Infusing Information Technology into pre-service teacher education. No computer lab, no budget for software, no time at the University. No problem!

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Abstract

Pre-service teacher education must prepare the students to effectively integrate technology into their teaching. But how to do that without the aid of teaching method disciplines, with no computer lab and no budget for software? Those challenges are faced in a project for the initiation of computer use in education that is developed in a Science teacher education program. Adopting a project-based learning strategy, students build products as webpage collections and multimedia tutorial, in a cooperative work and using creative ways. A “virtual computer lab” was structured with students’ computers, in their home. Different shareware and freeware are used to develop the products. The tasks are developed in agreement with a schedule that doesn't coincide with the classes. The teacher plays a role of to challenge and top provide pedagogical and technological support to the students. The results of the experience are significant and stimulate the following of the project.

The computers are being used in Brazilian elementary and high schools. By other side, our pre-service teacher education programs still behave as if that resource yet didn't there be while pedagogical. Our colleges and universities, in their majority, do not use computers in teacher education – we have what we call a techno-absence in the teacher education. Our teacher education programs lack a learning technologically rich environment necessary to allow future teachers to develop a critical evaluation about educational applications of information technology (IT) and to discover how to use computer in the schools.

When we decided to incorporate IT - and not to teach computer – into our Science Teacher Education Program we found a first challenge: the teaching methods disciplines couldn’t do the job. The difficulties to infuse IT are of several orders, but certainly the fact that the teacher education faculty still don’t feel prepared to effectively use IT in their classrooms is the main one. (Bosch, Cardinale, 1993; U.S. Congress, OTA, 1995; Marinho, 1998).

To face that challenge, since we could have the contribution of teaching methods disciplines, we created PIPeTI (the acronym for Information Technology Pedagogical Initiation Project). The Project is being developed, since 1999, into the Cytology course that integrates the specific subject curriculum and is offered to the students in their first semester at the
University. The students would be initiated into educational use of IT through projects developed as tasks performed by teams.

But it was not easy to start the Project. We have no time to the tasks, since the discipline has a lot of themes to be developed. That time problem had been overcome when the Project became an outclass activity. Another problem: we lack a computer set to be used by the students. So, students used their own computers - we created what we called the "Project's virtual lab" to overcome that hardware lack. Another problem: we have no budget to software. So we used shareware, freeware or evaluation versions of software, with special attention to intellectual property rights.

The Cytology’s professor has the role of providing the pedagogical and technological support for the students.

The cell is the Project’s main theme. Some students developed web pages to be used by children; others were challenged to build multimedia tutorials to be used in Biology classes with high school students or at the higher education programs. This way, our students could use try several software: Microsoft FrontPage, HotDog, HotMetal Pro, VisualClass (a Brazilian software for multimedia developing), Neobook for Windows and others.

Our evaluation pointed that the Project shows a feasible and relatively simple option to incorporate IT into pre-service teacher education. Our students, both in interviews and in comments made in class, stated that they felt that they were doing the work of a real teacher, creating with IT something they would be able to use later in their own classrooms. The Project is a valid experimentation of educational use of computer, leading the students to test the potential of that technology as a teaching resource. And, in a very interesting way, our Project used the space of a so-called specific content discipline to carry students to think pedagogical strategies for using computer, associating content and technological procedures into teaching-learning.

The project continues also as a possibility of demonstrating that the pedagogical qualification doesn't need to be restricted to teaching method disciplines.

References

