.56	1.05	4.60	1.10
28.	Desire to establish relationships.	5.08	0.83	5.12	0.81	5.33	0.65	5.37	0.74	5.21	0.77
29.	Patience, tolerence and subsistance characteristics.	5.46	0.69	5.39	0.80	5.55	0.62	5.52	0.89	5.47	0.75
30.	Respect among peers and in community.	5.30	0.81	4.88	0.84	5.42	0.79	5.22	1.01	5.19	0.88
31.	References submitted by principals and teachers committee about personality.	3.95	1.35	4.00	1.22	4.51	1.20	4.19	1.64	4.15	1.35

Research

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Means and standard deviations Te $\bar{x}$	Te s	Ac $\bar{x}$	Ac s	Pr $\bar{x}$	Pr s	Pa $\bar{x}$	Pa s	T $\bar{x}$	T s
32.	Perception of research.	4.29	0.95	5.00	0.89	4.97	1.10	5.04	0.85	4.89	0.95
33.	Desire to conduct and participate in research.	5.03	0.99	5.00	0.90	5.21	0.55	5.11	0.80	5.08	0.88
34.	Predisposition in relating research findings.	5.00	0.78	5.10	0.84	5.06	1.03	5.00	0.92	5.04	0.88
35.	References submitted by principals and teachers committee about research.	3.76	1.14	3.78	1.24	4.55	1.18	4.11	1.42	4.02	1.26

Other

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Means and standard deviations Te $\bar{x}$	Te s	Ac $\bar{x}$	Ac s	Pr $\bar{x}$	Pr s	Pa $\bar{x}$	Pa s	T $\bar{x}$	T s
36.	Health in general.	4.21	1.25	4.68	1.08	4.76	1.20	4.44	1.19	4.53	1.19
37.	Posture and physicsl appearence.	4.32	1.42	4.63	1.11	4.76	1.36	4.26	1.43	4.51	1.31
38.	Future plans concerning the profession.	5.11	1.02	4.76	0.92	5.18	0.77	5.30	0.78	5.06	0.90
39.	Manual skills.	4.03	1.42	3.88	1.21	4.49	1.37	4.52	1.31	4.19	1.27

APPENDIX K

Frequencies and percentages on each item
(percentages are written in bold face)

item number	Teachers 1	2	3	4	5	6	Academicians 1	2	3	4	5	6
1		1	1	3	20	11				6	20	15
		2.8	2.8	8.3	55.6	30.6				14.6	48.8	36.6
2			1	3	24	9			1	4	18	18
			2.7	8.1	64.9	24.3			2.4	9.8	43.3	43.9
3				6	15	16			1	11	15	14
				16.2	40.5	43.2			2.4	26.8	36.6	34.1
4		2	1	7	9	18			1	4	18	18
		5.4	2.7	18.9	24.3	48.6			2.4	9.8	43.9	43.9
5	2	9	3	12	11	--	1	3	5	17	10	5
	5.4	24.3	8.1	32.4	29.7	--	2.4	7.3	12.2	41.5	24.4	12.4
6		2	4	11	17	3		1	1	12	20	5
		5.4	10.8	29.7	45.9	8.1		2.5	2.5	30.0	50.0	12.5
7	2	5	11	9	9	1	2	2	5	20	8	3
	5.4	13.5	29.11	24.3	24.3	2.7	5.0	5.0	12.5	50.0	20.0	7.5
8				2	19	16				1	9	31
				5.4	51.4	43.2				2.4	22.0	75.6
9				1	19	17				1	8	32
				2.7	51.4	45.9				2.4	19.5	7.8
10				5	20	12			1	4	10	26
				13.5	54.1	32.4			2.4	9.4	24.4	63.4
11			1	4	16	16				2	9	30
			2.7	10.8	43.2	43.2				4.9	22.0	73.2
12		1	1	4	24	7				2	19	19
		2.7	2.7	10.8	64.8	18.9				5.0	47.5	47.5
13	2	2	8	10	12	3	2	1	10	17	9	2
	5.4	5.4	21.6	27.0	32.4	8.1	4.9	2.4	24.4	41.5	22.0	4.9
14	1		1	6	22	7		1	1	12	16	11
	2.7		2.7	16.2	59.5	18.9		2.4	2.4	29.3	39.0	26.8

1: Stands for strongly disagree 2: Stands for disagree
3: Stands for tend to disagree 4: Stands for tend to agree
5: Stands for agree 6: Stands for strogly agree

Continoued

Item number	Teachers 1	2	3	4	5	6	Academicians 1	2	3	4	5	6
15	1		1	6	17	12			2	5	13	21
	2.7		2.7	16.2	45.9	32.4			4.9	12.2	31.7	51.2
16		2	3	8	15	8		2	5	6	21	5
		5.6	8.3	22.2	41.7	22.2		5.1	12.8	15.4	53.8	12.8
17				3	17	17			2	3	21	15
				8.1	45.9	45.9			4.9	7.3	51.2	36.6
18		1	1	6	16	13			1	6	19	15
		2.7	2.7	16.2	43.2	35.1			2.4	14.6	46.3	36.6
19				1	16	20				3	16	22
				2.7	43.2	54.1				7.3	39.0	53.7
20				1	16	20				4	10	27
				2.7	43.2	54.1				9.8	24.4	65.9
21	1	1		1	12	22			1	2	19	19
	2.7	2.7		2.7	32.4	54.5			2.4	4.9	46.3	46.3
22	1			3	11	22			1	4	18	17
	2.7			8.1	29.7	59.5			2.5	10.0	45.0	42.5
23	2	2	7	9	13	4	2	1	9	16	12	1
	5.4	5.4	18.9	24.3	35.1	10.8	4.9	2.4	22.0	39.0	29.3	2.4
24	5	7	4	11	8	2		4	6	18	6	6
	13.5	18.9	10.8	29.7	21.6	5.4		10.0	15.0	45.0	15.0	15.5
25	2	4	6	12	11	1	1	2	11	13	9	5
	5.6	11.4	16.7	33.3	30.6	2.8	2.4	4.9	26.8	31.7	22.0	12.2
26	1	1	1	9	18	7		1	1	12	16	11
	2.7	2.7	2.7	24.3	48.6	18.9		2.4	2.4	23.9	39.0	26.8
27	1	4	1	8	18	5			3	15	12	11
	2.7	10.8	2.7	21.6	48.6	13.5			7.3	36.6	29.3	26.8
28.		1		5	20	11				11	14	16
		2.7		13.5	54.1	29.7				26.8	34.1	39.0
29			1	1	15	20			1	5	12	23
			2.7	2.7	40.5	54.1			2.4	12.2	29.3	56.1
30			1	5	13	18			2	11	18	10
			2.7	13.5	31.5	48.6			4.9	26.8	43.9	24.4

Continoued

Item Number	Teachers 1	2	3	4	5	6	Academicians 1	2	3	4	5	6
31	2	1	14	5	10	5	2	1	10	15	8	13
	5.4	2.7	37.8	13.5	27.0	13.5	4.9	2.4	24.4	36.5	19.5	12.2
32	1		1	5	22	8			3	7	18	13
	2.7		2.7	13.5	59.5	21.6			7.3	17.1	43.9	31.7
33	1			7	17	12			3	9	14	15
	2.7			18.9	45.9	32.4			7.3	22.0	34.1	36.6
34				11	15	11			1	9	15	15
				29.7	40.5	29.7			2.5	22.5	37.5	37.5
35	2	2	10	13	9	1	3	1	12	14	8	3
	5.4	5.4	27.0	35.1	24.3	2.7	7.3	2.4	29.3	34.1	19.5	7.3
36	1	3	7	5	18	3		2	3	11	15	10
	2.7	8.1	18.9	13.5	48.6	8.1		4.9	7.3	26.8	36.8	24.4
37	2	3	5	4	17	6	1		4	13	13	10
	5.4	3.1	13.5	10.8	45.9	16.2	2.4		9.8	31.7	31.7	24.4
38	1		1	4	17	14			2	17	11	11
	2.7		2.7	10.8	45.9	37.8			4.9	41.5	26.8	26.8
39		4	8	11	11	3	1	3	12	14	6	5
		10.8	21.6	29.7	29.7	8.1	2.4	7.3	29.3	34.1	14.6	12.2

Contnoued

Item number	Principals						Parents					
	1	2	3	4	5	6	1	2	3	4	5	6
1	1	1	2	6	12	11		1		5	10	11
	3.0	3.0	6.1	18.2	36.4	33.3		3.7		18.5	37.0	40.7
2	1	2	1	4	18	6		1		3	15	8
	3.1	6.3	3.1	12.5	56.3	18.8		3.7		11.1	55.6	29.6
3			1	3	21	8	2	1	1	5	7	11
			3.0	9.1	63.6	24.4	7.4	3.7	3.7	18.5	25.9	40.7
4				2	21	10	1				13	13
				6.1	63.3	30.3	3.7				48.1	48.1
5	3	5	4	7	11	3	1	3	3	12	6	2
	9.1	15.2	12.1	21.2	33.3	9.1	3.7	11.1	11.1	44.4	22.2	7.4
6		1	8	7	10	6	1	3	3	3	14	2
		3.1	25.0	21.9	31.3	18.8	3.7	11.5	11.5	11.5	53.8	7.7
7	1	4	4	5	14	5	5	3	3	3	9	4
	3.0	12.1	12.1	15.2	42.4	15.2	18.5	11.1	11.1	11.1	33.3	14.8
8				1	14	18				1	6	20
				3.0	42.2	54.5				3.7	22.2	74.1
9				1	14	18					11	16
				3.0	42.2	54.5					40.7	59.4
10				3	15	15			1	3	13	10
				9.1	45.5	45.5			3.7	11.1	48.1	37.0
11				1	11	21				2	13	12
				3.0	33.3	63.6				7.4	48.1	44.4
12			1	2	16	13		1		3	12	11
			3.1	6.3	50.0	40.6		3.7		11.1	44.4	40.7
13	1	3	1	11	10	7	1	4	3	7	6	6
	3.0	9.1	3.0	33.3	30.3	21.2	3.7	14.8	11.1	25.9	22.6	22.6
14			2	6	14	11			2	4	12	9
			6.1	18.2	42.4	33.3			7.4	14.8	44.4	33.3
15			1	3	16	13			2	4	9	12
			3.0	3.0	48.5	39.4			7.4	14.8	33.3	44.4

Continued

Item Number	Principals						Parents					
	1	2	3	4	5	6	1	2	3	4	2	6
16		2	1	3	16	11	1		2	6	11	7
		6.1	3.0	9.1	48.5	33.3	3.7		7.4	22.2	40.7	25.9
17	1	1		1	14	16			1	7	9	10
	3.0	3.0		3.0	42.4	48.5			3.7	25.9	33.3	37.0
18		1	3	2	13	14			1	2	11	12
		3.0	9.1	6.1	39.4	42.4			3.8	7.7	42.3	46.2
19		1		2	11	19				2	6	18
		3.0		6.1	33.3	57.6				7.7	23.1	69.2
20		1		1	10	21				3	7	17
		3.0		3.0	30.2	63.6				11.1	25.9	63.0
21	1	1	1	1	17	12				1	6	20
	3.0	3.0	3.0	3.0	51.5	36.4				3.7	22.2	74.1
22		1	1	2	9	20			1	1	9	16
		3.0	3.0	6.1	27.3	60.6			3.7	3.7	27.3	60.6
23		2		9	14	8	1	4	3	5	8	6
		6.1		27.3	42.4	24.4	3.7	14.8	11.1	18.5	29.6	22.2
24	2	4	6	6	11	4		3	2	11	8	3
	6.1	12.1	18.2	18.2	33.3	12.1		11.1	7.4	40.7	29.6	11.1
25	1	4	6	7	9	5		1	6	8	10	2
	3.0	12.1	18.2	21.3	28.1	15.5		3.7	22.2	29.6	37.0	7.4
26			3	5	14	11			2	4	16	5
			9.1	15.2	42.4	33.3			7.4	14.8	59.3	18.5
27		3	2	5	16	6			5	8	8	6
		9.4	6.3	15.6	50.0	18.8			18.5	29.6	29.6	22.2
28				3	16	14				4	9	14
				9.1	48.5	42.4				14.8	33.3	51.9
29				2	11	20		1		1	7	18
				6.1	33.3	60.6		3.7		3.7	25.9	66.7
30		1			15	17		1	1	2	10	13
		3.0			45.5	51.5		3.7	3.7	7.4	37.0	48.1
31	1	3	1	4	21	3	2	4	2	5	7	7
	3.0	9.1	3.0	21.1	63.6	9.1	7.4	14.8	7.4	18.5	25.9	25.9

Continued

Item Number	Principals						Parents					
	1	2	3	4	5	6	1	2	3	4	5	6
32	1		2	4	15	11			1	6	11	9
	3.0		6.1	12.1	45.5	33.3			3.7	22.2	40.7	33.3
33			1	3	17	12			1	4	13	9
			3.0	9.1	51.5	36.4			3.7	14.8	48.1	33.3
34	1			6	14	12			2	5	11	9
	3.0			18.2	42.4	36.4			7.4	18.5	40.7	33.3
35		3	2	9	12	7	1	4	2	9	6	5
		9.1	6.1	27.3	36.4	21.2	3.7	14.8	7.4	33.3	22.2	18.5
36		3	2	4	15	9	1	1	2	8	11	4
		9.1	6.1	12.1	45.5	27.3	3.7	3.7	7.4	29.6	40.7	14.8
37	1	1	4	4	12	11	1	4	2	4	12	4
	3.0	3.0	12.1	12.1	36.1	33.3	3.7	14.8	7.4	14.8	44.4	14.8
38			1	4	16	12				5	9	13
			3.0	12.1	48.5	36.4				18.5	33.3	48.3
39	2	1	3	8	11	8	1	1	3	7	8	7
	6.1	3.0	9.1	24.2	33.3	24.2	3.7	3.7	11.1	25.9	29.6	25.5

APPENDIX L

Percentages

Cognitive characteristics

The following should be taken into consideration for candidates of teacher training programs.

Item No	Expression	Percentages Te (n=37) A %	Te DA %	Ac (n=41) A %	Ac DA %	Pr (n=33) A %	Pr DA %	Pa (n=27) A %	Pa DA %	T (N=138) A %	T DA %
1.	The prerequisit know-ledge and skills necessary to succeed in T.T.P.	94	6	100	---	88	12	96	4	95	5
2.	Problem solving ability	97	3	98	2	87	13	96	4	95	5
3.	Creativity	100	---	98	2	97	3	85	15	96	4
4.	Higher level thinking skills(app, eval.)	92	8	98	2	100	---	96	4	96	4
5.	Achievement level at high school.	62	38	78	22	64	36	74	26	70	30
6.	Ability to establish quantitative relationships.	84	16	92	8	72	28	73	27	81	19
7.	Reference submitted by principals and teachers about students cognitive characteristics	51	49	77	23	73	27	59	41	66	36

Ts: Teachers Ac: Academicians Pr: Principals Pe: Parents T: Total

DA: Indicates disagreement which covers strongly disagree, disagree or tend to disagree.

A : Indicates agreement which covers tend to agree, agree or strongly agree.

n : Number of valid responses of the particular sub-group.

N : Nuber of valid respomses for the total group.

Language Proficieny

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Percentages Te (n=37) A %	Te DA %	Ac (n=41) A %	Ac DA %	Pr (n=33) A %	Pr DA %	Pa (n=27) A %	Pa DA %	T (N=138) A %	T DA %
8.	Ability to understand written expressions and concepts	100	---	100	---	100	---	100	---	100	---
9.	Ability to understand	100	---	100	---	100	---	100	---	100	---
10.	Ability to express oneself in written form.	100	---	98	2	100	---	96	4	99	1
11.	Ability to express oneslef orally.	97	3	100	---	100	---	100	---	98	2
12.	Knowledge of vocab-ulary.	95	5	100	---	97	3	96	4	97	3
13.	References submitted by principals and teachers committee about language proficiency.	68	32	100	---	85	15	70	30	72	28

Interests and attitudes

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Percentages Te (n=37) A %	Te DA %	Ac (n=41) A %	Ac DA %	Pr (n=33) A %	Pr DA %	Pa (n=27) A %	Pa DA %	T (N=138) A %	T DA %
14.	Interest toward educational sciences.	95	5	95	5	94	6	97	3	94	6
15.	Subject related attitude(chem, math, ect)	95	5	95	5	97	3	93	7	95	5
16.	Attitudes toward individual in the environment.	86	14	82	18	91	9	89	11	87	13
17.	Interest in reading.	100	--	95	5	94	6	96	4	96	4
18.	Interest in helping others(directing, informing ect.)	95	5	98	2	88	12	96	4	94	6
19.	Interest in teaching.	100	--	100	--	97	3	100	--	99	1
20.	Desire to deal with children/ youth.	100	--	100	--	97	3	100	--	99	1
21.	Attitudes toward teaching as a profession.	95	5	98	2	91	8	100	--	96	4
22.	Desire to contributed to others growth and development.	97	3	97	3	94	6	100	--	96	4
23.	References submitted by principals and teachers committee about interest and attitudes.	70	30	71	29	94	6	70	30	76	24

Personality

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Percentages Te (n=37) A %	Te DA %	Ac (n=41) A %	Ac DA %	Pr (n=33) A %	Pr DA %	Pa (n=27) A %	Pa DA %	T (N=138) A %	T DA %
24.	Written autobiography.	57	43	75	25	64	36	81	19	69	31
25.	Personal records available at the high school.	67	33	64	36	66	34	74	26	68	32
26.	Desire to work cooperatively with group.	92	8	95	5	81	19	93	7	93	7
27.	Evidence for leadership qualities.	84	16	93	7	84	16	81	19	86	14
28.	Desire to establish relationships.	93	7	100	--	100	--	100	--	99	1
29.	Patience, tolerance and subsistance characteristics.	97	3	98	2	100	--	96	4	98	2
30.	Respect among peers and in community.	64	36	95	5	97	3	93	7	96	4
31.	References submitted by principals and teachers committee about personality.	64	36	68	32	85	15	70	30	69	31

Research

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Percentages Te (n=37) A %	Te DA %	Ac (n=41) A %	Ac DA %	Pr (n=33) A %	Pr DA %	Pa (n=27) A %	Pa DA %	T (N=138) A %	T DA %
32.	Perception of research.	95	5	93	7	91	9	96	4	93	7
33.	Desire to conduct and participate in research.	97	3	93	7	97	3	96	4	96	4
34.	Predisposition in relating research findings.	100	--	97	3	97	3	97	3	97	3
35.	References submitted by principals and teachers committee about research.	65	35	61	39	85	15	74	26	70	30

Other

The following should be taken into consideration for candidates of teacher training programs.

Item no	Expression	Percentages Te (n=37) A %	Te DA %	Ac (n=41) A %	Ac DA %	Pr (n=33) A %	Pr DA %	Pa (n=27) A %	Pa DA %	T (N=138) A %	T DA %
36.	Health in general.	70	30	88	12	85	15	85	15	82	18
37.	Posture and physical appearence.	73	27	88	12	82	18	74	26	80	20
38.	Future plans concerning the profession.	95	5	95	5	97	3	100	--	96	4
39.	Manual skills.	69	32	61	39	82	18	81	19	72	28

APPENDIX M

The Skewnees and the Kurtosis of the Items Included in the Delhpi Questionnaire

Item no	Teachers SKW	Teachers KRT	Academicians SKW	Academicians KRT	Principals SKW	Principals KRT	Parents SKW	Parents KRT
1	-1.53	3.76	-0.32	0.418	-1.32	1.19	-1.32	2.44
2	-0.73	1.99	-0.92	0.75	-1.56	2.60	-1.65	4.86
3	0.48	-0.96	-0.30	0.94	-0.75	1.83	-1.34	1.17
4	-1.24	1.04	-0.92	0.75	0.04	-0.20	-3.24	13.84
5	-0.48	-1.12	-0.49	0.35	-0.48	-0.87	-0.56	0.32
6	0.74	0.37	-0.74	1.22	-0.14	-1.04	-1.00	0.03
7	-0.21	-0.58	-0.71	1.15	-0.76	-0.35	-0.45	-1.31
8	-0.34	-0.63	-1.70	2.16	-0.61	-0.64	-1.70	2.28
9	-0.24	-0.97	-1.89	2.98	-0.61	-0.64	-0.33	-1.99
10	-0.22	-0.63	-1.46	1.53	-0.53	-0.59	-0.86	0.82
11	-0.90	0.63	-1.65	1.89	-1.03	0.12	-0.47	-0.52
12	-1.53	4.30	-0.48	-0.62	-1.03	1.69	-1.67	4.27
13	-0.60	0.05	-0.58	0.94	-0.87	0.52	-0.43	-0.77
14	-1.96	6.92	-0.65	0.66	-0.46	-0.19	-0.76	0.11
15	-1.79	5.27	-1.10	0.49	-0.91	1.05	-1.35	-0.04
16	-0.80	0.29	-0.91	0.32	-1.51	2.42	-1.35	2.80
17	-0.53	0.57	-1.02	1.34	-2.51	7.33	-0.42	-0.85
18	-1.17	1.86	-0.65	0.09	-1.33	1.31	-1.16	1.49
19	-0.56	-0.75	-0.76	-0.34	-2.20	6.58	-1.47	1.19
20	-0.56	-0.75	-1.27	0.41	-2.63	9.16	-1.16	0.13
21	-2.74	8.51	-1.11	1.85	-2.13	5.24	-1.70	2.28

SKW: Stands for Skewness and, KRT: Stands for Kurtosis

Continoued

Item NO	Teachers SKW	Teachers KRT	Academicians SKW	Academicians KRT	Principals SKW	Principals KRT	Parents SKW	Parents KRT
22	-2.77	10.39	-0.89	0.76	-2.00	4.31	-1.68	3.31
23	-0.68	0.06	-0.85	1.04	-1.04	1.56	-0.56	-0.76
24	- 0.22	-1.06	0.00	-0.36	-0.47	-0.71	-0.47	0.01
25	-0.66	-0.18	-0.14	-0.18	-0.35	-0.74	-0.24	-0.55
26	-1.48	3.38	-0.65	0.66	-0.73	-0.15	-0.76	-0.82
27	-1.16	0.85	-0.04	1.04	-1.06	0.60	-0.05	-1.13
28	-1.39	4.01	-0.23	-1.44	-0.44	-0.60	-0.74	-0.74
29	-1.45	3.00	-1.15	0.60	-1.03	0.14	-2.68	8.81
30	-0.94	0.25	-0.29	-0.51	-2.55	10.11	-1.68	3.14
31	-0.19	-0.55	-0.34	0.32	-1.60	2.05	-0.60	-0.85
32	-2.05	7.20	-0.66	-0.15	-1.72	4.18	-0.48	-0.48
33	-1.90	6.52	-0.55	-0.66	-0.86	1.11	-0.70	0.34
34	0.00	-1.33	-0.67	-0.71	-1.96	6.41	0.64	-0.27
35	-0.56	0.31	-0.40	0.31	-0.73	0.06	0.47	-0.50
36	-0.76	-0.15	-0.68	0.15	-1.12	0.62	-1.12	1.74
37	-0.92	-0.11	-0.81	1.13	-1.16	0.93	-0.84	-0.34
38	-2.05	6.36	0.11	-1.14	-0.77	0.57	-0.59	-1.05
39	-0.17	0.73	0.07	-0.19	-1.05	0.86	-0.83	0.62

APPENDIX N

States and Their Requirement by Simmons and Janet(1982)

STATES	REQUIREMENTS
ALABAMA	A score of 16 on the ACT.
ARKANSAS	Has no regulation at state level. Each college or university has no freedom to establish its own requirements.
FLORIDA	A composite score of 17 on ACT or a composite score of 835 on SAT, communication, computation & GPA.
GEORGIA	No specific requirement for entrance into teacher education.
KENTUCKY	Tests to measure skills in basic literacy (oral and written communication, reading , writing and computational skills.
LUISIANA	Score of 6 on the ACT and a GPA of at least 2.2 or 14 on ACT and 3.2 or above. (Simply ACT & GPA).
MISSISSIPPI	ACT, minimum score on the speaking and writing portions of composite examinations.
NORTH CAROLINA	Basic skills including english, fine arts, social studies, math, and science.(valid since 1985 on)
SOUTH CAROLINA	Basic skills examination and also math, reading and english.
TENNESSEE	CAT. test level 19 or ACT or SAT with definite scores.
TEXAS	Requires an examination which details will be set by a commission.

(Summarized from Simmons and Janet, 1982)

APPENDIX O

States and Their Requirements by Sandefur(1984)

STATE	ACTIVITY
ALABAMA	Language profeciency test, ACT or SAT and GPA.
CALIFORNIA	California basic skill test (CBST), and the applicants are supposed to be in the upper 50% of all students in campus.
COLARADO	Skills; oral, written, and mathematics.
CONNECTICUT	By Spring of 1985, select or develop a skill examination in mathematics, reading and writing for candidates entring teacher preperation programs.
FLORIDA	17 on the ACT and a score of 835 on the SAT.
ILLINOIS	State Board of Education has committed itself to establishing uniform standards for admission into all teacher education programs by June 1985.
INDIANA	It appears that a basic skills test will be required for admission to programs.
KANSAS	NTE'S preprofessional skills tests in writing, mathematics and reading. A GPA of 25 on 40 scale is required.

Continoud

KENTUCKY		Standard English & Math tests (CTBS).
LUISIANA		GPA of 2.2 on 4.0 NTE, general education and communication. Tests are being considered prior to program admission.
MISSISSIPPI		Speaking & writing of COMP college outcome measures project exam. 170 on composite COMP, 17 on speaking, 17 on writing.
MISSOURI		A proposed plan.
NEVADA		A study is underway.
NEW MEXICO		Written basic skills examination in reading, writing and math. (July, 1983) GPA=2.5
NORT CAROLINA		NTE general knowledge and communication skills section.
OHIO		Verbal & mathematical skills assesmen prior to admission to teacher education programs.
OREGON		----------
SOUTH CAROLINA		Basic skills examination for all students entring teacher programs.
TENNESSEE		A minumum raw score on CAT or 17 on ACT, or 765 on SAT.
TEXAS	Minimum	Basic skills examination (PPST is to be used) 171 in math 172 in reading 173 in composition

(Summarized from Saudefor 1984)

APPENDIX P

Reasons for choosing Teaching as a Career

	Elementary Females (n=155)	Secondary Females (n=102)	Secondary Males (n=75)	Chi-square (df=2)
Teaching provides an opportunity to be creative	74%	64%	71%	3.23
The quality of education must be improved	76	84	80	2.53
I have to work with children	91	76	57	35.50
I have always enjoyed school	48	57	44	3.34
I can help others less fortunate than myself	59	47	45	5.92
Teaching is a good career for women	41	34	5	28.48
I was not as successful as I hoped to be in ourses that would have prepared me for my initial choice of careers	12	8	21	6.43
Persons I respect encouraged me to teach	46	46	53	1.30
I can apply what I have learned in my major	49	70	83	27.54
Teaching and scholarship go hand in hand	12	20	14	3.42

Continoud

Teachers' salaries are at least adequate	40	47	50	2.70
Teachers have a lot of time off	37	41	54	5.74
Teaching will provide an opportunity to do other things (eg.coach)	48	61	63	6.84
Through teaching, I can help students gain a sense of personal achievement and self-esteem	96	97	81	21.43
Through teaching, I can help students develop an appreciation for other cultures	73	62	59	5.86
My abilities are best suited for teaching	64	71	64	1.24
Trough teaching, I can help students gain knowledge and understanding of important subject matter	70	89	84	15.26
I am more likely to gain personal achievement and satisfaction in teaching than in other careers	79	74	78	1.15
I can help youngsters become excited about learning	95	93	85	6.89

(Book & Freeman, 1986, Table 2, p.49)

APPENDIX R

Table a. Family income of students

FAMILY INCOME LEVEL	ÖYS APPLICANTS			ÖYS ADMITTED STUDENTS		
	Female	Male	Total	Female	Male	Total
50.000 den az,	4312	1373	25525	602	2224	2826
%	6.6	15.2		12.5	26.5	
50.000-124.999	35737	81926	117663	3033	4893	7926
%	55.3	58.3		63.2	58.4	
125.000-249.999	18991	29299	48290	965	1004	1969
%	29.4	20.8		20.1	12.0	
250.000-379.999	3881	5283	9164	144	165	309
%	6.1	3.7		3.1	1.9	
375.000 den yukari	1606	2547	4153	49	80	129
%	2.4	1.8		0.1	0.9	
TOTAL	64527	140328	204855	4793	8366	13159

Karagözoğlu, 1987, p:281 Table 5.

Table b. The type of school that students of teacher training programs came from.

TYPE of SCHOOL	MALE	FEMALE	TOTA
Science Lyce'e	2	---	2
Private " (FL)"	38	135	173
Public " (FL)"	61	116	177
Public Lycee	2621	2863	5484
Religion	404	106	510
Teachers	322	205	527
Industry trade Lyce'e	1408	69	1477
Girls trade & other Lyce'e	310	816	1126
TOTAL	5379	4325	9704

(Karagozoğlu, 1987, p.278, Table 1)

Table c. Distribution of preferance ranking of students placed into four year teacher training programs by 1986.

PREFERANCE RANKING	MALE	FEMALE	TOTAL	PERCENTAGE
1-3	528	706	1234	12.7
4-6	698	807	1505	15.4
7-9	882	730	1612	16.5
10-12	917	721	1638	16.8
13-15	1084	669	1753	18
16-18	1211	620	1831	18.8
19-21	58	61	119	1.2
21-24	11	11	22	0.2
TOTAL	5389	4325	9714	——

(Karagozoğlu, 1987, p.283 Table 8)

Table d. The high school success of student placed into 4 year teacher training programs by 1986.

HIGH SCHOOL SUCCESS	MALE	FEMALE	TOTAL
81-100	----	------	------
71-80	395 6.4%	398 9.2%	743
61-70	1005 18.6%	1129 26.1%	2134
51-60	2042 37.9%	1717 39.6%	3759
41-50	1821 33.7%	992 22.9%	2813
40	176 3.3%	89 2%	265
TOTAL	5389	4325	9714

(Karagozoğlu, 1987, p.279 Table 3)

Table e. The Description of Quotas related to teacher training programs included in this study (ÖSYM, 1989).

1. The graduates of trade, vocational or equivalent high schools are supposed to check table six of the University Entrance Examination second stage Cataloogue before they print their choices.

2. A certain number of students who rank teacher educatiom programs among their firs ten chices will be financially supported including accomodatin, tution fees and various expences.

4. A year of English preparatory program is applied which is not counted in the total duration of the normal program. Those who succed in the English proficiency examination directly joins the normal program they had been placed in.

6. The medium of instruction is English.

21. The students must attend German language sub-test in the UEE.

22. The students must attend French language sub-test in the UEE.

23. The students must attend English language sub-test in the UEE.

32. Same as item four for German preparatory school.

33. Same as item four for French perparatory school.

Table f. THE QUOTAS AND PREREQUISITS OF HIGHER EDUCATION TEACHER TRAININ GPROGRAMS TURKIYE (OSYM, 1989).

UNIVERSITY	PROGRAMS AND RELATED QUOTAS AND PREREQ.									
	CHEM	PHY	BIO	MATH	TURK	HIST	GEOG	ENG	ALM	FRENCH
ANADOLU								1,2 23	1,21	1,22
ATATURK UNIV	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,21 23	1,22
BOGAZICI UNIV	4,6 1,2	4,6 1,2						4,6 1,2		
CUKUROVA UNIV.								1,2 4 23	1,21 23	1,22 23
DICLE UNIV	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2 23	1,21	1,22
9 EYLUL BUCA EF	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2 23	1,21	1,22
GAZI UNIV.	1,2	1,2	1,2	1,2	1,2	1.2	1.2	1,2 4,23	1,21 32	1,22,33
HACETTEPE UNIV.	1,2	1,2	1,2	1,2				1,2 4,23	1,21 32	1,22,33
INONU MALAT UNIV.	1,2				1,2					
KARADENIZ UNIV.	1,2	1,2	1,2		1,2	1,2	1,2			

Continoued

MARMARA UNIV.	1,2 4,6	1,2 4,6	1,2 4,6	1,2 4,6	1,2	1,2	1,2	1,2 23	1,21	1,22	
19 MAYIS SAMSUN	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2 23	1 21		
ODTU UNIV.	1,2 4,6	1,2 4,6	1,2 4,6	1,2 4,6				1,2			
SELCUK UNIV.	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2 23	1 21		
ULUDAG UNIV. EF.								1,2 23	1 21	1 22	
ULUDAG UNIV. NECATIBEY	1,2	1,2	1,2	1,2							