

## **Nationwide workshops for public grade school school teachers in the use of the Ateneo de Manila's Educational Software Modules for Grade School Araling Panlipunan and Filipino**

(Portions of the text below were previously published in Rodrigo, M. M. T. (2004). Using ICTs to teach love of country. *SEAMEO-UNESCO Education Congress and Expo* [CD-ROM], Bangkok, Thailand, May 25-27, 2004.)

Both the public and the private sector of the Philippines have invested in information and communications technologies (ICTs) as tools to transform teaching and learning. For Philippines and other countries with national information technology policies, infusing ICTs in education is intended to cultivate creative industrial manpower capable of participating in the knowledge society and contribute to economic development (UNESCO Asia and Pacific Regional Bureau for Education, 2002).

In support of these objectives, Philippine society has endeavored to infuse schools with ICTs. In 1996, The Philippines Department of Education (DepEd) undertook a P375 million modernization program for the benefit of Philippine secondary schools (Philippines National Information Technology Council, 1997). The DepEd also forged partnerships with private corporations in which these corporations donated equipment, software, or Internet access to underserved schools (Andrada & Abcede, 2002). On its own part, the Science Education Institute of the Philippines Department of Science and Technology (DOST-SEI) donated computers to 110 schools nationwide (p. 14). The DOST-SEI also created several mobile IT classrooms: air-conditioned buses outfitted with laptop computers and public address systems. These mobile classrooms serviced schools in areas with limited access to ICTs.

There is concern that investments in ICTs are not being maximized. In his book, *Oversold and Underused: Computers in the Classroom*, Larry Cuban (2001) lamented that the overwhelming majority of teachers used ICTs to sustain existing patterns of education rather than to innovate and that the introduction of ICTs has not achieved the deep and comprehensive changes that their proponents have sought.

On an international level, UNESCO noted that ICTs are introduced as a subject area in themselves, rather than as tools to facilitate the learning of other subject areas. When they are integrated, select subjects such as English, Math and Science are given priority (UNESCO Asia and Pacific Regional Bureau for Education, 2002).

In the Philippines, evidence indicates that Cuban's observations also hold true. A nationwide study conducted by the DOST's Science Education Institute (2001) found that 50% of computers in schools were being used computer literacy. Only 11% of computers were used for science education and only 9% were used for mathematics.

Within the National Capital Region of the Philippines, primary and secondary principals of both public and private schools expressed commitment to using ICTs to promote active, independent, and individualized learning. In practice, however, the acquisition of computer skills was paramount (Rodrigo, 2003b).

Although valuable, teaching about ICTs is deemed by many as a waste of technological muscle (Tinio, 2002). This approach does not maximize investments in multimedia-capable machines or those with Internet connectivity. Furthermore, schools that adopt this approach are unable to effect positive changes to pedagogy such as an improvement in student achievement and a transformation of the learning process (p. 27).

One of the primary reasons for limited use of ICTs is the lack of instructional software (Rodrigo, 2003a). Indeed, there is a dearth of computer-based instructional materials regarding the Philippines and Filipino-related topics. Tinio (p. 13) observed that, while schools may have software for English, Math, and Science, there is a scarcity of software for Araling Panlipunan (AP; civics or social studies) and Filipino, the national language.

In 2004, the Ateneo de Manila University President's office gave the Ateneo de Manila Grade School and the Department of Information Systems and Computer Science a grant to develop interactive, multimedia, computer-based materials for grade school (grades 4 to 7) AP and Filipino. The proponents of what was entitled the Educational Software Modules for Grade School Araling Panlipunan and Filipino (ESMGS AP/Fil) Project aimed to

1. increase the variety of learning materials for AP and Filipino
2. promote innovative utilization of schools ICT resources

3. help students and teachers attain some of the benefits associated with ICT-based learning, e.g. increased student motivation, increased retention, and increased transfer

Each module had the following characteristics:

- **Curriculum-based.** The modules were designed based on the minimum learning competencies for AP and Filipino as prescribed by the Department of Education. The design and development process were overseen by subject matter experts and instructional designers who were well-versed in the AP and Filipino curriculum.
- **Brief.** Each module were designed for 20 minutes of contact time with the student. Since each class period was 40 minutes long, the teachers and students needed time to move to the computer laboratory, use the module, process the learning experience, and then exit from the laboratory.
- **Supplemental.** The modules were used to augment and not to replace classroom instruction. Depending on a module's design, it may be used as a motivational tool, as part of the discussion, as an enrichment activity, or as a review.
- **Multimedia.** The modules made appropriate and judicious use of text, sound, graphics, animation, and video. If copyrighted material is used, the project proponents made efforts to secure permission from the copyright holder.
- **Interactive.** The modules allowed students to navigate through the subject matter at their own pace. Whenever appropriate or possible, users were also be able to answer questions or give inputs that will affect the flow and outputs of the module. Whenever appropriate or possible, the users received meaningful and constructive feedback in response to their actions.

The project was completed in March, 2006. The group produced 10 modules for AP and 14 for Filipino. As the modules were completed, they were used for teaching and learning by the Ateneo Grade School. Feedback from students and teachers has been positive. Having produced these modules, the Ateneo de Manila would like to make them available to other schools, most especially public schools, at little to no cost. The purpose of this project is to disseminate the modules to as many schools as possible and to train the teachers in their integration with the AP and Filipino curriculum.

Teacher training is an essential part of the process because the teacher is the greatest single determinant of the speed and nature of schools' use of ICTs (Sandholtz, Ringstaff, & Dwyer, 2000). Using Rogers' (1995) diffusion of innovations theory, Goddard (2002) traces the stages of teacher technology adoption and the subsequent impact of this adoption on overall technology use in schools. At the Knowledge Phase, teachers are aware that the technology exists, but they are not technology users themselves. At this stage, teachers do not require students to use computers. Teachers make their first contact with technology at the Persuasion Stage. They emulate more knowledgeable peers and begin using technology to increase their productivity. At the Decision Stage, teachers make the decision to accept or reject succeeding stages of adoption. If they choose to accept these next stages, they adopt ICTs to enrich the curriculum through the use of web sites, CD-ROM based materials, or productivity tools. Teachers in the Implementation Stage see technology as relevant tools for teaching. They design teaching experiences and environments that enable them to achieve educational outcomes. Finally, those who reach the Confirmation Stage invent new technology applications, reorganize the classroom environment, and build a community of practice that enables other teachers to share experience and expertise.

To progress from Knowledge to Confirmation, though, teachers need to overcome a feeling of discomfort in the face of change (Goddard, p. 21). Literature suggests that teacher expertise affect attitudes towards technology, which in turn affect the effectiveness of technology adoption (Christensen, p. 411; Sandholtz, Ringstaff, & Dwyer, p. 256-257). The Philippine public and private sector have initiated programs to promote the appropriate use of ICTs in education and combat negative attitudes such as resistance, fear, and anxiety. The two most prominent strategies are to provide schools with technology and technology-based content and to provide teachers with continuous professional development.

With the support of the National Center for Culture and the Arts, the Ateneo de Manila hopes to disseminate these learning materials and train AP and Filipino teachers in their use.