

ACADEMIC CHARACTERISTICS OF TEACHER POOL BETWEEN 1982 AND 2002 IN TURKEY

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Like any other nation, one of the greatest challenges of Turkey is developing human capacity. The need for highly educated citizens has always been high. Coupled with the extension of mandatory education from 5 to 8 years in 1998 the need for teachers increased greatly. It is a difficult task to ensure quality when the demand for quantity is high. The Ministry of National Education had to hire 337, 731 teachers between 1994 and 2002. This is 64% of the present teaching force.

Studies argue that teacher-training programs fail to attract the best students. Türkoğlu (1987) reports that teacher training programs is the least wanted among candidates' preferences. Candidates ranked teacher-training programs 10th or lower in their preference list. Similarly Karagözoğlu (1987) noted that 71.7 percent of the students at elementary teacher programs ranked their school 13th or lower. He also indicated that there were no students at elementary teacher training programs with GPA of 80 or above (100 being the highest) between 1982 and 1986.

National Center for Education Statistics in the U. S. A. also suggests that schools of education fail to attract the best students. As the report states, "Among college graduates who majored in education, just 14 percent had SAT or ACT scores in the top quartile, compared to 26 percent who majored in social sciences and 37 percent who majored in mathematics, computer sciences, or the natural sciences." (**US Department of Education, 2002**)

Why are the best students the least likely to enter teacher-training programs? American Federation of Teachers' Task Force on Teacher Education notes several reasons for this (**American Federation of Teachers, 2000**):

- Low pay, poor working conditions and lack of respect for the profession as well as low esteem in which teacher education courses are held at many universities;
- Inadequate standards for entering and exiting teacher education programs;
- Under-investment by the university in teacher education;
- Poor coordination between teacher education and liberal arts faculty;
- Little consensus about what should comprise the pedagogy curriculum.

There have been some improvements to ensure both quality and quantity of teachers. However, it is far beyond producing a sufficient number of teachers fully equipped with subject knowledge and pedagogy. In improving the quality of teacher training programs, attracting academically able students is one of the most crucial factors. By examining the enrollment patterns for the last twenty years we will be able to see academic characteristics of the teaching pool.

Academic Ability and Achievement

Academic ability is one of the troubling issues of teacher training programs. Some researchers claim that teacher-training programs do not attract highly able candidates

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(Ekstrom & Goertz, 1985; Lee, 1984; Weaver, 1983). Academic skills, measured by standardized test scores may present rather a narrow view of an individual's ability. Definitely there is more than a university entrance examination score (as it is the case in Turkey) or an aptitude test score to an individual's academic ability. Nevertheless, Student Selection and Placement Test Scores are the only data that enable trustworthy comparisons of an individual's academic qualities in Turkey.

There have been studies reporting high correlations between entrance examination scores and the achievements at the university. There are also studies that indicate high correlations between aptitude test scores such as SAT or ACT and teacher licensure test scores (E.T.S; 1999). Even though there are so many facets of the student achievements at any university program, academic ability is considered one of the strongest proxies for student achievement. This is not to say that high academic skills perform well at the university and make a good teacher at schools. Nonetheless, researchers put forth two lines of reasoning to support the appropriateness of studying academic skills of teachers. The first is that since the school is an academic enterprise then it is logical that teachers be drawn among the more academically able. Other things being equal, academic ability is clearly a desirable trait in teachers. Second, there is growing evidence regarding teachers' verbal scores and their students' test scores (Ehrenber & Brever, 1995; Ferguson, 1998).

Similarly, the academic ability of students is used as an indicator of college quality. In general, "college quality" is defined as the measurement of the average entrance scores of the students entering the university. Even though there are many determinants of the college quality, students' choice is the most widely used indicator of college quality (Özden, 1994).

Strengths and Limitations of the Study

The major strength of the study is that it covers all the teacher-training programs for the last 20 years. Therefore it represents the entire teacher candidate population. Since there is a centralized examination and placement system for university entrance, there are comprehensive and comparable data available for all the years. Similarly, teacher recruitment is done centrally for the entire nation. By law, graduates of teacher education have priority in teaching jobs. However, all the teachers have to have teaching licensure. Demand for teaching positions has been supplied predominantly from the graduates of teacher training programs.

Although the study uses the data for the entire teacher training programs for the years studied, it has some limitations. The first has to do with the definition of academic ability. The only data available for candidates' academic characteristics is the score of Student Selection and Placement Examination held nationwide by the Student Selection and Placement Center. The second is that the study does not include any demographic variables or socioeconomic indicators about the candidates. Gender and some socioeconomic status indicators would have been helpful to identify teacher candidates. However, those data were not available for the entire 20 years that have been examined.

Access to Higher Education in Turkey

Nearly all institutions of higher education in Turkey have, each year since 1974, accepted students in accordance with the results of the examinations organized by The Student Selection and Placement Center (ÖSYM). Here is a brief look at the past practices as explained in the ÖSYM handbook (ÖSYM, 2000).

Before the 1950's, student selection to the programs of higher education was not felt to be a problem. At that time, in addition to the graduation examinations administered by the individual high schools, a matriculation examination, under the auspices of The Ministry of National Education, was also administered. When the number of applicants to a given program exceeded the capacity, the grades of the matriculation examination were generally used as the criterion for selection.

However, from 1950 onwards, following the enormous growth in the student population, the then prevailing admission procedures proved to be inadequate and some of the higher education institutions began to implement their own independent student selection examinations. These, too, were inadequate because the entrance examinations were generally of the essay type and difficult to assess objectively. Consequently, the higher education institutions began to search for a less subjective method and they finally began to use objective tests for selection and placement.

Though objective testing was introduced, the aim of fair access to higher education programs could not be realized by means of these independent practices. In order to solve these problems, The Inter-university Board set up The Inter-university Entrance Examination Commission in 1963. Thus, the centralized system for admission of students to institutions of higher education started in the 1964-1965 academic year.

For the first two years of this centralized system, the entrance examinations were prepared and administered by Ankara University, from 1966 to 1973 by İstanbul University, then in 1974 by Hacettepe University. During this period some of the academies of economic and commercial sciences and of engineering and architecture, as well as some other institutions of higher education such as İstanbul Technical University and Middle East Technical University, used separate but similar procedures for student selection. The higher education institutions for teacher training within The Ministry of National Education also used their own system of student selection. Between the years 1964 and 1973, the system can be regarded as being only partially centralized. This is because in order to be placed in a higher education program, applicants were required to apply to the institutions individually with their scores obtained in the central selection examination. Placement was made by a system of provisional registration. In the 1974-1975 academic year, a central placement system, devised by Hacettepe University, was for the first time put into effect following the central selection examination.

Meanwhile, there had been a great increase in the number of candidates for admission to higher education. The main reason for this was the constant increase in the number of high school graduates. Furthermore, the total number of applicants had risen sharply, owing to the re-application of those who had failed to gain admission to a program of higher education in previous years and of those who were enrolled in one program of higher education but wished to enter another.

The constant rise in the number of applicants to institutions of higher education made it increasingly difficult for the temporary commission, under the direction of one of the universities, to prepare and administer the entrance examinations. In 1974, with a view to establishing a high degree of continuity and uniformity in the administration of the entrance examination, The Inter-university Board set up The Inter-university Student Selection and Placement Center. In accordance with The Higher Education Law, which went into effect in 1981, this Center was attached to The Higher Education Council (YÖK) and its name changed to The Student Selection and Placement Center (ÖSYM).

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From 1974 to 1981 a four-test battery was used, comprising a general ability test, a mathematics and natural sciences test, a Turkish language and literature and social sciences test, and a foreign language test.

Some important changes were made in the system of selection and placement of students in 1981 and a two-stage examination was put into practice. The high school grade-point averages of the candidates were taken into consideration in the calculation of composite scores. Also, a separate examination (YÖS) was established for foreign students wishing to follow a course of study in Turkish institutions of higher education.

The student selection and placement system between 1981 and 1998 was similar to the present one. The only notable difference was that the earlier system consisted of two stages: The Student Selection Examination (ÖSS) and The Student Placement Examination (ÖYS). The second stage was administered approximately two months after the first. The second stage of the examination, called The Student Placement Examination (ÖYS), was administered in the second half of June and served two purposes: selection and placement.

Taking the rather high correlation between the first and the second stage results, The Higher Education Council decided, at the end of 1998, that the following years' examinations should comprise one stage only. That is, the second stage of the examination should be discontinued and only the first stage examination's results should be used in selection and placement of students for higher education in the country, starting with the 1999 administration.

The present system of student selection and placement in higher education institutions

Beginning with the 1999 administration, the entrance examination system is essentially based on a one-stage examination, namely the ÖSS of the previous system. The present system shares many aspects with the earlier one. The application procedure, organizing the examination, ranking preferences for higher education programs, the placement system, special cases and test structure and item development are all carried out in a similar manner.

In Turkey, as in most other countries, the demand for higher education far exceeds the places available. In view of this fact the basic aims of ÖSS are two: firstly, to assure a balance between (a) the demand for higher education in general and in individual higher education programs, and (b) the places available in higher education institutions; and secondly, to select and place students with the highest probability of success in all the available higher education programs, taking into consideration their preferences, and performance on ÖSS.

Higher education in Turkey is essentially conducted at universities. Anyone wishing to enroll in any undergraduate program at the universities must take ÖSS either as a complete or partial prerequisite for placement. There are only a few other higher education institutions outside the universities, such as military colleges, and the police academy. They also require a certain level of performance on ÖSS as a precondition for admission.

Student Placement

In their application forms, candidates normally rank a maximum of 18 higher education programs in the order of their personal preferences. The test results were

evaluated as follows: The raw scores of each test were transformed to standard scores with an arithmetic mean of 50 and a standard deviation of 10. Four types of composite scores were then calculated for these standard scores: natural sciences, social sciences, foreign languages and natural and social sciences together. Candidates were placed according to their composite scores, the lists of their preferences, and the number of places available in each higher education program.

Teacher Training in Turkey

In the period of pre-republic, *madrassahs*, which were elementary, secondary and higher education institutions, used to choose their teachers among their own graduates. Mehmet the Conqueror is the first person that considered teaching as a special field. He had had implemented different programs in Eyup and Saint Sophia *madrassahs*. However, in later years, this implementation was deviated. The first teachers' training school *Darülmualimin-i Rüşdi*, which was a 3-year school, was opened in İstanbul on March 16, 1848. It was aimed to train middle school teachers. Thus, the first step was taken in order to train teachers in a particular field. The number of teacher training schools was increased to 15 in 1900 and to 21 in 1914 (Saylan, 1994).

The period of republic started with the efforts to increase schooling ratio. To meet the teacher demand, teacher training schools opened at various places. To meet the increasing high school teacher demands, education institutions opened in 1944. Towards the end of the 1960s, the number of education institutions doubled. This number increased to 12 in 1970, to 16 in 1973, and to 18 in 1978. Likewise, the number of students increased to 69,313 in 1977-1978 academic year. The increasing number of institutions in a short time stemmed from the increasing secondary school teacher requirements after the 1960's. The increases in teacher training graduates were not enough to meet secondary school teacher requirements. 'Shortcut solutions' were brought on the agenda. A large number of unqualified teachers graduated from 'evening classes' in 1974 (15,000 graduates), 'distance education' (42,141 graduates) and 'accelerated education' in 1978 (70,557 graduates). (YÖK, 1998) Shortcut solutions of the 1970's pumped 127,698 teachers into the system.

As an indicator of quality at teacher training schools, it should be noted that until 1974 primary school teaching was at a high school level. Those who wanted to become elementary school teachers had to have 6 years education after primary school until 1970, 7 years after 1970. After 1974, they had to have 2 years of education beyond high school level. Beginning in 1989 all elementary school teachers had to have four years of education beyond high school. High school teaching required 3 years of education beyond high school before the republic. Beginning in 1924 they had to complete 4 years of education after high school.

The Ministry of National Education ran teacher-training programs until 1982. The Higher Education Law, which went into effect on November 6, 1981, united all higher education institutions under the university roof. In the academic year of 1982-1983, 16 universities out of 29 had schools of education in their system. The number of those institutions numbered 17 in 1983, and 24 in 1990. The number of teacher training institutions increased rapidly after 1992. It increased to 24 in 1992, to 37 in 1994, to 41 in 1995, and to 55 in 2002.

As a result of increasing the education period from 2 years to 4 years in 1989 and turning the field of education into departments under the faculties of education in 1992,

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the number of graduates in elementary school teaching was reduced to half. This structural change, coupled with other factors such as attractive retirement programs and the rapid increase in number of primary schools, increased teacher shortage tremendously. In order to meet the teacher requirements, the Ministry of National Education used another measure to meet teacher demand. The ministry had hired 50,514 elementary school teachers from “alternative sources” in 1996 alone. These teachers did not have degrees in the fields of education nor did they hold teaching licensure.

The school system in Turkey had three layers until 1998: Elementary schools included the first 5 years; middle schools included 3 years after elementary school; and high schools consisted of 3 years after middle school. Vocational high schools had 4 years of education after middle schools. Middle schools were either separate or part of high schools. When mandatory education was extended from 5 years to 8 years in 1998, middle schools were attached to elementary schools. Therefore, the system comprised two layers: primary schools and secondary schools. When primary education included the first eight years, new fields of teaching were created both at primary schools and in the teacher training programs.

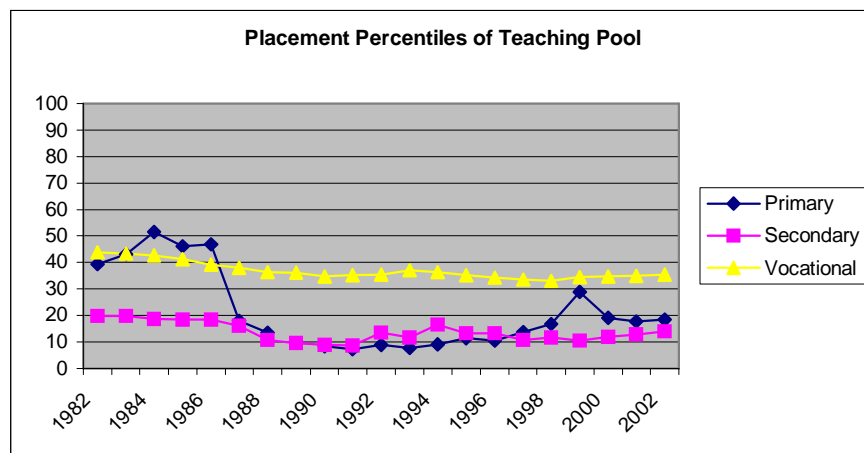
Academic Characteristics of the Teaching Pool

This section starts with an overview of academic traits of teaching as a whole. Then primary, secondary and vocational teaching will be examined separately. Graphic 1 shows an overview of the teacher pool in Turkey between the years 1982 and 2002. Secondary school teaching attracts the most able to their programs. Primary school teaching follows it. Vocational teaching widely differs from the rest of the teaching. When examining the graphics, the reader should remember that low percentiles mean high entrance scores. When entrance percentile decreases, it is an increase in the scores and vice versa. The reader also should bear in mind that there have been many changes in the university entrance system in the last twenty years. Some of the changes in the percentiles are just the results of these changes. Also, the reader should keep in mind that placement percentiles are not the average percentiles being placed in any program. It is the percentile of the lowest score that is being placed in any given program. Finally, this study does not examine the factors affecting the candidates’ decision to enter any university program. It is aimed at drawing the larger picture by tracking the entrance percentiles for twenty years for all teacher-training programs.

The graphic shows that secondary school teaching comes first in attracting mostly able candidates into their programs. In the last 15 years they admitted students with percentiles of 10-15. It is also remembered that this is the average score of all the university programs in Turkey. On the average, secondary school teaching programs attracted in the percentiles of 10 to 15 for the last twenty years.

The primary school teaching included only elementary teaching until 1998. It should also be remembered that elementary teaching was a two-year program after high school until 1989. The graphic shows a sharp fall in the percentiles when elementary teaching became a four-year program in 1989. After that it remained steady between 10-20 percentiles. It clearly shows that when elementary teaching became a four-year university program the academic quality of their students rose sharply. Vocational school teaching percentiles remained around 30 to 40 percentiles.

Graphic 1: Entrance Percentiles of Teaching Pool



Graphic 2 shows the total placements into the teaching programs between 1982 and 2002. After mandatory education was extended from 5 years to 8 years in 1998, some teaching fields were created. Due to a high demand for elementary teachers, universities opened a department of elementary teaching and the Student Selection and Placement Center increased the number of placements into those teacher-training programs tremendously. In the year 2002 the total numbers placed into these programs reached to 28,450. In the same year the total number of placements to all of the teaching programs was 38,222.

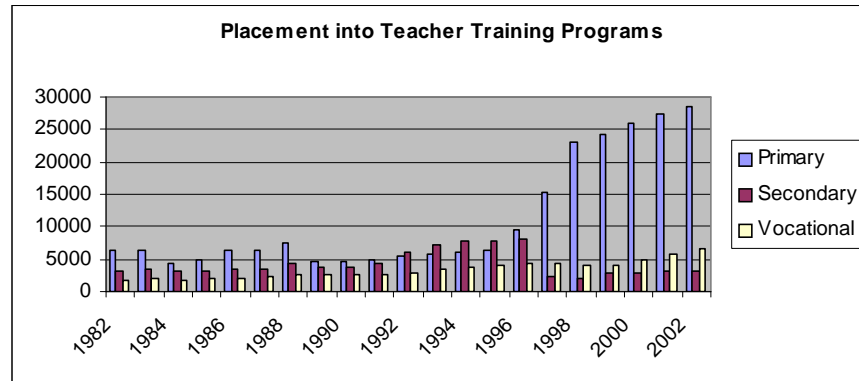
When examining the placement percentiles, total placement numbers should be taken into account. Despite the huge increase in the elementary school teaching placements, the percentiles remained steady. Total placements in primary school teaching programs in 1995 were 6,275. They jumped to 28,450 in 2002. The percentile was 11 in 1995, 18 in 2002. Secondary teaching admissions reached their peak in the early 1990's. It lasted 5 years. It reached to 8,000 in 1996. Aside from this five-year period, placements into secondary education teaching programs have stayed around 3,000. Placements into vocational school teaching had remained steady from 1982 to 2002. They were 1,840 in 1982, 6,578 in 2002. There were no sharp changes in its 20-year period.

By looking at the changes made in 1998 one might think that teaching programs were arranged in accordance with teacher demands. It was the case in 1998. The extension of mandatory education from 5 to 8 years was coordinated with restructuring of teacher training programs. That might be the only cooperation between teacher demands and teacher training programs. It is also quite an exaggeration. In 2002 three-fourths of all placements in teacher training programs was allocated to primary school teaching. This alone shows the misdoing. Tens of thousands of primary teaching program graduates will be jobless in the coming years. For example, in 2003 the Ministry of National Education recruited only 150 social sciences teachers. However, these programs graduate more than 3,000 students every year. The total number placed into elementary teaching has been around 12,000 since 1997. The Ministry of Education recruited only 5,000 in 2003. Even if the ministry keeps hiring 5,000 every

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year, seven thousand will pile up. There have been dramatic drops in secondary teaching programs. When the mandatory education extends to 12 years, there will be a huge teacher shortage in secondary education.

Graphic 2: Total Placements into Teacher Training Programs

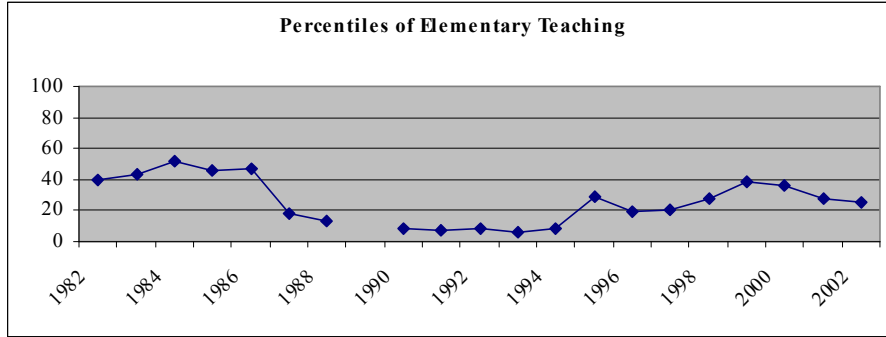


Primary Education Teaching

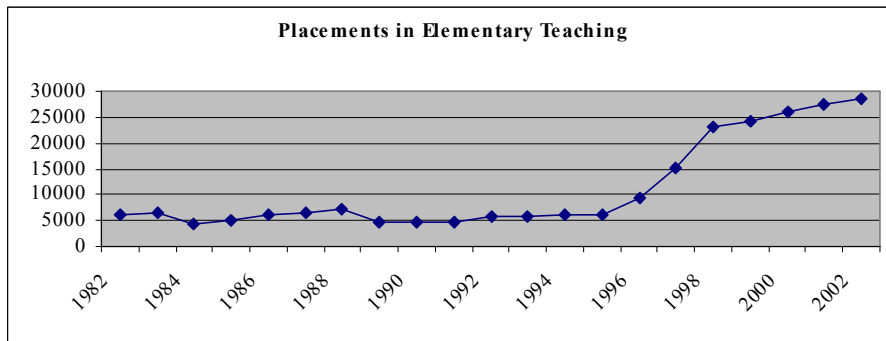
Primary education teaching meant elementary teaching until the mid 1990's. After the restructuring of teacher training programs, primary education has included preschool teachers, elementary teachers, natural sciences teachers, social sciences teachers, primary math teachers, computer and educational technologies teachers, and Turkish teachers. The bulk of primary education teaching is still in elementary teaching, which also has the longest past. The rest of the education fields in Turkey are less than 10 years old. Graphic 3 shows the journey of placement percentiles of elementary education teaching for twenty years. The biggest drop in the percentiles (rise in the scores) is when it became a four-year program. In 1989 elementary education teaching became a four-year vocational program, and in 1992 it became a four-year bachelor program. It appears that becoming a four-year program was the most important factor in the drop of placement percentiles. Even the Student Selection Placement Center began to place large numbers of students in elementary teaching programs percentiles had continued to raise.

As seen in the Graphic 4, in 2000 the total number placed in these programs went above 12,000, and it remained around there in 2002. The same year the total number of placements to all the four-year bachelor programs was about 160,000. This means 7.5 percent of all the university programs have been allocated to elementary teaching. The same year total placement into the entire teacher training programs was 34,000. More than 35% of all teaching programs were allocated to elementary teaching alone. (When examining Graphic 3, note that since elementary teaching education turned into a four-year program in 1989, there is no placement percentile for that year.)

Graphic 3: Placement Percentiles of Elementary Teaching Programs



Graphic 4 Total Placements in Elementary Teaching Programs



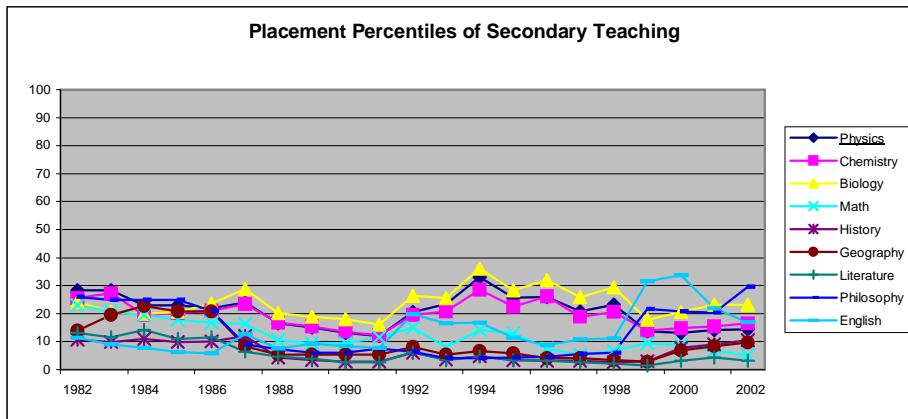
Secondary Education Teaching

Secondary teaching includes physics, chemistry, biology, mathematics, Turkish language and literature, history, geography, English (since English is the primary foreign language being taught at schools, others are not included), philosophy. Graphic 5 shows secondary education teaching placement percentiles. Natural sciences follow a similar pattern among themselves. As seen in the graphic placement percentiles, physics, chemistry and biology are quite identical. They had risen in the beginning of the 1990's and dropped in the late 1990's. Social sciences also follow a similar pattern among themselves. History, geography and Turkish literature have had similar placement percentiles for the last 20 years. Mathematics has followed its own path. Departments of English and philosophy had dramatic changes in the late 1990's. Large increases in English teaching placements led to a drop in their entrance scores; therefore percentiles went up. In the following years, due to a high shortage of English teachers, entrance scores rose and percentiles fell. The dramatic change in the placement percentiles of philosophy was mainly due to less demand for philosophy teachers in later years. It should be noted that placements in philosophy have always been low. When 22 new universities were established in 1992, placement numbers increased notably at many programs. But it seems that none of the new universities cared (or dared) to open a department of philosophy.

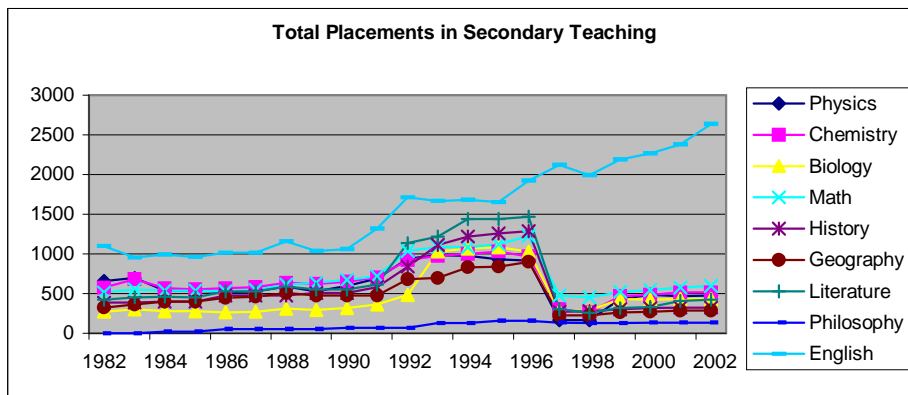
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Placement patterns in secondary education show an identical pattern for all fields. In 1992, when 22 new universities were established, the number of total placements began to increase. This continued until 1997, when the emphasis shifted to primary education. The only exception was English, because this subject is also included in primary education. When placement numbers dropped for all secondary education fields, English continued to increase, as was the case for primary education fields (Graphic 6).

Graphic 5: Placement Percentiles of Secondary Teaching



Graphic 6: Total Placements into Secondary Teaching

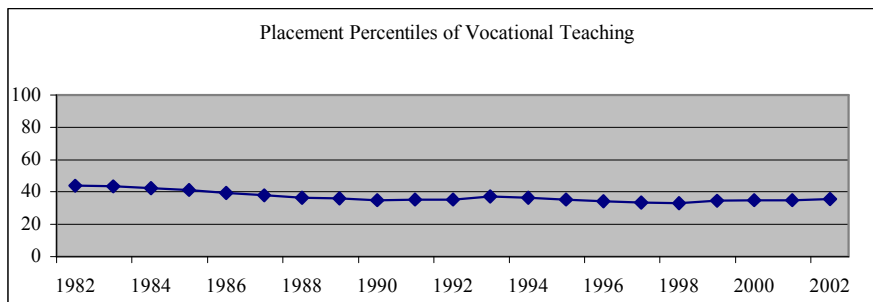


Vocational Education Teaching

Vocational teaching contains about forty types of teaching. It is the least likely among the teacher training programs to attract the most able students. In the last 15 years it attracted students from 35- 40 percentile ranges. As seen in Graphic 7, placement percentiles are quite steady. There are no ups or downs. Vocational schools had up and down times in terms of their popularity. There had been times when their

graduates had an equal chance to enter into a university program with other high school graduates. Beginning in 1998 they presently have almost no chance of being placed in any four-year university programs due to weighted test scores. They are expected to go into 2-year vocational schools after completing a vocational high school. There are few four-year university programs for them. However, this case does not seem to affect vocational education placement percentiles. Nevertheless, it should be kept in mind that students of vocational education teaching are not drawn from vocational high school students. Most of them come from regular high schools.

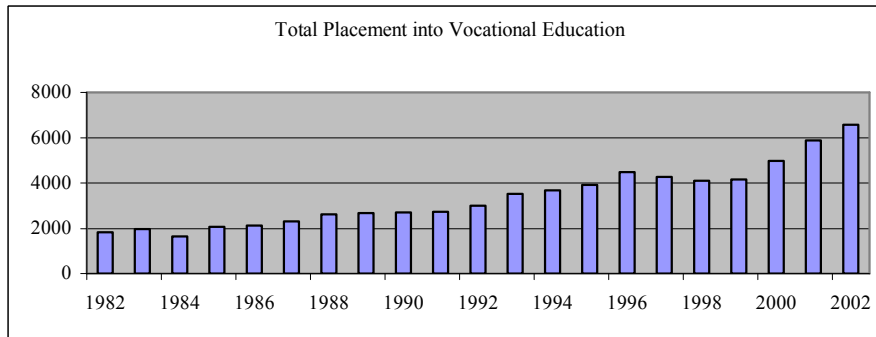
Graphic 7: Entrance Percentiles of Vocational Teaching



On the other hand, placements into vocational education have been increasing steadily since the end of the 1980's. The number of candidates being placed in vocational education teaching was 1,840. It had risen to 2,700 in 1989, to 4,470 in 1996 and to 6,578 in 2002. (Graphic 8)

To put all these numbers in perspective, some additional numbers are needed: In 1982 the total number of candidates who took the university entrance exam was 408,573. Total placements into any university program, including 2-year colleges, were 72,983. Total placements into teacher training programs were 11,225. The same numbers in 2002 were 1,489,478; 328,730; and 38,222 respectively. These numbers do not include Open University placements.

Graphic 8: Total Placements into Vocational Education



Conclusions

The results show that teacher-training programs differ in attracting the more able students into their programs. Secondary teaching programs are more successful than primary teaching programs in this manner. Vocational teaching programs differ widely from the other two training programs. When elementary teaching became a four-year program its placement percentiles dropped dramatically. Teacher employment policies and teacher demands have important role in raising the placement percentiles. Similarly economics might play significant role in the placement percentiles of teacher training programs. Teaching is considered as a quareanteed job compared to many other professions. During economic recess periods teaching becomes more popular because education sector is the largest employer in the state. It constitutes $\frac{1}{4}$ of the total state employees. Therefore there might be many explanations of the ups and downs of placement percentles. However the results show that primary and secondary teachings attract most able students into their programs. Moreover the percentiles have been droppingin recent years. This means more and more able candidates continue to come into teacher training programs. One might bring many criticism into teacher training programs. However the data shows that highly able students choose these programs.

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