CHAPTER 13

TURKEY

Paradigm Change in Education

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Teaching in Turkish schools has long been delivered in a teacher-centred way. The means of assessment also has been traditional, and because the major examinations are used for entry to quality schools and ultimately to universities, they have a powerful backwash effect on the high school curriculum. National results in three subject areas indicate that the Turkish model of teaching is not yielding results comparable with 25 other OECD countries. Current change, led by the Ministry of National Education, is directed to both curriculum and the means of assessment, as well as to teaching methodology. In addition to changes in the school classroom, the Higher Education Council recently instituted wide-ranging reforms in teacher education.

Education in Turkey has seen many changes in recent years. There is now an ongoing process of structural, curricular, and teacher change in order to upgrade the quality of schools, teachers, teaching, and assessment. For example, in 1997 compulsory education for every child was increased from five to eight years. Following this earlier increase, the Ministry of

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National Education (MONE), now intends to lengthen the duration of secondary education from three to four years, and then to make twelve years of education compulsory. Currently, emphasis is being given to curriculum change, beginning with grades 1 to 5 in primary school. Teacher education was recently targeted, and will have to be further adjusted and remodeled to meet the curriculum innovations. This paper considers some of the developments which indicate that, in Turkey, education is truly in transition.

CURRENT PROBLEMS

Background

Educational changes affect millions of students, together with their parents, teachers, and schools. In a population of 72 million Turks, there are 12.9 million students in primary and secondary schools. Of these, more than 10 million are enrolled in about 35,000 primary schools (Grades 1-8) both in public and private educational institutions with 375,500 teachers. Additionally, there are some 2.3 million students at the secondary level (Grades 9, 10, and 11) in about 6,000 high schools with 140,000 teachers (Ministry of National Education, 2002).

The primary and secondary school curricula prepare students for higher education. Between school and university, there is a highly competitive entrance examination, called ÖSS, which places students in 53 state universities and 20 private (foundation) universities. In the institutions of tertiary education, there are some 1.5 million students with about 60,000 academic staff, including the Open University (Gürüz, 1999). All high school graduates are eligible to sit the university entrance examination and in 2004, 1.9 million students did so. However, the number of places available in universities, vocational higher education institutions, or the Open University, was only about 400,000. Every year, therefore, very many young people are disappointed.

Current Approach to the Curriculum in Turkish Schools

Turkey has the most highly-centralized educational system of any Organization for Economic Cooperation and Development (OECD) member state (Fretwell & Wheeler, 2001). Education in schools is governed by the MONE. It lays down the formal curriculum for pre-school, primary, and secondary education. There is thus, only one, centrally determined, curriculum at each level for the whole of Turkey. The law

enforcing such a unified approach to education has been in effect since 1924. The main reason behind unification is to provide all students with equal access to a common curriculum, and to help students achieve similar levels of competency.

Objectives, content, methodology, and assessment are the building blocks of a curriculum. The emphasis placed on each casts light on the philosophical foundations of a curriculum and the teaching-learning process (Marsh, 1997). The primary and secondary education curricula in Turkey place a lot more emphasis on content, objectives, and assessment than on methodology and learning in general. The prevailing paradigm possesses many characteristics of scientific deterministic approaches, accentuating product rather than process, outcomes rather than the intellectual and emotional needs of individual students, and transmission of knowledge rather than learning to learn.

The centrally planned and coordinated formal curriculum in Turkey is both prescriptive and linear. It is the responsibility of the MONE to first determine what the needs are. The MONE formulates educational goals and objectives in behavioral terms for each grade, with the intention of linking objectives to the selection and organization of content and learning experiences. The major assumption here is that if ends are determined carefully at the outset, it will be relatively straightforward to ensure instructional processes, that is, to shape students' behavior in the intended direction.

It is, however, easier said than done. The educational objectives formulated are considered to be narrow in scope, promoting the recall of information rather than higher-order thinking skills. This narrow range motivates neither teachers nor students. Besides, setting objectives, plus specification of content and learning experiences, signals the message that knowledge is external to the student, and is to be given by teachers through textbooks. Partly because of this, anything printed is regarded as truth by many students. Additionally, having to meet the stated objectives within the given time frame leaves almost no room for intervention by teachers or schools, should any student lack skills. There is usually not much space to maneuver in response to emerging needs of students, or to help those who need remedial work.

The MONE also decides the essential subjects to be included in the curriculum, together with the content of each, ordered grade by grade and topic by topic. Each subject area is sequenced in isolation. Within a subject area, there is no direct reference to relevant topics in other subject areas. The MONE arranges the preparation of textbooks for each grade based on the curriculum designed (Ministry of National Education, 2001).

Developed and designed centrally by the MONE, the curriculum is structured for teachers to implement. All teachers need to do is to understand the curriculum document, to prepare yearly plans, and teach the curriculum accordingly, unit by unit. To ensure standard delivery, the MONE sends inspectors to schools on a regular basis. Such a content and objectives-driven approach, when coupled with little concern for the needs, interests, and wants of individual students, is often regarded as a straitjacket, both for teachers and students.

It should be noted that the issues raised here have long been a cause for concern among Turkish educationalists. The OECD, in 1989, summarized the problems in a report (OECD, 1989) that spurred a request from the Turkish government to the World Bank for a loan to address the concerns both through the ministry in schools, and through the Higher Education Council in university faculties of education. Even as long ago as 1924, John Dewey, at the request of Atatürk, reported similar findings when he examined the Turkish school system (Dewey, 1988).

Approach to Teaching

The prevailing teaching methodology in primary and secondary schools within this framework is, therefore, mostly teacher entered. It favors deductive rather than inductive approaches. Teachers are the sole authority in the classroom. They are seen as "all-knowing" and their role is to disseminate knowledge and ensure behavioral change. Interaction in most cases is one way, teacher to whole class. The classroom is not regarded as a social environment in which the parties involved share experiences, reflect on their learning, discuss matters, express views, and learn to listen to others. Students are not active participants of the teaching-learning process at all. Teachers aim to create an environment that will enable them to transmit knowledge and make students sit silently and listen to what the teacher has to say. The message reinforced in this environment is that there are fixed facts to be learned, and teachers are to be considered as the major, possibly the only, source of information. They have, and must have, a definitive answer to all the questions students may ask. Student growth through knowledge transmission is promoted rather than learner autonomy, responsibility, and experience. Such contemporary concepts as learning to learn, problem solving, discovery learning, learning through experience, or generating knowledge are not on the priority list of most teachers and schools.

Teachers emphasize the explicit teaching of content, and tend to conduct their lessons by explaining, plus questions. Often students find it difficult to relate to what is transmitted and end up memorizing the content.

In most cases, there are only a few opportunities for students to apply what they learn in a new context. Limited emphasis on intellectual development, or on practical work, often results in low levels of student motivation and skills improvement.

Given class size, on average 30 to 40 students and the many content areas to be covered in a short period of time at each grade level, teachers often rush from one unit to another. There is not much time left for feedback and remedial teaching. In fact, these are not formally planned and reinforced by the ministry. All students end up moving at the same pace, and may not receive any oral or written feedback on their performance, the progress they make, or the areas they need to develop further.

Approach to Assessment

Emphasis on content transmission, and time constraints, result in a school assessment system promoting memorization and reproduction of large amounts of subject-matter. Objective tests, often multiple-choice, are typically designed by teachers to check factual knowledge. They measure the extent to which learners can recall the content covered rather than their ability to apply their knowledge to new contexts. Higher-order thinking skills are not usually assessed. Extended essay-type questions may be used in some cases to help evaluate more complex achievement, but short essay questions testing what students memorize are more common.

Additionally, assessment is mainly restricted to product-oriented questions or tasks. Process is taken for granted. Students are not given scaffolding to address questions nor do the tasks set. Performance assessment would allow teachers to focus on both process and product. However, it is not a component of the formal curriculum. Students are not provided with the opportunity to demonstrate their knowledge and skills in real life situations.

Assessment is usually limited to teacher observations and judgments. Students are not encouraged to reflect on their own learning. Such reflection could give a picture of a student's feelings, beliefs, interests, and attitudes, to be used to compare with the teacher's observations, and thus enable the teacher to adjust instruction and guide student learning better. Just as self-evaluation is not emphasized, neither is peer-evaluation generally included. Students are not expected to give feedback to each other on what they produce or perform.

Moreover, the approach to assessment is both norm-referenced and criterion-referenced. Student performance is assessed by reference to other students or against preset criteria, but not by reference to an indi-

vidual's previous performance. It is criterion-referenced in that students take several examinations throughout a grade level. They are assessed against a set of criteria, albeit a set which is based on a narrow range of objectives. On the completion of each grade, aggregate marks are given to students for each course.

It is also norm-referenced in that from Grade 4 onwards, all aggregate marks for all courses at each grade are counted towards various national examinations. The examinations give admission to private high schools, to tuition-free state Anatolian high schools, or to universities.

Marks given students provide little information to teachers and students about what students can actually do. The results typically reveal high and low achievers. High achievers are usually those possessing independent study skills. They can function effectively in most educational contexts. The low achievers are the ones who lack the necessary skills and who, therefore, need support. There is no effective system in operation to identify the weaknesses of low-achievers, nor are support mechanisms in place to assist them. Low achievers, and in some cases their teachers too, tend to confuse achievement with ability. The system allows low achievers to move from one grade level to another, provided that their grade average for each course is not less than two. However, when weaknesses accumulate at higher grade levels, it becomes more and more difficult for students to understand the content, and for the teacher to be of help. Low levels of motivation and discipline problems follow.

Effects

The national examinations which control entry to a relatively few quality education opportunities, give the curriculum an examination-driven nature. Both the format of the national examinations and the placement system for university entrance have a heavy backwash effect on teaching and learning. For many students, and their families, a place in a university is everything, so students wish to take as many practice tests as possible. All the questions asked in the ÖSS are multiple-choice. Students, therefore, spend long periods solving exam-like questions for practice, and they put pressure on their teachers to spend class hours answering such questions. From Grade 10 onwards, it becomes more and more difficult to follow the curriculum, and the Grade 11 curriculum has turned into one of preparation for the university entrance examination. Students do not see any point in focusing on work or skills which will not be examined through objective tests.

To help students compete for too few places in universities, private intensive coaching establishments called dershanes have become a strong

influence on teaching in Turkey, leaving almost no room for any liberal effort in the schools. The dershanes aim to provide students with additional academic support for their examinations, and to give career guidance to help students decide their careers. There are more than 2,000 dershanes in the country, with about 600,000 students and 19,000 teachers (Ministry of National Education, 2002). The pressure on preparing for the ÖSS results from the large number of applicants for tertiary education, which itself is a direct result of the pyramidal population of Turkey, where 40% are under the age of 18.

Universities in general are never satisfied with the quality of the students they get after the ÖSS. To most universities, the students have been narrowly taught, and they lack independent study and practical skills.

Outcomes: The 2003 Programme for International Student Assessment Results

The OECD launched the Programme for International Student Assessment (PISA) in 1997. One of the aims was to examine the achievement of 15-year-old students, upon completion of compulsory education, in the 25 OECD countries. The other aim was to monitor the outcomes of education systems within an internationally accepted common framework. The areas of focus in PISA are reading, science, and mathematics, and how well the young adults use their knowledge and skills to meet the challenges of real life rather than how well they have mastered a specific school curriculum. Every time it is administered, the PISA puts more emphasis on one of the three areas. In 2003, the main focus was on mathematics.

The results of the PISA in general reflect the outcomes of the curricular and instructional problems experienced in Turkey. They indicate that the performance of 15-year-olds in Turkey is significantly lower than that of most OECD countries. The majority of the students have difficulty in using their knowledge and skills in real life contexts in the areas of mathematics, reading, and science.

Mathematics

In the mathematics section, there are six levels of proficiency in the PISA. A range of scores is allocated for each level. In 2003, Turkey's mean performance was 423, the range being 356 to 550. This falls into Level 2, the descriptor of which includes "can interpret and recognize situations in contexts that require no more than direct inference." Multiple compari-

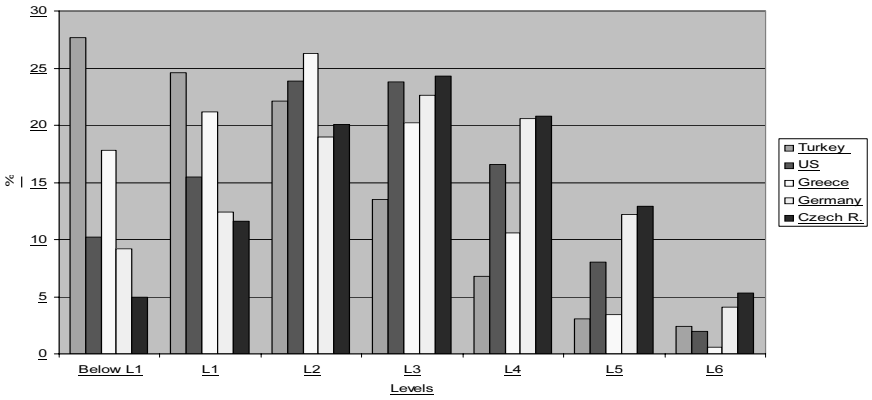

Figure 13.1. Percentage of students at each level of proficiency on the mathematics scale.

sons of mean performance on the mathematics scale show that the performance of 423 is lower than the average of OECD countries, which is 485. Figure 13.1 shows Turkey's performance together with the performance of some OECD countries in terms of percentage of students at each level of proficiency on the mathematics scale (OECD, 2004).

Figure 13.1 shows over a quarter of the Turkish sample falling into the category below Level 1, compared with 10% for Germany and only 5% for the Czech Republic. From Level 1 onwards, Turkey's performance gradually declines, from 19% in Level 2 to 2% in Level 6. However, in the case of other countries, the percentages increase steadily, first peaking at Levels 2 and 3. Their performance then drops off slowly from Level 3 onwards. There seems to be a significant difference between the performance of Turkey and that of the countries selected from Level 3 up.

Reading

Reading has five levels of proficiency. Turkey's mean performance is 441, the range being 375 to 543. This falls into Level 2. Multiple comparisons of mean performance on the reading scale show that the mean of 441 is lower than that of OECD countries, which is 479. Figure 13.2 shows Turkey's performance together with the performance of some OECD countries in terms of percentage of students at each level of proficiency on the reading scale (OECD, 2004).

Figure 13.2 shows that Turkey's performance on reading is better than on mathematics. Additionally, Turkey's performance exhibits a similar tendency with the performance of the selected OECD countries. Overall,

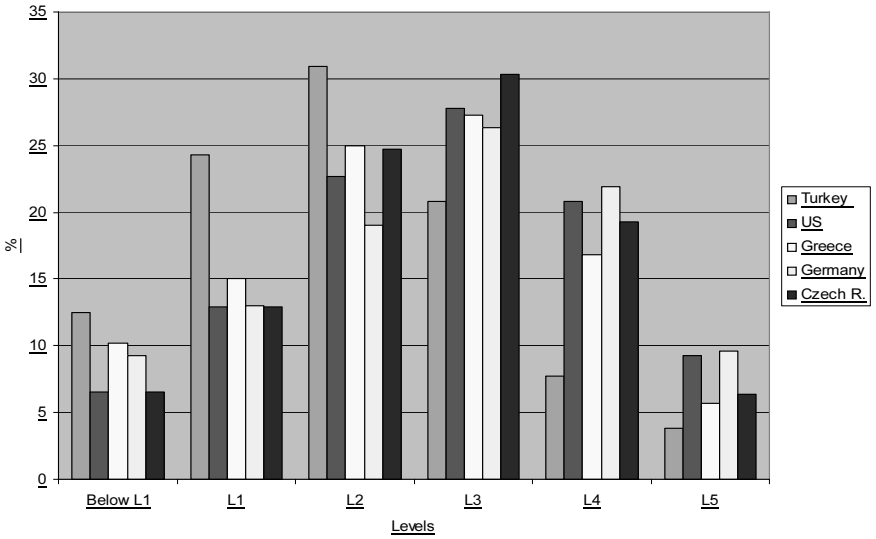

Figure 13.2. Percentage of students at each level of proficiency on the reading scale

however, the results for Turkey to date show more students at lower levels, and fewer students at higher levels, than the results of other countries.

Science

Finally, as regards to the area of science, the picture is not much different. Turkey's mean performance is 434, whereas the average of countries, like Finland, that are close to the top end is 548. At the higher science levels, the assumption is that a student can "create or use conceptual models to make predictions or give explanations." Close to the lower end of the scale, he or she is "able to recall simple factual scientific knowledge" (p. 288).

The program so far has yielded interesting results. They show students from Turkey at each level in each of the focus areas, indicating that there are students who are capable of functioning at higher levels. However, and worryingly, the Turkish results are heavily found at the lower levels of understanding; there seem to be significant differences between Turkey and most other OECD countries. Turkey has already taken some action to solve some of the problems experienced in education, and the results briefly summarized above will serve as an additional spur as Turkey examines these educational issues with a view to action and change. One such impetus has already come from the acceptance, in December 2004, of Turkey to accession talks with the European Union (EU).

BREAKING THE CYCLE

So far we have discussed the prevailing mode of teaching in schools, and the results and effects of that teaching. What of the future? What of major curriculum changes? Are new teachers going to be better equipped for the new ways of teaching envisaged in the new curriculum? Will new teachers be able to bring students up to the higher levels of understanding measured in the OECD program? Will new teachers be able to break the cycle of didactic teaching leading to multiple-choice examinations? Will the new curriculum and means of assessment force a change in Turkey's schools?

Teacher Education

Teachers are made in the faculties of education. So, one way to break the cycle of teachers poorly qualified to meet the needs identified above is to change the education given to trainee teachers in the teacher-training institutions. Some 37,000 new teachers graduate each year from the faculties of education in Turkish universities. Teachers for Grades 1-8 are educated in 4-year undergraduate programs. Most high school (Grades 9-11) teachers follow a 5-year undergraduate and graduate program that awards both a Master's degree and qualified teacher status.

There were two recent rapid expansions in number of teacher-training institutions. One was in 1992 when two-year colleges amalgamated with university faculties of education, extending teacher education to four years. Later, in 1997, the number of students in faculties of education was greatly increased to accommodate the need for teachers for Turkey's extension of the length of compulsory education from 5 to 8 years.

These increases meant that the growing ranks of teacher trainers recruited from the arts and science faculties of the universities had little opportunity to retrain as educationalists, let alone to become familiar with modern trends in teacher education. The restructuring of teacher education by the Higher Education Council (HEC) in 1998, however, ensured that emphasis for promotion and career progression for teacher trainers switched from subject area research to educational research (Eitim, 1998). Faculty of education academics were forced to turn their attention to the educational aspects of their discipline. Previously, they had been wedded to their subject area. They taught their subject, and their research was in some aspect of their subject (Günçer, 1998). During the restructuring, many such academics were moved to the arts and science faculties. Those who stayed in the faculty of education were expected to base their research on educational issues.

Before 1998, all education programs were heavy on theory and light on practice. Teachers in training spent little time in schools, only one day a week for two semesters. During this time, trainee teachers were required to prepare and deliver a very small number of whole lessons, sometimes only one. Struggling with large numbers of undergraduate students, there was little interaction between faculties of education and their partner schools where students did their internship. There was no mentor training, no joint teaching between faculty and school teachers either in the schools or on campus. Faculty had never taught in schools, neither did they use the schools for educational research. Student teachers went to a school as a large group, and usually the observations they made or the activities in which they engaged were neither structured nor particularly effective. School teachers generally regarded student teachers as an imposition, and were critical of the lack of participation by university faculty.

The 1998 developments mentioned above produced different teacher education programs and new courses, and the new programs for high school teachers included graduate study. In addition, time in schools was increased greatly. Student teachers are now in schools over three semesters, focusing on school experience and teaching practice (Koç et al. 1998). This is a substantial change for Turkey, where teacher education has in the past been bound in theory, especially in subject matter theory.

While the attention given to pre service teacher education in Turkey has included work on teacher competencies and work in schools, a large amount of time is still devoted to courses in educational studies. They were revised in 1998, but still remain as courses covering the basics of educational study for those about to enter the profession. New teachers are thus assessed in faculty of education programs on many courses other than their two methodology and three school experience courses. It, therefore, behoves those interested in improving school teaching and schoolteachers to get the training of new teachers right, rather than try to correct it later by in-service courses.

Standards and Accreditation

One way of changing teaching methods in schools is to set higher standards for faculties of education and, by accreditation and inspection procedures, gradually raise the standards. Accreditation ensures the quality of all the work done within the faculty and therefore of its graduates. Accreditation also helps to improve individual programs as the standards are revised upwards. It acts as a means of communication between faculties and it spreads good practice.

Accreditation needs accepted standards, self-scrutiny, and peer assessment. The standards as agreed to, or laid down, are those by which to judge the education programs, the teaching and learning, the students, and management. Honest self-evaluation is needed by the faculty, who provide a comprehensive report before the accreditation visit, attaching all relevant documents and completed accreditation forms. The report gives full information on all the standards, plus a critical self-evaluation of the faculty's performance in each. Before the accreditation visit, the faculty's report is analyzed by the accrediting team, and used as a basis for discussions and enquiries during the accreditation visit.

Assessment is done by visiting peers from other universities who follow a standard procedure to gather evidence by observations, discussions, interviews, and the reading of documentation. Activities of the team during the visit include meetings and interviews with all groups of people in the faculty: administrators, heads of department, instructors, research assistants, graduate students, undergraduates. The team will observe teaching, and look at buildings, facilities, books, and equipment. The visit results in a detailed report from the accrediting team, together with recommendations. Action is taken as necessary by the faculty.

The standards developed in Turkey, center on seven areas of competence within a faculty of education. The standards articulate expectations and the desire for change. They are given under seven major headings: (1) planning, implementation and evaluation of the curriculum; (2) faculty quantity, quality, professionalism, teaching, and research; (3) students' entry qualifications, progress and achievement; (4) school partnerships and preparation for activities in school; (5) facilities, including library and equipment; (6) management structures, understanding and functioning; and (7) quality assurance policies and procedures, feedback into practice.

Each standard is made up of sections, all of which are investigated by looking at the input, the process, and the output. An example of input, process and output is given in Table 13.1 (Brittingham, et al. 1999).

For each input, process and output standard, a list of indicators providing evidence of good practice is given to guide both the visiting team and the faculty, together with criteria for evaluation. Over one or two cycles of accreditation, it is expected that standards will be raised as the lowest criteria are deleted from the scale and higher criteria added.

The standards were the subject of discussion at conferences and meetings across Turkey in 1998. The accreditation procedure was then piloted in 1999 in six faculties of education, and the results incorporated in a handbook for future accreditation visits. The pilot visits enabled the visiting teams to consider practice at their own institutions and to identify, for the attention of the HEC, issues and concerns which were common across

Table 13.1.

Area	*Input Standards*	*Process Standards*	*Output Standards*
2. Faculty	2.1.1 For each program, faculty are sufficient in number and qualifications. 2.1.2 Faculty have opportunities to renew themselves professionally and do research.	2.2.1 Faulty show sufficient level of professional development. 2.2.2 Faculty carry out all duties and responsibilities including teaching, advising, staff development, work in partner schools, research & program leadership.	2.3.1 Faculty have qualified teacher-training skills. Teaching and associated activities are of a high standard. 2.3.2 Quality of research is sufficient. It is published and supports the relevant program.

faculties. Three such issues were partnership with schools, publications, and quality assurance. The first two have since been addressed in that the partnership arrangements with schools are more robust than before, and publications in the field of education are required from faculty for promotion.

Curriculum Renewal: Changes in Curriculum and Teaching

Still another way of breaking the cycle is to make changes throughout the school system in the approach to curriculum, teaching, and assessment. The MONE is currently addressing curricular issues, and accompanying concerns in the teaching-learning process. The ministry aims to redesign primary and secondary school curricula, shifting the emphasis from objectives and content to methodology, and addressing differing developmental needs of students. The ministry states that constructivist methods and techniques will take precedence over the earlier ends-means and content-focused approaches. It aims to set up a student-centered outlook in schools designed for whole person development.

The change agent is the ministry itself. The approach to curriculum renewal follows the pattern of research, development, and diffusion (Havelock, 1973). Since 2004, groups of experts, formed by the ministry, from various universities and schools, have been working to plan the changes needed in the curriculum of four main subject areas: science, history, mathematics, and Turkish.

The groups identified eight core skills to be addressed across subject areas at each grade, and across years. These are critical thinking, problem solving, doing scientific research, creative thinking, assertiveness, com-

munication, using information technology, and oral and written expression in Turkish.

The process of revising and developing the first five-year basic education compulsory curriculum has already been completed. Pilots of the new curriculum were held in schools in six cities during the 2004-5 academic year. The new curriculum will be revised and modified as necessary after feedback from the pilot studies. Afterwards, the new curriculum package, including the syllabus, course books, materials, CDs, and on-line resources for teachers and students, will be produced to facilitate the process of adoption by teachers and schools.

This extensive change will necessitate further alterations in other components of the educational system. Assessment will need a new shape. Without doubt, formative assessment will have to be built in to give students feedback on their progress, as well as to identify weaknesses for remedial teaching. Likewise, within the new structure, students will be encouraged to reflect on their learning as part of the teaching-learning process. It is already the intention of the ministry to make the affective domain part of student assessment. Furthermore, performance-based assessment methods will most probably be considered, in addition to assessing a number of sampled objectives.

Further, and very importantly, this curriculum change will require greater accountability from teachers. It will take time for teachers to understand the new philosophy and the meaning of the associated concepts introduced. Teachers also will need time to be trained in, and to adopt, new patterns of teaching. The ministry has already produced a draft document specifying general and subject area teaching competencies. The new assessments, if they reflect the philosophy behind the changes, will no doubt assist change.

LOCAL INITIATIVES

We earlier commented on changes to teacher education, initiated to try and break the circle of preparing new teachers as they themselves had been taught. We would like now to look at just one initiative to train high quality teachers.

The 1998 restructuring and curriculum changes in faculties of education attempted to meet the challenges of school classrooms in Turkey and change the education of teachers. However, it takes more than a few years to change teaching content, method, and attitudes across fifty or more faculties of education, the largest of which has ten thousand students. In some innovative teacher education programs which developed from the national restructuring of teacher training, university initiative was added

to the green light of national change. One such is the two-year MA in Teacher Education program which began in 2000 in the Graduate School of Education at Bilkent University in Ankara. It offers an integrated performance-based teacher education program. It aims to widen subject area knowledge, develop student-centred pedagogical knowledge and skills, and equip student-teachers with effective teaching skills through field experiences in five prestigious secondary schools. Students also spend two months in an American high school. All this school experience bridges theory and practice through task-based school and classroom observations, and builds an empirical understanding of teachers and children.

The main feature of the Bilkent University program, is working in partner schools. School Experience I and II, and Teaching Practice, are structured and sequenced observation and teaching tasks that give student teachers in schools an understanding of school life and the job of the teacher (Sands & Özçelik, 1998). Student teachers observe teaching skills and strategies within whole lessons before they do their own teaching, designed to give them confidence in their ability to handle learning within a class.

Student teachers observe by first looking at life in the school and what teaching entails, concentrating on specific teaching skills and classroom behavior. The observations are discussed and related as necessary to the work done in courses on campus. Students then go on to practice particular teaching skills for a short period in a lesson. They may, for instance, concentrate on questioning, explaining, role-play, group work, practical investigations in the laboratory, or map work. Student teachers then teach a lesson, using what they have tried out previously and extending their expertise. This progression occupies one day a week for two semesters, by the end of which student teachers will have taught several lessons alone (Sands & Stevens, 2004).

After School Experiences I and II, student teachers go on to Teaching Practice, the main practicum. In a block practice in schools of six weeks, Monday to Friday, the student teacher teaches complete lessons. The student teacher is responsible for the preparation, delivery, and follow up of each lesson allocated to him or her, probably one lesson a week for each class. The remaining lessons for each class through the week are observed, and the student teacher is able to see continuity of curriculum and teaching, and progression in student learning.

An important characteristic of the Bilkent University program is that it expects student teachers to focus not only on using appropriate methods and techniques but also on student learning. Student teachers are assessed on their students' learning as well as on their own ability to teach. Student teachers have been educated throughout their own school days by teachers well experienced in teacher-centred methods, geared to

the all-important multiple choice examination which controls their entry to higher education. They have very little in the way of a model of student-led learning, or authentic assessment, or teaching for complex understanding and skills. They therefore have to be encouraged to use formative assessment in the classroom (Black & Wiliam 1998a, 1998b, 2002) and demonstrate their ability to alter their lessons to meet student needs.

USA Internship

As well as four schools in Turkey, the Bilkent University student teachers have experience of teaching in the USA. Bilkent University has been able to enlarge the concept of partner schools to include high schools in America. By the generous support of the Fulbright Program of the U.S. Department of State, all students to date have spent two months in the USA in their second year. During this time, they worked in a high school for six weeks, assisting teachers, teaching, and getting to know the school, its ethos, and American education.

Iowa State University (ISU) is the host university, selected by the State Department from universities who submitted proposals. ISU has guided four year-groups of Turkish students through eight weeks of briefing, school visits, technological innovation, and internships. Experienced mentors are recruited, and student teachers are introduced and settled. As well as teaching classes in US high schools, the Bilkent students present the face of Turkey to the American public in Iowa.

What are the results? For the student teachers, the benefits of the program are considerable in terms of personal and professional development. They return to Turkey with confidence, able to interpret what they have experienced to the Turkish system. They realize that the methods they have learned at Bilkent University and used in their teaching in Turkish schools, are accepted and widely used elsewhere. They also learn new techniques such as anchored instruction, situated learning, and in particular, they learn and practice in equipment-rich schools, ("fantastic school in Des Moines"). They practice technologies not already mastered, especially video-based technology and multimedia computers. They also see facets of school life which are new to them: diversity of students, multilingual classes, children with special needs who are mainstreamed, and home education.

These Turkish students attend school meetings and become familiar with school governance in an American school. In school, day by day, Bilkent University students observe lessons, work with teachers, teach lessons, and assist individual and groups of students. "We were amazed at

the independence of the students in our classes, the time they spent on task, and their very positive attitude to school work." On campus at Iowa State University, students are able to interact with another set of academics, to discuss school-related issues, to develop teaching and web resources, and to learn technological innovations on one of the most technological campuses in the country.

There is a two-way benefit to the visit, as students raise the visibility of Turkish culture and people when they impact on the American community. In schools, on campus and elsewhere, they give presentations and seminars on Turkey's culture, history, the social and political scene, and even cuisine. They talk to American friends and strangers about Turkey, and they penetrate far into the community, as they stay with families and visit other American homes. We were told by host families that, for many of these Americans, our students are their first contact with another culture, their first international experience.

Students experience American life and culture in Chicago and Washington, as well as in the quieter towns of Iowa, and benefit from museums, aquaria, art galleries, concerts, blues bars, and basketball games. "Chicago is real America—the environment, the people, the rhythm of the city." Walking in Washington, "breathing in the ambience of a majestic cosmopolitan city with a totally different sociocultural structure". "The spaciousness of the boulevards, the neat streets." On their return to Turkey, typical comments from students are: "It was a life changing experience. It changed my view of education and the world." "This was one of the most valuable experiences of my life."

From these benefits, we note multiplying effects in Turkey. Student teachers use their American teaching methods immediately during their final internship in Turkish schools in semester four of their Master's program. Five months later, they are new teachers in well-known schools in Turkey where principals have already recognized the sophistication and breadth of understanding, the variety of resources and methods, and the international perspectives brought by these newly qualified teachers, as well as their interactions with the other teachers in the school. The effect cascades with meetings between new teachers and those already in post.

The work done in Turkey by the Bilkent University Graduate School of Education has sought to extend the teacher education guidelines laid down by the Higher Education Council of Turkey by providing more and different school experience for students in training. With five schools in Turkey, and the completely new enterprise funded by the U.S. Department of State, student teachers are practicing in schools which are widely different from each other. They are able to incorporate techniques and strategies from many teachers from different backgrounds, and observe and incorporate different approaches. They emerge at the end of their

training as fully-fledged beginning teachers, hopefully able to contribute to the ground-swell of change in Turkish classrooms.

DOUBLE-LOOP LEARNING FOR SUSTAINED CHANGE

The education system in Turkey puts more emphasis on gaining factual knowledge than on procedural knowledge. As a result, the system generates many individuals every year who are not well-equipped with the skills necessary to cope with the demands of society at large.

Various changes have been made to the system over the years to solve curricular and instructional issues, but these have not yielded significantly different results. As long as the thinking is within the same philosophy, or paradigm, it is difficult to come up with alternative and effective solutions. Perhaps what Turkey needs is what Argyris and Schön (1974) call "double-loop learning." To bring about fundamental change or change in consequences, one first needs to question and rethink the deep-seated assumptions within a philosophy, rather than just changing the processes governed by underlying values and assumptions.

Education in Turkey has been undergoing a massive change process for the last two years, which will further accelerate once negotiations on EU membership start in 2005. The EU wind of change is itself a magnificent opportunity to anchor present changes and extend them to embrace good practice from other education systems. It will enable us to question the current educational philosophy in more detail, and launch further advances in curriculum, assessment, teaching, and teacher education.

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