Colloquium

An innovative teacher training approach: combine live instruction with a web-based reflection system

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Introduction
Since 1997, Hong Kong SAR government has been working very aggressively in promoting paradigm shift in education in order to promote the trend of “knowledge economy”. Several universities in Hong Kong have developed training programs for primary and secondary school teachers in the past four years. Among these training programs, the AIT (Advanced Information Technology training for teacher leaders) program is the most recent and advanced. Started in April 2001, this training program plans to train up 1,200 primary and secondary school teacher leaders (with class size of 30 trainees per class) in Hong Kong with both technology and education tracks in two years. The training program consists of three core modules:
a) Local Area Network (LAN) and Information Technology (IT) resources planning and management
b) IT across curriculum, and
c) Change management.
In addition to the three core modules, the participants also have to choose two more optional courses among the following four modules:
d) Multimedia programming,
e) Advanced LAN technology,
f) Edutainment technology in teaching and learning, and
g) Instructional materials design and development.

Each module contains 24 hours of training, and is divided into eight sessions with three hours in each session. For module (b) IT across curriculum, the course not only focuses on the hard technology, but also the “soft” technology: the recent development of learning theories and learning psychology, different learning domains, as well as how to use IT in a meaningful way across the curriculum. The challenge is to help participants to “think” about their current teaching approach and compare with new approaches such as problem-based learning, project-based learning, social-constructivist’s approach, and so on. As the course designer did not think the traditional lecture-based
approach could work well to achieve this goal, he therefore developed a new approach: live instruction with a Web-based reflection platform to facilitate participants’ learning, discussion, and reflection.

**The platform**

As the AIT project budget is limited and the design team cannot afford to hire extra programmers to develop a brand new platform, a cheaper but reliable solution was to use the open-source project with Linux/Apache Web server. A Web news engine called PHPNuke (http://www.phpnuke.org) was chosen to implement this Web-based discussion and reflection platform. Figure 1 shows the general layout of the reflection platform from the user or general reader’s perspective, while Figure 2 shows the interface and feature layout from the administrator’s (trainer’s) perspective.

**The approach**

In each class of module (b) of the AIT project, the trainers cover some new topics at the beginning of the classes, such as constructivism and IT, problem-based learning, inquiry-based learning, and advanced educational technology topics across curriculum, and then involve participants for small group discussion with some real-world questions that fit with the local context. After the discussion, teacher participants are encouraged.
to post their conclusions to the Web-based reflection platform and the trainer can project their conclusion on the screen to help the whole class further discuss about it. The trainees’ participation (both online and in class) is a very important part of the final assessments of this course. Participants also have to make a final presentation to share their experiences of IT across curriculum with the whole class and apply those concept and theories that they learned in classes for possible improvement and self-reflection. After the class, the trainer can quickly do a search based on the class number, the trainee’s name, and other information to understand how much each individual teacher really understands the concept or has high quality of reflection for the advanced topics that were discussed. Some other teaching strategies such as simulation (Thiagarajan and Parker, 1999; Leigh and Kinder, 1999), “who wants to be a millionaire” group competition (for the topic of using search engine), were also used in this course.

**The feedback from trainees: a summary**
Most trainees when interviewed mentioned that they like this approach because later they can compare their thought and conclusion in the classes and after the classes. Plus, they mentioned that it is very “cool” to be able to post their conclusion and then share with the whole class on the screen right away for further discussion and debate. Some mentioned that the Web-based discussion and reflection system is also very helpful
to collect useful Websites for their daily teaching because they never had enough time to browse the Web and found interesting instructional Websites by themselves. Some also mentioned that they never thought IT could be used this way to increase classroom interactivity and they felt the classes were much more interesting compared to their traditional lecture-based approach. The Website also provides a download area where teachers can download good final presentation samples done by other teachers in order to better prepare their own final presentation: to share their own cases with the whole class with some self-reflection and possible improvement.

Conclusions
While a lot of Web-based Instructional systems (WBIs) are very popular today, very few systems or approaches were mentioned with a mixed approach: combine live instruction with Web-based system. This project shows that with minimal investment (a Pentium III 550 mhz server with some free open source software) can dramatically enhance trainees’ learning experience. However, the course designer does find that it adds more workload to the trainers and the course designers to maintain the Website content, although it is not too bad. In most cases, the trainers of the module (b) can edit and approve most of the content submitted by the trainees during the class breaks. And a database backup was conducted once a week, which takes only few minutes to complete. Some suggestions for those who are interested in this approach:

- Make sure at least one person in your team is familiar with Linux, PHP programming language, and MySQL database.
- At least backup the database once a week. Preferably once per day.
- Encourage users to use some HTML codes to make their article look better and even more interactive (with hyperlinks).
- To quickly generate some artistic 2D/3D text for the Website, you can consider http://www.cooltext.com

References