

Teacher as Co-designer in Developing Technology that Supports Liberal Studies Learning

Nancy Law, Faculty of Education, University of Hong Kong, nlaw@hku.hk

Yeung Lee, Faculty of Education, University of Hong Kong, yeunglee@hkucc.hku.hk

S. M. Kwok, Lok Sin Tong Young Ko Hsiao Lin Secondary School, smkwok@lstyoungkhl.edu.hk

Bonnie Lam, Elegancia College, bonnie@bonnielam.com

K. C. Ho, Ju Ching Chu Secondary School, (Tuen Mun), roundoctor@yahoo.com.hk

Abstract: This is an educational showcase of a school –university partnership project on using web 2.0 technologies to support inquiry learning. We will provide an overview of the approach that has been taken in the design research effort and showcase of the features of the technology being developed. Then teachers will share how this emerging design practice can facilitate the learning and teaching in Liberal Studies and the challenges that they are facing.

Description of the Project

Liberal Studies is a new mandated subject in the Hong Kong New Senior Secondary School curriculum in 2009 (EMB, 2005). This subject focuses on fostering students' lifelong learning and inquiry skills. The characteristics of this subject are different from those context based subjects. It does not have fix content for teachers to teach. It adopts an issues-enquiry approach and the learning is structured around enquiry into a range of contemporary and perennial issues around six core themes namely "Hong Kong today", "Modern China", "Public health", "globalization" and "energy technology and environment". In addition, the assessment method in this subject is also different from other subjects. It includes students to engage in a one year independent enquiry Study (IES) and school based assessment for both process and product by using rubrics.

With these changes teachers are facing a series of challenges. Such as how to tackle the depth and the breath of the curriculum as there is no fix curriculum content to teach. Another challenge is how to evaluate students' process learning including independent thinking, Communication and Effort as well as to keep the data systematically? To meet these challenges, teachers need some new pedagogies and assessment strategies, and as well as an online learning and assessment platform which support and manage students' learning in Liberal Studies.

The "Learning 2.0: an Online Platform and a Teacher Support Network for Curriculum and Assessment Innovation in Liberal Studies for the NSS Curriculum-" (Learning 2.0) project is a university-school partnership project. It is granted by Quality Education Fund (QEF). It includes two phases. Phase I and Phase II. Phase I (2008-2010) is to design, implement, and evaluate a Moodle-based (1) online learning and assessment platform (iLAP (2) with the URL: <http://learning20.cite.hku.hk>) for supporting enquiry learning in LS and to set up a teacher professional network for curriculum and assessment innovation. Five schools were involved in phase I. Teachers in these schools take up the role of co-designers in designing the platform. Phase II aims to integrate an e-portfolio component in the iLAP so as to support school-based assessment in Liberal studies. It also aims to scale up the teacher professional network to 10 schools and to disseminate innovative practices as well as to facilitate the collaborative culture among schools. A project website is available at <http://learn20.cite.ku.hk/phase1>.

The design of the project is guided by the following five design principles:

1. **Provide support for learning as well as assessment.** We see assessment and learning as integrated, consistent with the intent of SBA and Assessment for Learning. Hence learning tasks and scaffolding will be built into the system on important learning outcomes targeted in the LS curriculum.
2. **Provide support for the whole LS program, not just the IES.** While the IES is a major opportunity for students to learn to undertake extended enquiry, it should be seen as a culminating learning experience for enquiry and not the only enquiry related learning in LS. In fact, the other six LS modules play important roles in helping students to develop the skills and conceptual understanding necessary for good enquiry. Hence this project will provide learning and assessment support for all components of the subject for the entire duration of three years.
3. **Use of Web 2.0 technologies.** Technologies such as wikis (e.g., *Wikipedia*) are interactive, and can be used to support a range of collaborative learning activities such as peer review, shared bookmarking, communal tagging. These technologies are easily available as "open source" and can be modified to be components of an integrated and interactive system to support enquiry. By beginning from open source software, we will substantially reduce cost as compared with developing proprietary software as well as reduce the threats to the sustainability of the software. Also, it will provide an opportunity for students to be fluent with the constructive use of the latest

technologies for learning, communicating and the creation of knowledge products as an outcome of their enquiry.

4. **Teacher network for deepening and scaling up curriculum and pedagogical innovation in LS.** This project will build on our successful experience in an EDB-funded Knowledge Building Teacher Network project in CITE which is providing support for a network of teachers who are developing expertise about how to support and assess enquiry in a range of subjects at both primary and secondary levels.
5. **Development of learning technologies and digital curriculum resources as an iterative process integral to the process of pedagogical innovation.** The project will involve teachers as *key collaborators in the design process*, and will use several iterative cycles of design and evaluation to develop the support systems. This differs from existing development processes in which software is usually developed in-house and is then tested by potential users. The advantage of such an approach is 3-fold: (i) a much more user-friendly system, (ii) a system that will be amenable to further extensions by users, and most importantly, (iii) the technology platform as well as the teacher network will be a valuable “blended” (or integrated) infrastructure for the dissemination and scaling up of the innovation, hence addressing the issue of sustainability of the innovations, which is normally a most challenging one facing innovations in general.

Teachers from the ten schools come to the University every week to have regular meetings. In these meetings the project team members and teachers discuss the issues arise and share their pedagogical experiences in using iLAP as well as to work collaboratively and using design research approach to develop the curriculum. During the whole process, it requires teachers to actively engage in a cyclical process that includes planning, practicing, observing and reflecting (Elliott, 1991; Lewin, 1946) on the development of curriculum materials as well as the development and implementation of iLAP in supporting the enquiry process in LS. Through the co-design activities, lesson observations and collective discussion on the curriculum design, it is hoped that teachers’ professional network can be built up.

Theme of the Session

The main theme of this session aims at introducing the iLAP and teachers will share their experiences in using iLAP for enhancing the learning and teaching in the LS.

First the project team will briefly introduce the iLAP and some of the conceptual frameworks guiding the development of this project as well as some hands-on exercises to show case some of the features of the iLAP.

Then teachers will share with us the following aspects:

1. How web 2.0 technologies can help students to learn LS,
2. How the notion of assessment for learning can be carried out by using the evaluation system including teacher evaluation, peer evaluation, self evaluation as well as the e-portfolio system.
3. How the iLAP and teacher network system can support the professional development as well as sustaining the innovative practices and scaling up the practices within the community.

Expected Outcomes

It is hoped that through this CSCL in practice showcase can bring some stimulations on how those web2.0 technology can support liberal studies teachers in Hong Kong to face those new education challenges and stir up the discussion about how web2.0 technology can support the inquiry-based learning that advocated in the education community around the world.

In addition, as aforementioned the nature of liberal studies is quite different from the traditional subject, we would also like to stimulate discussion on how technology supported learning design environment can help teachers to unpack their design concepts and rationales. It is hoped that through these learning designs, the tacit knowledge in their pedagogical design can be exhibited and being as some of the resourceful materials for the teacher professional development.

Endnotes

- (1) Moodle is an open source Learning Management System (LMS). Details can be found from <http://moodle.org/>.
- (2) iLAP stands for interactive Learning and Assessment Platform. Details can be found from <http://learn20.cite.hku.hk/page.php?page=platform>

References

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 Lewin, K. (1946), “Action research and minority problems”, Journal of Social Issues, Vol. 2 No. 4, pp. 34-46.