

# E-Mail as a Teaching Supplement in Tunisia

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## INTRODUCTION

Learning and knowledge dissemination using Information and Communication Technologies (ICT) is becoming increasingly prevalent in schools and universities around the world. Most institutions of higher learning now invest heavily in technologies such as the web and e-mail for students, staff, and faculty. ICT use is set to rise in emerging countries eager to move towards an "information society" where learning and knowledge are accessible to all.

Using ICT as a teaching supplement has become such a phenomenon that there are presently more than 10 millions online courses worldwide. The Massachusetts Institute of Technology is considered a pioneer in making available course material not only to its students but also to the world at large and aims to offer free nearly all of its 2000 courses online by 2010.

Several teachers have made judicious use of e-mail as a teaching supplement (Carlton et al., 1998; Richards & Keppell, 1997; Scarce, 1997). Scarce (1997) observed that most students had a positive attitude towards the use of e-mail in a classroom setting even at the beginning of the course and thought that e-mail should enhance their learning experience. Carlton et al. (1998) also described an experiment in which they placed online versions of their course slide presentations on the Internet. They noticed that the added convenience of having courses available day and night was an incentive for students to use the Internet.

This article reports on an experiment conducted at the Higher Institute of Management<sup>1</sup> over three consecutive years and involved the use of e-mail for communicating with and distributing lecture notes to students enrolled in an elective course.

## THE SITUATION IN TUNISIA

Shortly after its independence in 1956, Tunisia, the smallest country in North Africa with less than 10 million people, knew that it had little choice but to open up to the global market.

In 1995, Tunisia was one of the few Arab and African nations to become a member of the World Trade Orga-

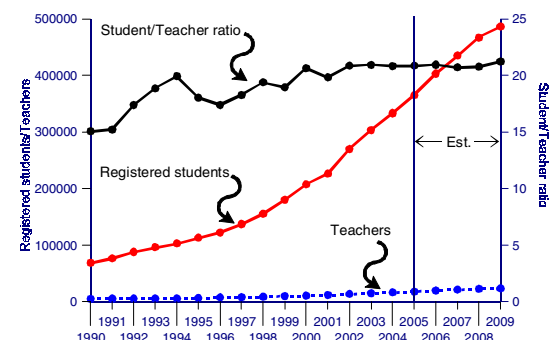
nization (WTO) and the first country along the Southern Mediterranean coast to sign an association agreement with the European Union. The Tunisian government is well aware that globalization and modernity are intertwined and that modernity is linked to education and ICT. Like other Arab countries, Tunisia needs to close a "growing knowledge gap" by investing heavily in education and promoting open intellectual inquiry (UNDP, 2003). Actions to popularize ICT as a tool for knowledge acquisition should focus on boosting computer and Internet literacy and using ICT as a tool for life-long learning.

## Education

According to the World Bank, Tunisia's investment in education is one of the highest in the world; it spends 25% of its annual budget on education and training—a critical factor in its economic growth and progress. Essentially in Tunisia, education is free to all and mandatory for girls and boys until age 15. School enrollment (6 to 12 years) is 91%. The literacy rate is presently equal to 68.3%.

English is mandatory from seventh grade to university. Internet access is available in all universities and secondary schools. As a consequence of the rapid devel-

Figure 1. The evolution of the numbers of teachers and registered students in Tunisia and corresponding student/teacher ratio between 1990 and 2009 (Source: Tunisian Ministry of Higher Education, Scientific Research and Technology, [www.mes.tn](http://www.mes.tn))



opment of the education agenda, the number of students has nearly quadrupled over the last thirteen years from 68,000 in 1990 to more than 262,000 in 2003; the growing number of new students is expected to exceed 400,000 by 2006 (see Figure 1).

Education is strategically important as it has a role to play in preparing future knowledge workers to think globally, to acquire the skills necessary to use ICT, but also to acquire the culture that this entails, especially in a region where people are believed to prefer the spoken over the written and the written over the electronic<sup>2</sup>.

Unfortunately, the current space and infrastructure are no longer sufficient to accommodate these increasing numbers of students<sup>3</sup>. The incorporation of computer technology in education has become a necessity in teaching and has subsequently been a growing trend in elementary, secondary, and higher education for the past few years. As a result, 10% of primary schools and all secondary schools and universities have access to the Internet<sup>4</sup>. Faculty and students represent 12% of all Internet users and 16% of all Internet subscribers (February, 2004).

## Technology

Tunisia is considered a pioneer among Arab countries with a clear strategy towards ICT. It was the first to connect to BITNET in 1989, the first to connect to the Internet in 1991, the first to enact a law for the general organization of electronic exchanges and electronic commerce in August 2000, and it will host the second phase of the World Summit on the Information Society (WSIS) in 2005.

The number of Internet subscribers has increased from 30,000 in 1999 to more than 95,000 in February 2004 resulting in 631000 "Internauts". Over the same period, the cost of making telephone calls continued to drop while the number of people with access to telecommunications facilities increased relentlessly. Because of these developments, Tunisia has often been touted as a model emerging economy (Newsweek, 2003).

The nationwide effort has also been accompanied by two programs that are of relevance to the experiment described in this article. The first, launched in 1998, is the progressive generalization of the use of the Internet through public Internet access centers equivalent to cyber cafés called "publinets". In 2001, there were 181 publinets scattered around the country; at the time of publication they numbered 305.

The second is the Family PC program, launched in April 2001, to allow families and individuals to acquire a multimedia PC and a printer for less than TD 1,000<sup>5</sup>. Loans were also made available for this purpose. Nine

months after the launch of the program, 23.000 PC were acquired by Tunisian households.

Distance learning has become so important in Tunisia that the objective of the 10th Social and Economic Development Plan (2002-2006) is that 20% of the courses offered in universities be delivered digitally by 2006. If the Web and multimedia are to be used in distance learning, e-mail will remain one of the first and most widely used technologies because of its ease of use and relative simplicity.

## THE ICT COURSE

Because advances in the accessibility of ICT mean that it is now open to use by non computer specialists. The ICT course was intended for fourth year (undergraduate) students in Marketing, Entrepreneurship and Management. It is one of the last courses that these students attend, optionally, before they graduate and either join the job market or pursue graduate studies.

### The Course

From 2001 to 2003, the course was offered three hours a week. From the outset, students were briefed about the course's nature and the fact that use of e-mail was mandatory for distribution of course material. Use of e-mail was also encouraged for asking questions and communicating with the teacher. Securing an e-mail account was therefore required and students were asked to communicate their e-mail address electronically as soon as possible<sup>6</sup> after enrollment. Particular emphasis was put on the fact that part of the evaluation was to be made on the Internet and that students who would not register their e-mail address with the teacher would not receive the instructions for the test and therefore would not be allowed to take it. This was done several times over the semester. In 2003, students were even given an explicit deadline and were told that all should register by the fifth week.

### The Students

At the beginning of the course, students were asked to provide information about whether they had access to a PC, to the Internet, to e-mail, etc. Their distribution and characteristics are as given in Table 1.

As can be seen in Table 1, ICT penetration percentages were highest in 2002. The fact that 25% of the students had never used the Internet before came as a surprise in 2001. Even though this percentage decreased to 10% in 2001 and increased again in 2003 (22%), the fact that students close to graduation have never used the

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