

Research and Development of the Innovative Informatics Education Programmes Enriched with Free Software to Cultivate the Multimedia Literacy

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Purpose:

In order to cope with the 'Era of Selection' and the global concerns about the copyright issues and the economical crisis, this study attempts to develop the quality Informatics Education programmes both for pre-service and in-service teacher education and training institutions aiming at utilizing the free software, which has been becoming more user-friendly and powerful for us end-users in terms of creating audio and video images, for the participants to consider about the trends of computer and networking capabilities represented by the 'CT and DT' with bearing the concept of ATI in mind.

Programmes Designed and Implemented:

Fig.1 shows one of the course syllabi developed and carried out in 2010, which is the one carefully revised after the initial implementations at the universities in the Philippines and in Thailand in 2009.

Fig. 2 illustrates the revised version of the collection of free software, which is available on the web as of 19 October 2010, the original version of which is compiled by UNESCO Bangkok in 2004 and distributed by CD-ROM to those who are concerned.

Pictures arranged below show the several activities in the Programme.

| Course Title | Special lecture and demonstration on school education and educational informatics |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Language | English |
| Semester, Credits, Hours/week | First semester; 2 credit hours (30 hours: Intensive Course) |
| Instructor | SHIOHARA, Fumihiko |
| I. Course Objectives This course aims to foster the fundamental knowledge of both the current trends of education and the ICT utilization in education and to acquire basic skills and knowledge to develop a simple audio-visual materials considering about ATI with free software and to design and create homepages with MS-Word. | |
| II. Contents and Schedule | |
| 1 | Guidance |
| 2 | Overview of the current trends of education in the world and in Asia and the Pacific region as well. |
| 3 | Consideration and discussions about the ICT use in education in general. |
| 4 - 5 | Consideration and discussions about the significant features of audio-visual materials focusing on the ESD and ATI with free software. |
| 6 - 7 | Consideration and discussions about design to create homepages with MS-Word. |
| 8 - 10 | Practice 1: Consideration to the design of homepages. |
| 11 - 13 | Practice 2: Creation of homepages and upload onto the relevant website. |
| 14 | Presentation of the End-of Term Reports and products followed by discussions. |
| 15 | Summary discussions about major problems and issues in ICT use in education. |
| III. References Handouts will be used. | |
| IV. Notes All students are required to submit the End-of Term Reports and Products at the end of the semester. | |
| V. Grading Grading is based on the attendance, the reports and products. Attendance: 70%, Report and products: 30% | |

Fig. 1 Course Programme syllabus

| Useful Free Software for Educators | |
|------------------------------------|-------------------------------------------|
| as of 19 October 2010 | |
| 1. Audio and Video | |
| (1) | Audacity |
| (2) | MuseScore |
| (3) | Songbird |
| (4) | LMMS - Linux Multimedia Studio |
| (5) | Windows (Live) Movie maker |
| (6) | Windows DVD maker |
| (7) | Windows Photo Story 3 (For XP and VISTA) |
| (8) | Photo Flash Maker Free |
| (9) | Studio Itn Score Editor (Japanese) |
| 2. Graphics and Animation | |
| (1) | Blender |
| (2) | Dia |
| (3) | Gimp |
| (4) | Inkscape |
| 3. Educational Tools | |
| (1) | CourseLab |
| (2) | eXe |
| (3) | Quantum GIS |
| (4) | Ren'Py |
| 4. Office and Design | |
| (1) | FreeMind |
| (2) | GanttProject |
| (3) | LyX - The Document Processor |
| (4) | Open Office |
| (5) | Scribus |
| 5. Utilities | |
| (1) | 7-Zip |
| (2) | ClamWin |
| (3) | DVD Flick |
| (4) | InfraRecorder |
| (5) | TheSage |
| (6) | Microsoft Security Essentials |
| (7) | PDF24 Creator |
| (8) | DVDfab |
| (9) | MagicDisc or for English version MagicISO |

Fig. 2 Useful list of free software



Presentation



Group discussion



Group presentations



Exercise



Considerations

Findings and Recommendations:

After the initial design and the series of implementations of the Course programmes in two institutions, the authors found that the programmes are relevant to the participants and will become the key foundations of the Informatics Education curriculum in the new era characterized by the 'Selection,' since almost all participants in both institutions express after the completion of the courses their will to establish the special task forces to design and develop databases of their own audio and video materials with various lesson plans and the free software in local languages especially those for sound and music creations to be effectively imported and integrated into their original materials. In order to realize their will the systemic collaborations between education institutions and private sectors gathering educators, engineers in several fields and policy makers will be urgently needed.

References:

1. UNESCO Bangkok, 2004, Education CD-ROM Series: Free Software for Educators, UNESCO Bangkok, Bangkok, Thailand.
2. K. Tobin, 1993, The Practice of Constructivism in Science Education, Lawrence Erlbaum Associates, Inc., Hillsdale, New Jersey 07642 U.S.A.
3. P. Delany and G.P. Landow, 1990, Hypermedia and Literacy Studies, The MIT Press, Cambridge, Massachusetts, London, England.
4. L.J. Briggs and W.W. Wager, 1981, Handbook of procedures for the design of instruction, Educational Technology Publications, Englewood Cliffs, New Jersey 07632 U.S.A.