

Augmenting Enquiry by Embedded Collaborative Learning

Interim Report

Wednesday, February 11, 2009

Status of the project

At present, the implementation of the operative part of the project has been finalised. All aspects of designing, correcting, implementing and testing the modified EBL structure within the EE3.DSPA module have been successfully implemented. In more detail, the status of the objectives outlined in the proposal are given in the

Objectives	Status
Design the foundation DSP course at Level 3 (EE3.DSPA), following the EBL principles for a large group of students, approx. 60 students	Fully implemented
Implement Collaborative Learning sessions for the module, facilitated by the lecturer and an assistant	Fully implemented
Structure teaching sessions, so that they comprise the following sections interactive content delivery, and problem-based motivation for an individual enquiry into the next topic	Fully implemented
To facilitate better EBL and establish a constant feedback loop between students and the teacher by the means of: direct interaction during the CL sessions and interactive discussions at the lectures, blitz anonymous assessment using concept maps, podcasting and module discussion forum/blog.	Fully implemented
Try to implement capture of audio (constantly) and video (occasionally) of CL sessions and generate additional audio-visual materials for future exploitation at the FEPS and further	Partially implemented. Captured audio and video materials are to be finalised and uploaded to SCEPTRe Fellowship wiki pages as well as SCEPTRe YouTube channel
Gradually introduce simulation and examples using MATLAB in the motivation sections and CL sessions (due to become a prerequisite skill at Level 1 from 2008/09) – an essential engineering environment in DSP and a good self learning tool that will boost hands-on enquiry	Abandoned, due to lack of support and to avoid overwhelming burden to the students.

Problems and Issues arising

One of the major difficulties was to introduce peer assessment to the CL sessions. This was due to inherent inking to other modules that have been trying to facilitate peer assessment, which for this module could be a hindrance. In addition, the initial feedback from the cohort and the assistant was to introduce more involved reflection of the individual enquiry. Therefore, student presentations and discussions were introduced to the CL session with a great success.

Unfortunately, the second level enquiry after the CL sessions was minor, due to the existing workload. Students have been investing a lot of time into the primary enquiry, so that the pressure of other modules minimised the commitment towards the second level enquiry.

In addition, the lack of guidance into the depth of individual enquiry made some of the students invest too much effort into their enquiry. However, due to an collaborative environment and an intensive feedback and communication with the lecturer, these problems have been rectified as the module progressed.

Successes

The project was exceptionally accepted by the students and the following results were outstanding:

- Peer pressure and critical reflection at CL sessions set a very high criteria of student involvement and understanding
- Commitment of the cohort was exceptional - sometime overwhelming
- Group based and off-line discussions yielded collaborative enquiry
- CL sessions induced rich interaction at lectures
- Collaborative environment enabled almost experiential learning by facilitating group work, knowledge sharing and presentational skills, modeling the real-world engineering environment

Changes of direction or approach

These have been reported in the section on issues arising.

Further plans

The plans are twofold. One stream is to use student questionnaires and analyse data. This would enable finalisation of the reporting process and a possibility to publish a journal paper. The publication idea has been openly supported by Prof. George Allan, and there might be a collaboration on a number of EBL ideas coming from this project.

The second part is the project dissemination. That would include remaining editing audio and video materials and uploading them to the public spaces. In addition, a contribution to the Fellowship Wiki pages is planned. Finally, a seminar presenting the outcomes of the project will be held on 18th March.

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