Taking the First Step:

Building Teachers of Tomorrow, Today!

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Pre-Service Program

Advance Teaching with Technology

A Project Profile

RATIONALE

"Technology is the foundation of the country's future economic development. The Philippines shall use information and communications technology (ICT) to leapfrog into the new economy".

The growing importance of ICT in education can be seen in the various computerization programs initiated by government agencies and institutions. In 1996, the Department of Education Culture and Sports (DECS) Computerization Program was implemented to facilitate learning and enhance performance through the provision of computers. Under the DECS-State Universities and Colleges (SUCs) Computerization Program, a total of 159 schools and 166 public high schools were given computers in 1999 and 2000 respectively, bringing the total number of recipients to 986 since 1996.

The secondary education curriculum or the Philippine Secondary Schools Learning Competencies of Technology and Home Economics Program, offered computer education as one of the components of the Technology and Home Economics (THE) module. The integration of ICT in the school curriculum will enable secondary students to acquaint themselves

with technology and to prepare themselves for easy assimilation in the new economy. [1]

In July 2002," The Pilipinas SchoolNet was officially launched with the signing of a Memorandum of Understanding between FIT-ED and Ayala Foundation, witnessed by the Department of Education, Culture and Sports. In August 2000, the heads of Globe Telecoms, PLDT/Infocom, Digitel and Bayantel signed a memorandum of understanding to provide up to 1,000 public high schools in their respective service areas free Internet access for one year and at discounted rates thereafter".[2]

The vision of the Pilipinas SchoolNet is to build a network of schools throughout the Philippines that will leverage the Internet and related technologies to improve learning and to better prepare the Filipino youth for the demands of the knowledge economy. In fulfilling this vision, the Pilipinas SchoolNet is committed to addressing the Digital Divide within the country-between those who have access to the Internet and those who do not-by providing effective and sustainable solutions to the problem of Internet connectivity.[3]

With these significant development in Information-Communication Technologies and its growing importance in Basic Education, the College of

Education of Foundation University decided to embark in a Pre-Service Program in Advance Teaching with Technology beginning Second Semester of AY 2003.

It seeks to equip its graduates with the necessary skills in teaching with technology and be able to supply the Department of Education with enough manpower to cater to new trends of teaching and learning with technology.

The Program seeks to ensure that future Teachers and Facilitators in Basic Education will learn the effective use of ICT. The College believes that Technology is not a threat to the existence of teachers but with the advent of ICT and the development of a knowledge based society, their role needs to be redefined.

In this scenario “Teachers are no longer dispensers of knowledge but rather proactive facilitators who promote collaborative knowledge building and guide students to learn in a variety of environments, to navigate within and process a multitude of information resources, and to use these resources in solving problems and making decisions on their own. “

The Department of Education had conducted various training programs to uplift the skills of the teachers in using computers. However,

most of this training programmes are focused on computer literacy and do not empower teachers in using technology as a tool for learning. "Learning to use computers and the Internet is a relatively simple task, but mastering ICT use as an effective tool to improve teaching and learning is certainly not".

Teachers needs training not only in computer literacy but also in Integrating the use of Information-Communication Technologies into the curriculum. This includes training in using educational softwares, the design of internet-based lessons such as Hotlist, Subject Sampler, Treasure Hunt and Webquest.

The quality of Teachers is a major factor in student learning. Therefore, Pre-Service Training of Teachers is crucial. ICT can be a major tool that can enhance Teacher Training Programs as well as it allows them to take advantage of the potential of technology to better the teaching-learning process.

COURSE OUTLINE

The world presents itself to us in wonderful complexity, in whole systems of interrelated ideas and forces. Schools, on the other hand, often look at the world through only one window at a time, neatly segmenting it into subject matter compartments. Too often also, in the rush to "cover" the material, students are left with a superficial understanding of the subject matter at best, and are unable to explain how it all hangs together.

Can technology, when well applied, help solve this problem? It can, and we'll show you how. This course will teach you how to develop learning experiences that involves students learning together with the help of Information-Communication Technologies.

Education 53 or Advance Teaching with Technology is a Three (3) unit course to be taken within a Term(3 months). This is required for Third Year or Fourth Year Education Students who already finished taking all their major subjects, ICT 101 (Basic Skills) and Education 51 (Educational Technology).

OBJECTIVES

General

As Learners:

1. Analyze the requirements of tasks, taking into account the information they need and the ways they will use it.
2. Use ICT to enhance their learning and the quality of their work.
3. Use ICT effectively to explore, develop and interpret information and solve problems in a variety of subjects and contexts.
4. Apply as appropriate, the concepts and techniques of using ICT to measure, record, respond to, control and automate events.
5. Use information sources and ICT tools effectively to share, exchange and present information in a variety of subjects and contexts.
6. Be independent, responsible, effective and reflective in their selection, development and use of information sources and ICT tools to support their work, including application in other areas of their study and in other contexts.

7. Integrate the four aspects of Knowledge, skills and understanding in their work with ICT.

As Future Teachers

1. Tackle demanding problems in a wide variety of contexts, including work in other subjects.
2. Use range of information sources and ICT tools to improve efficiency and extend capability.
3. Work with others to explore, develop and pass on information.
4. Design curriculum materials integrating ICT.
5. Evaluate the effectiveness of their own and others' uses of information sources and ICT tools, using the results to improve the quality of their work and to inform future judgements.
6. Reflect critically on the impact of ICT on their own and others' lives, considering the social, economic, political, legal, ethical and moral issues(for example changes to working practices, the economic impact of e-commerce, the implications of personal information gathered, held and exchanged using ICT).

7. Use their initiative to find out about and exploit the potential of more advanced or new ICT tools and information sources (for example, new sites on the internet, new or upgraded application software).

8. Consider how information found and developed using ICT should be interpreted and presented in forms that are sensitive to the needs of particular audiences, for purpose and suit the information and content.

Specific: Upon completing this course, you'll be able to,

1. Work individually as you design a complete inquiry-based unit (Webquest) that will engage students over a period of two or more weeks.

2. Design and develop an activity which will guide your students in exploring and using information on the internet.

3. Create and use an online database of teaching strategies, lessons and resources for your future use as professionals.

4. Use technology assessment tools to gather and report on the performance of your students.

5. Design a Telecollaborative Activity involving students working with other learners at a distance.

6. Participate in informal online professional development as part of a virtual learning community.

STANDARDS

1. Each student uses a computer application to manipulate and analyze data (e.g. create, use, and report from a database; and create charts and reports from a spreadsheet).

2. Each student communicates through a variety of electronic media (e.g. presentations incorporating images and sound, web pages, and portfolios).

3. Each student interacts and collaborates with others using computer-based collaborative tools (e.g. threaded discussion groups, newsgroups, and online chat).

4. Each student demonstrates competence in evaluating the authenticity, reliability, bias of the data gathered; determines outcomes and evaluates the success or effectiveness of the process used.

5. Each student optimizes lessons based upon the technological resources available in the classroom, school library and computer labs.

6. Each student designs, adapts, and uses lessons which address the students' needs to develop information literacy and problem solving skills as tools for lifelong learning.

7. Each student creates or makes use of learning environments inside the classroom, as well as in the library and computer labs, that promote effective use of technology aligned with the curriculum.

8. Each student uses technology in lessons to increase each student's ability to plan, locate, evaluate, select, and use information to solve problems and draw conclusions.

9. Each student uses technology as a tool for assessing student learning and for providing feedback to students and their parents.

10. Each student collaborates with other teachers, mentors, librarians, resource specialists, and other experts to support technology-enhanced curriculum. For example, they may collaborate on interdisciplinary lessons or cross grade level projects.

11. Each student contributes to site-based planning or local decision making regarding the use of technology and acquisition of technological resources.

READINGS

There is no textbook required for the course. Instead a variety of Online Resources organized in a Topic Hotlist at www.foundationu.coms.ph

COURSE OUTLINE

I. Teaching and Learning with ICT'S

A. Models of Learning with ICT'S

B. Learning Theories related to ICT

C. Best Practices in Integrating ICT's into the curriculum

II. ICT Learning Tools

A. Review of Word and Data Processing tools (MS Word, Excel, Powerpoint).

B. Browsing the Net

C. Advanced Web Searching

D. Electronic Mail

E. Instant Messaging

III. The six Web-and-Flow Activity Formats [4]

A. Topic Hotlist

B. Subject Sampler

C. Insight Reflector

D. The Webquest

E. Concept Builder

F. Knowledge Hunt

IV. Educational Webpage Design

A. First Page 2000 Basic

B. Uploading Webpages to the Internet

C. Other Webpage Design Tools

V. Evaluating Technology Based Lessons

A. Creating Online Exams using Java Scripts

B. Rubric Development

C. Self-Assessment Tools

VI. Telecollaboration

CLASS SCHEDULE

Weeks	Topics	Tasks
1	Teaching and Learning with ICT's	Conduct a survey of classes using ICT in the teaching-learning process.
2	Review of ICT Related Skills, Web Browsing, Web Searching, Electronic Mail, Instant Messaging	Perform Activities related to Web Searching, Browsing, E-mail and Instant Messaging
3	Topic Hotlist	Create a Topic Hotlist appropriate to the chosen field of specialization.
4	Subject Sampler	Create a Subject Sampler appropriate to the chosen field of specialization.
5	Insight Reflector	Create an Insight Reflector appropriate to the chosen field of specialization.
6	Webquest	Create a WebQuest appropriate to the chosen field of specialization.
7	Concept Builder	Create a Concept Builder Activity appropriate to the chosen field of specialization.
8	Knowledge or Treasure Hunt	Create a Knowledge or Treasure Hunt appropriate to the chosen field of specialization.
9	First Page 2000 Basic	Create an Educational Webpage which will

		contain all ICT learning activities that has been created.
10	Uploading Webpages to the Net and other tools	Upload all HTML files to the internet and secure a URL for the sight being created.
11	Evaluating Technology Based Lessons	Create an Online xam using Java Script and Rubrics to evaluate students performance in the different ICT based lessons being created.
12	Telecollaboration	Create a mock Telecollaborative Activity among classmates.
13	Participating in Telecollaborative Activities	Participate in 1 Telecollaborative activities initiated by I-Earn or other related organizations.
14	Final Showcase	Conduct a showcase presentation of all materials being created in Educ. 53.
15	Practicum	Implement at least 1 ICT based learning activity in selected pilot classes.

GRADING

Your final grade will be determined by your performance on several projects:

Six Web and Flow Activity Formats . Weight = 30%

One powerful use of computers is to sift through large amounts of data to find the patterns hidden within them. Take a list of countries, for example, and look for relationships between the dominant religion and birthrate; between GNP and literacy; between government type and continent. In this lesson, you'll identify a standard that could be met by such exploration, create an online database, and describe how you would implement it with learners. This is an individual task.

Educational Webpage Design .Weight = 15%

The final project is a unit that will involve students for at least 10 class periods. Your deliverable will contain the following parts:

- Web pages aimed at teachers that describe curriculum standards addressed, assumptions about the learners and context, and implementation details.

- Web pages aimed at the learners, with all the information needed for them to progress through the lesson. These pages shall include all activities performed in class.

  This project should be done by individuals.

ICT Skills. Weight = 15%

Learning about technology and teaching is an ongoing activity that you'll continue long after this course is over. Fortunately, there are many free resources online that will help you along the way.

Telecollaboration and Evaluation of ICT Based Lessons. Weight = 20%

The internet isn't just about linking computers to each other; it's also about linking people. Interacting with and learning from other children in some other place can be the basis for an authentic and powerfully motivating lesson. You will design such a lesson using the categories and ideas developed by Judi Harris. This assignment will be done in groups of 2 to 3.

Course Participation. Weight = 20%

Active participation is important for a variety of reasons; most important is that through active participation, you will learn the material more deeply. In Eucation 53 we will encourage all students to contribute to

the weekly discussions both in small group and large group formats. Contributions to the forums will also be considered as a participation factor.

Timeliness

With so much to do, it's important that you not fall behind in completing the work of this course, especially in the end of the term when we only have three weeks to work with.

This is a special education course. Please keep in mind the following definitions of grading standards from the College of Education Catalogue:

A(1.0 to 1.25) = Outstanding achievement; available only for the highest accomplishment .

B(1.5 - 2.0) = Praiseworthy performance; definitely above average

C(2.5) = average; awarded for satisfactory performance.

The bottom line is this: **A's are reserved for exemplary performance that goes beyond expectations.**

STEPS ALONG THE ROAD

The College of Education of Foundation University is cognizant of the importance of ICT in Education. As early as 1998, the College started to offer subjects in Basic Computer Skills and Webpage Design. The problem

with this is that it is only focused in giving the Student Teachers the Skill in using these technologies. It lacks the link of how to tie these Technologies in Education to become Technologies of Education. Since 1998 to early 2003, the College had been in search to fill the link between skill and pedagogy.

It was in September 2003 that saw the birth of the course Advance Teaching with Technology or known as Education 53. This is an offshoot of various training programs conducted by FIT-ED which was participated by one College of Education Instructor. The subject requires students to finish first all their major subjects, including ICT 101 to insure that they will have the necessary skills in Computing plus they need to pass Education 51 (Educational Technology) to insure that they will have the necessary skills in designing curriculum materials.

SUPPORT INFRASTRUCTURE

Since it is an Advance Course in Teaching with Technology, it requires special equipment to cater to the needs of the course. The initial offering of the course was in time with the opening of the Leandro G. Sinco Information Technology Center. A modern Computer Center which houses 250 brand new computers all connected to the Internet and local network of the University. It also houses Four 120-seater audio-visual halls.

The subject requires a 1:1 computer ratio for students.

CLASS SIZE

To cater to the University's Program of Uncompromising Personalized Attention, a maximum of 25 students will be enrolled in a class. This will ensure an effective mentoring process.

CHALLENGES

Students

The Program started with 23 students and at the end of First Semester of AY 2004, a total of 200 student teachers passed the course. Starting it took a lot of questions from students specifically on the relevance of the subject to the future teaching environment which they will be in. Some student made comments that they took up education and not computer science. Students always have a negative attitude towards the subject specially in the Prelim and Midterm period of the course. This can be attributed to:

1. They are not well verse in using computers.
2. They are afraid to commit mistakes in using computers.
3. Misconceptions in the use of computers.

4. Demand of the course work which will take a lot of their time.(5 hours of actual class instruction per week and 12 extra hours per week to accomplished their assigned task)

The entire process of doing the course work enables the students to fully understand the function of the computer and appreciates it applicability in their chosen profession. A change of attitude happens when students will finally see their work done.

Curriculum

Since its initial offering in AY 2003, the course had been modified three times to cater to the changes in Technology and feedback from employers regarding teacher's performance and the needs of the Elementary and Secondary Schools.

Starting in the Second Term of the Second Semester of AY 2004-05, Student Teachers will be required to implement at least One ICT based lessons in their Out-Campus Student Teaching if facilities are available in their respective schools.

Support Infrastructure

A reliable internet connection is crucial to the success of the course. Reoccurring brownouts on Saturdays is the number one factor which hinders students performance in the subject since most activities are done on Saturdays.

University Administration

The Administration had been supportive since the birth of the program. It continually seeks to upgrade its facilities in order to meet students demand for more PC's and more time spent in the computer laboratory. A plan to open the IT Center 24/7 or 24 hours, 7days a week is on the drawing board to stimulate student's creativity in using ICT as a tool for learning.

The Program also inspired the University to host the First Visayas E-Learning Camp last November 5 to 7 2004 . A total of 120 students and teachers participated in the activity. It seeks to promote the use of ICT in the teaching-learning process. It gain a positive feedback from Public School Teachers that made the University to offer regular training programs for Public School Teachers in Integrating ICT into the curriculum. These

training programs will be offered for free under the University Extension Program.

The University also invited various resource persons to speak about Integrating ICT into the curriculum such as the Chairman of newly created ICT Commission, CHED's IT Supervisior and the officers of the Animation Council of the Philippines. It continually seeks partnership from around the country in order to enhance its ICT education.

CONCLUSION

Offering a course in Advance Teaching with Technology is a bold initiative of Foundation University in Building Teachers of Tomorrow, Today!. It continuously reinvents the curriculum until established standards from the Commission on Higher Education and the Department of Education will be set regarding the Role of ICT in Basic Education.

Our future Teachers are now capable of Integrating ICT into the curriculum. Their outputs shows that they can and probably make a mark in Philippine Basic Education. But the question is: Is our Basic Education System now ready to implement what these future teachers are doing?

Notes:

[1] Medium Term Development Plan, 2001-04. Available online NEDA,http://www.neda.gov.ph/ads/mtpdp/chapters_1-6/ch4.htm Accessed, October 20, 2004.

[2] Foundation for Information Technology, Education and Development (FIT-ED). Available Online www.fit-ed.org. Accessed on October 20, 2004.

[3] Pilipinas Schoolnet. Available Online www.pilipinasschoolnet.org. Accessed on October 20, 2004.

[4] Six Web-and-Flow Activity Formats. Available Online http://www.web-and-flow.com/help/formats.asp. Accessed on March 15, 2004.