Creating an Interactive and Collaborative e-Learning Environment in Educational Processes

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Commitment for change in improvment of learning environments

The world has become a global village with the rapid advancements in information and communication technologies at the beginning of the new millenium. As a matter of course, it is a world of an increasingly global economy, unprecedented knowledge generation and dissemination amid rapid scientific and technological advances, a quest for greater social cohesion and international telecollaboration, and markedly new public and private sector roles. All of these impact significantly upon the demand for and nature of high quality education. These changes present rich, yet still not fully exploited, opportunities to deliver education to all. Turkey; strategically located between Europe and Asia, and borders the Mediterranean, Aegean and Black Seas, is a dynamic emerging market economy amongst the leading developing countries across the globe.The country has a vibrant young population of over 70 million people over 73 percent of which lives in urban centers, where Information and Communicaiton Technologies (ICTs) are still unavailable for most of the educational institutions. After having signed a customs union with the European Union in 1996, Turkey became a candidate for EU membership at the Helsinki summit in December 1999 and gained the opportunity to join in the Socrates programme [5] which is also known as the European programme for education. Its aim is to promote the European dimension and to improve the quality of education by encouraging cooperation between the participating countries.

The programme sets out to develop a Europe of knowledge and thus better cater for the major challenges of this new century: to promote lifelong learning, to encourage access by everybody to education, to acquire qualifications and recognised skills.
The first phase of the Socrates programme was for five years (1995-1999). The programme has been renewed and the second phase will run for seven years (2000-2006). Socrates has a budget of 1 850 € million for the seven-year period.

As a prospective EU member, Turkey has recognized the need to raise the educational qualifications of the young population. Turkey also recognizes that the most urgent priority is to increase the coverage of education at the base of the education pyramid: Primary School Education and Secondary School Education. After several ineffectual attempts to address this need earlier in the 1990s, the MONE [6] took decisive action to join in the World Links for Development (WorLD) Programme offered by the WBI in the spring of 1998. WorLD Programme sponsored by the WBI has been active in Turkey since September 1998, when the first schools were connected to the Internet.The WorLD programme links students and teachers in secondary schools in developing countries with students and teachers in industrialized countries for collaborative research, teaching and learning programs via the Internet. Over a six-year period (1997-2003), the WorLD Program aims to link more than two thousands secondary schools in 40 developing countries with partner schools in Australia, Canada, Europe, Japan and the United States.

The role of information and communication technology in education is being continuously

tested today in nations across the world, each with its unique learning environment and culture. In Turkey, the World Links project is a dynamic example of the country's commitment to opening up educational opportunities to a wider population and accelerating human capital development.In the past two decades, Turkey has made major efforts to establish an education system capable of providing young men and women with the broad range of knowledge and skills required to meet present-day job market needs. The WorLD programme as computer based learning environment is one of the most effective strategies for actively engaging young people in the research & learning process, so that they truly understand what they learn and investigate across the curricula, rather than simply memorize for the tests. Creativity, innovation, user need, sustainability and transferability are the main features of the project. Since then, the MONE has sought assistance to introduce a number of projects aimed at improving the quality of education. These include up-grading the curricula and instructional materials, revising student achievement tests, improving the teacher training system, and increasing the research component in education. In the process, a number of policy initiatives emerged to strengthen the education system in the country.

Within the framework of the WorLD programme, twenty two high schools were equipped to work as pilot e-learning centers, to test the new approach and teaching materials, and the 22 schools were identified as the WorLD Schools [6], where information technology would be integrated with the teaching-learning process to facilitate education. The WorLD schools, which had had no previous exposure to information and communcation technology, were to receive computer hardware, software, teacher training and minor facility renovation where required. In September 1998, a special unit was created within the General Directorate of Educational Technologies (EGITEK) to take responsibility for the WorLD project. Later, The WorLD project, part of a larger World Bank financed Basic Education Project, aimed to use these 22 schools as an experimental platform to explore how far Internet based education can facilitate instruction and provide tools to improve both teaching and learning as a collaborative learning environment.

Information and Communication Technologies in the Classrooms

Information and Communication Technologies(ICTs) have changed our way of approaching to education and the WorLD programme wants to portray what is happening about ICTs in learning and teaching across the globe.The computer laboratories in the pilot WorLD schools are being used regularly today, some of them remarkably well. The ones which have been slow to come to full operation, are those which did not have trained computer teachers or their trained computer teacher have moved to other schools due to new appointment regulations. Others, despite similar problems, have managed to progress significantly with their implementation through a combination of ingenuity, leadership of school authorities and staff members, and active support from their local parents teachers associations (PTAs) and educational foundations. Over 500 selected teachers and computer formators have attended World Links training workshops [1,2, 3,4] and 1284 students have been trained in the uses of ICTs in education. Apart from the World Links training workshops, the WorLD teachers were also offered courses in Web design and the use of Internet technologies by the MONE. A computer laboratory in any one of these WorLD schools contains 20 PC clients, with one server, a printer, a scanner and a modem. Nearly half the number of schools are also participating in a Curriculum Laboratory Schools (CLS) project, which provides them with additional audio-visual equipment.

In the course of the implementation, a mid-term review of the project found that administrators, teachers and students were all enthusiastically and creatively using the equipment and software [7]. In the schools visited by the WBI evaluators, it was clear

that the students were utilizing the facilities offered by their laboratories on a daily basis under the supervision of the WoLD teachers. They understood how to operate the hardware and software, and were happy with the changes in their e-learning environments as they were communicating with their project partners from other WorLD countries. In some cases, support from the PTAs and educational foundations of the WorLD schools had resulted in upgraded equipment, additional hardware, and even hired technicians to coup with the technical problems. Most school administrators were confident that after the hardware firm's warranty expired, the PTAs and educational foundations would provide the necessary support for maintaining the equipment and sustaining the effort. At the same time, the schools were serving their communities in a variety of ways: as model and demonstration schools, as teacher training centers, as advisors for parents wanting to purchase computers for their homes, and as a source of inspiration to other schools outside the project. The WorLD model was being adopted by some of the non-WorLD schools in some of the provinces across the country. Moreover, trained teachers from the WorLD schools were actively involved in helping to equip laboratories and train staff in similar voluntary projects in non-WorLD schools in their education regions.

The New e-Learning Environment and its Challenges

Appropriate information and communciation technology is proving to be a useful tool in facilitating e-learning: successful education programs accelerate the e-learning process through the active pursuit of knowledge, as opposed to passively receiving it ,and help develop advanced thinking and reasoning skills. In Turkey, in a relatively short period, school administrators, teachers, and the community are ready to take the next step by using technology in creative, pedagogical ways.

In fact the enthusiasm generated by the project may be the first challenge the schools will have to deal with students using the computer laboratories wish they had more opportunities to do so. Parents increasingly want their children enrolled in a WorLD school, leading to overcrowding in some classrooms. The size of classes, the interests of students and parents, and the need to provide greater access to the laboratories have resulted in additional weekend classes, mostly in computer education.

The project also needs to address the problem of workload of the teachers who were trained to be project coordinator, or teacher trainers, for the WorLD schools. Many teacher trainers are subject teachers as well, and in effect are carrying out two tasks at the same time for no extra compensation. This factor is discouraging other teachers with excellent " teacher trainer skills" from joining the project staff.

Expanding and Sustaining the e-Learning Environment

The WorLD project is no longer at an experimental stage after the five-year period of pilot phase. The implementation is complete, and all deliverables, hardware, software, and training, are in place to be enlarged across the country. The findings of the evaluation [4, 5]make it clear that the schools and the community have welcomed information and communication technology in the classroom, and are keen to expand the educational opportunities offered by the new teaching-learning tools. Today the sustainability of the change in the teaching-learning process introduced by WorLD is dependent upon vigilant monitoring, positive and quick response to lessons learned on the way, and continued effort to improve the quality of educational planning and practice. The number of WorLD schools across the country is now 67 in 43 provinces after the positive results obtained from the 22 schools. Monitoring and evaluation have to be an integral part of this effort, especially since the WorLD schools are not only using computers for e-learning process, but also to develop instructional materials in accordance with more innovative curricula. There are important lessons to be drawn from this unusual experience in computer based

education.

However, quality issues are present not only in what happens in the schools, but also in the monitoring and support provided by EGITEK, the official overseer of the project. The wide geographic dispersion of the WorLD schools makes it difficult to provide enough attention, support and follow-up to each individual school all the time; while constraints of staff, budget, and other resources, all contribute to the problem.Clearly, if this project is to achieve much more than placing computers in schools, professional leadership must be provided over a long-term period, along with unambiguous policies and the capacity to offer technical guidance. As for EGITEK, this might mean the creation of a central think tank with the authority to test and implement education policies relating to the use of information and communication technology at the national level. Such centralization of policy and implementation would eliminate problems of coordination between different arms of the MONE, such as exists today between the BEP and the WorLD programme.

To many of the public the WorLD schools are just schools with computers in them. It is important at this stage to inform the community at large of the achievements of these schools, making people aware of the future significance of investing in a more interactive and creative methodology of learning, and drawing them into the process of change. One way of doing this would be to develop a system for publicly acknowledging exceptional products and practices by schools, teacher trainers, other teachers, and students.The success of the present WorLD schools should be replicable for enlargement. The number of schools associated with the initiative should now be increased, with priority given to schools in remote and rural areas. Local rural communities may not be able to support such schools by themselves, and may have to rely on help from the MONE. However, linking all WorLD schools with nearby institutions for higher education will facilitate a support network that will work for both rural and urban schools. The direct and relatively permanent relation between in-service teachers and university professors, graduate students, and pre-service teachers will have unprecedented wonders for the schools.

Conclusions and Discussion

The WorLD schools have accumulated a wealth of information on the design, delivery, monitoring, and evaluation of educational collaborative e-learning projects aimed at enhancing access to new educational technologies via the internet. Thus, WorLD students and teachers have discovered the quality of educational opportunities and improving the efficiency of resource use in their teaching and learning processes. For learners, this experience encompasses both top-down and bottom up approaches in computer based learning.The direct beneficiaries were expected to be the young people who would complete their education under the WorLD Programme, and the WorLD students who would benefit from better education materials, more motivated and more qualified teachers, and less crowded classrooms. The big challenge of the programme is to bridge the educational efforts and promote intercultural understanding and exchange in the globe. Teachers also benefit from the improved training and incentives in the course of WorLD programme. A great deal has been accomplished since the BEP and WorLD projects were first formulated, and undoubtedly more will be achieved in the coming years. A modest experiment is heralding a new future for computer based education in Turkey: BEP and WorLD have demonstrated that information and communication technology, a powerful tool in the teaching-learning process, can also trigger the support of the community to make the effort sustainable over a long period of time. This, therefore, is the right moment to stop and take stock, internalize the lessons from the experience, initiate corrective measures and improvements, and plan for further expansion of the initiative. Six years after implementation, the WorLD schools have worked out many collaborative e-learning projects with their peers from around the world and over one hundred educational projects are currently underway. It is also, worth mentioning that the teachers and students from the WorLD schools have created their own web sites, linked each other, established basic email and chat interactions via Internet technologies.

Finally, teachers and young people from the WorLD schools have taken part in collaborative activities, opened their doors to their partner schools, worked together online, improved learning and teaching skills and celebrated the project work.

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