E-Scholars: Staff development through designing for learning

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Although the importance of engaging students in learning through interactivity during the learning process is well documented, faculty and instructional developers often fail to consider learning design during the curriculum design process. In face-to-face and online courses, curriculum is often developed by staff in isolation, with a focus on *presenting* content rather than on learning design that promotes student *engagement* with content as well as interaction with peers and instructor. This paper describes the design, implementation, evaluation and next steps of the 'e-Scholars Programme', an innovative approach to staff development designed to guide faculty as a cohort to successfully integrate online learning with the face-to-face classroom using the T5 instructional design model (Salter, Richards, & Carey, 2003, 2004) to expand the learning environment.

Keywords: staff development, blended learning, feedback, instructional strategies, course design, learning communities

Introduction

Although the importance of engaging students in learning through interactivity during the learning process is well documented, faculty and instructional developers often fail to consider learning design during the curriculum design process. Too often, whether for use in face-to-face classrooms or in online environment, curriculum is developed with a focus on content coverage and/or *presenting* content rather than a focus on designing a learning environment that promotes active *engagement* with the content. Studies consistently report that between 73-83% of teachers choose the lecture format as their main instructional method. As described by Blackburn, "Give faculty almost any kind of class in any subject large or small, upper or lower division and they will lecture" (Blackburn, Pellino, Boberg, & O'Connell, 1980). In the typical lecture class model, class time is generally instructor directed for 90-100% of the time. However, a great deal of research shows that the lecture is little more than an information transaction and is not an effective way to create deep learning or creative thinking (Weigel, 2002).

Increasing demand to incorporate technology into teaching has placed additional challenges on faculty and institutional systems as they attempt to 'put courses online'. Often technology is simply used to replicate existing practice in an online setting. The approach of many teachers in the face-to-face class is to cover a pre-determined amount of information in a lecture/information-transmission format. It is unlikely that the shift to an online environment will do more than offer the content (in the form of power points or course notes) in an online course management system unless planned intervention is provided to guide staff in innovative, interactive approaches to course design.

University teaching and learning centres have attempted to provide support for faculty as they incorporate technology into teaching. Common models of staff development include individually guided instruction, (such as one-on-one consultations) and also group workshops or seminars that follow a 'training' model of instruction. When group instruction is provided, workshops often separate training in the 'use of the technology tools' from the pedagogical guidance that is needed by many university teachers. When this separation occurs, faculty may learn 'how to' but not 'why or when to' as the theory of best practice is separated from the actual applied work. Instructors attend sessions that are mainly presentations in a lecture format given by staff developers on the 'how to' techniques. Following the seminars, instructors are expected to work on their course redesign and implement new ideas in isolation. Although a well presented lecture can be an effective way to deliver essential information or ideas quickly and efficiently, research suggests, that as an instructional method, this approach does not result in 'deep learning' of the content presented (Biggs, 1978; Entwistle & Ramsden, 1983; Marton & Saljo, 1976). However, deep learning is required to attain higher quality learning outcomes (Trigwell & Prosser, 1991) such as the synthesis of new ideas and the transfer of learning to new applications.

It is unlikely that teachers will synthesise the new ideas and undergo a paradigm change in their approach to course design and instructional strategies without opportunities for staff development that fosters interactivity and social learning through dialogue and discussion. Based on feedback from faculty internationally, during workshops I have given on the T5 model in Sri Lanka, Australia, Thailand, Hong Kong, the USA and Canada, the following key challenges have been consistently identified by staff as they attempt to integrate a blended approach that incorporates the use of online activities:

- Instruction in the use of technology is often provided for staff by the institution's technology support centre rather than integrated with instruction in best teaching practice provided by the educational development centres;
- University teachers are often uncomfortable using technology and are not aware of the types of online tasks and interactivity possible in a blended learning environment. Most begin by adding content in the form of power points or course notes without interactivity;
- When staff learn about the 'types of technology tools' available, the tendency is to 'add on' rather than incorporate activities as part of the course design process. In addition, when they attempt to incorporate online activities for students they are not provided with practice and feedback from instructional designers as they develop ideas for their courses;
- Lack of instructional design support to work in progress results in a tendency for staff to use tools simply because they are available, without considering desired learning outcomes or learning impact;
- Staff generally do not 'rethink' how the use of class time is possible when online components are incorporated;
- Following staff development programs, staff are expected to work in isolation to change their course design and teaching practice with limited opportunity for feedback to work in progress.

A more effective method of staff development may be provided by a process based approach to incorporate professional development around projects (such as curriculum revision, or technology innovations) that are designed to solve a problem. Learning occurs through the participants' involvement in a staff development program related to their specific project or course. This model may prove to be more effective as a method to help faculty incorporate high quality technology innovation into their teaching in a pedagogically sound way. An example of a process model of staff development is provided in the Courseware Design and Development Program (CDDP) at the University of Melbourne (Hirst Brooks, & Riddle, 2004). Academics participated as a cohort in a program that integrated a major curriculum development project along with professional development as staff developed multimedia and educational technologies to use in their courses. The authors report that the CDDP was a sustainable model and that the 'left in the cupboard' syndrome was not evident in the deliverables associated with this project.

The current paper describes the design, implementation and evaluation of another example of a process based approach to professional development, the 'e-Scholars Programme'. This programme was designed to guide faculty as a cohort to redesign courses and successfully integrate online learning with the face-to-face classroom experience to expand the learning environment. The e-Scholars Programme was designed to engage staff in subject level e-learning development by participation in a learning community that would promote:

- a planned course of professional development for staff to 'rethink' their courses as they redesign to incorporate a blended learning approach;
- direct funding (if needed) for development and implementation of the individual subject-level development work;
- instructional design support during course design and development;
- systematic evaluation of learning impact.

Theoretical framework of the e-Scholars Programme

The e-Scholars Programme was implemented in June, 2006 as a professional development program for staff at Hong Kong Polytechnic University. A call for proposals invited staff to apply to participate in the program to re-design their courses for blended learning. The design of the programme builds on the foundational work done at the University of Waterloo during 2001-2005 (Salter et al., 2003, 2004). The

building blocks for the programme to guide staff in their course re-design combine two key components, (a) the 'T5 model' and (b) applied 'learning mapping'. In the T5 model, the learning environment and supporting resources are designed to include five key elements: (i) Tasks (learning tasks with deliverables and feedback); (ii) Tools (for students to produce the deliverables associated with the tasks); (iii) Tutorials (online support/feedback for the tasks, integrated with the tasks); (iv) Topics (content resources to support the activities); and (v) Teamwork (role definitions and online supports for collaborative work). Learning tasks require students to engage with the course content to produce a completed task as a 'deliverable'. The deliverables, and feedback to these deliverables, are the primary vehicles for learning (Salter et al., 2003, 2004). The T5 approach provides a simple model to support faculty in a paradigm shift that encourages the design of an interactive, task-based 'learning environment' rather than a focus on 'information transmission' through content delivery (Salter et al., 2004).

The 'learning mapping' process extends the usefulness of the T5 approach by guiding staff to consider the most appropriate places to integrate learning tasks and feedback in a course. The process guides instructors to consider the cognitive complexity of the learning outcomes and instructional challenges. Bloom's taxonomy (Bloom, Mesia & Krathwohl, 1956) is used in the learning mapping process to help instructors write learning outcomes and design appropriate learning tasks to help students achieve the learning outcomes.

The goal in using the 'mapping' approach is to help instructors avoid the tendency to use too many tasks without considering a pedagogical reason for choosing when to incorporate a task. Exemplars are provided during the process to help instructors to consider the different types of tasks to incorporate, depending upon the desired learning outcome. During the 'learning-mapping' process, instructors develop a 'paper-prototype' of their new course design by mapping out course learning modules/units of learning to include specific learning outcomes, assessment strategies, instructional challenges and appropriate junctures in the course to include learning tasks, and feedback. In summary, a combination of the T5 model with applied learning mapping:

- Represents a task-based approach to learning;
- Incorporates a strong emphasis on feedback to all tasks (formative feedback);
- Maintains the textbook as an important resource in support of learning tasks;
- Discourages presentation of content either in face to face lectures with the overuse of power points or by putting content online;
- Identifies different ways to use time and space (class time vs. study time);
- Provides a framework for instructors to map out their course;
- Does not require instructors to become experts in instructional design;
- Provide recommendations, exemplars and templates for learning tasks;
- Allows flexibility for the instructor.

Implementation of the e-Scholars Programme

There are 4 phases to the implementation of the e-Scholars project at Hong Kong Polytechnic University:

1 Professional Development (June 12-16, 2006);
2 Subject development (July/August 2006);
3 Implementation (Sept.-April 2007);
4 Evaluation, Dissemination, Revisions (Jan-June 2007).

During the e-Scholars professional development workshop, through a combination of homework and coaching sessions, staff apply the T5 model to define the course learning outcomes, consider the challenges for students in achieving these outcomes and subsequently design appropriate 'learning-tasks' to help students meet the learning outcome. A clear distinction is made between a task designed to engage the student with learning the material and an assessment exercise designed to measure a student's mastery of the material.

Five sessions were held with daily sessions over a one week period (Table 1). The T5 model was used in the design of the workshop series so that the participants engaged with the content material prior to the

face-to-face classroom time. Each session was designed as a 'coaching session'. Participants were provided with content resources ahead of the face-to-face sessions and had learning tasks to complete prior to each session. During the coaching sessions participants applied the concepts and engaged in dialogue to share ideas. Staff 'learn by doing' in the series as they created learning tasks with defined deliverables and feedback for their own courses to help students meet specific learning outcomes. An important part of the coaching session is the dialogue between participants; this allows them to clarify misconceptions about using online technologies, describe preliminary ideas for tasks, receive feedback to help in developing these ideas and discuss best practices. In coaching sessions, the coach/facilitator ensures that new ideas are fully understood so that they can be incorporated into practice.

The approach used in the staff development series for the e-Scholars program is modelled after The New Classroom Series, first offered in November 2001 by Salter and Richards at the University of Waterloo. More than 200 faculty, staff and librarians at the University of Waterloo participated in the series between 2001-2005. After completing the series, 78% of the participants reported using the model to some extent to add task-based online components to a course. By invitation, the New Classroom Series has been adapted and delivered internationally to faculty and instructional designers in Hong Kong, Sri Lanka, Thailand and Australia as well as at the University of Waterloo and in four Ontario colleges. The pedagogical approach of this series for staff development appears to have strong appeal to higher education audiences.

Table 1: Overview of e-Scholars Programme professional development modules

Session A (3 hours) - A Model for Blended Learning - Learning-Centred Teaching / Best Practices 'online and off' - Creating interactions for Active Learning - Changing the Time and Space of Learning (changing the use of online/out of class time and face-to-face classroom time - Using technology to help with common instructional challenges - Designing Learning Tasks to Enhance student learning - Introduction to 'Course-Mapping'
Session B (3 hours) - The importance of feedback in learning and teaching - Using technology to enhance feedback to students and make feedback manageable for instructors - Introduction to Course Mapping - Coding course content for course mapping - Using Bloom's taxonomy to define learning outcomes - Identifying level of difficulty of subject content - Applying course mapping templates
Session C (2 hours) - Course Mapping Applied – Part 1 - Applying course mapping process to your subject - Identifying specific treatments for each module of your course
Session D (2 hours) - Course Mapping Applied – Part 2 - Continuing to apply course mapping process to your subject - Feedback on work done so far - Continue working through each unit of study in the course to identifying specific treatments for each module of your course
Session E (3 hours) - Individual presentations of subject revisions and sharing of ideas - Coaching and feedback on course mapping process - Planning next steps for continuing work on the course mapping process and preparation for individual consultation and summer work

Following the face-to-face coaching sessions, participants entered the subject development phase (July/August 2006) to prepare their course for fall or winter term delivery. During this phase instructional

design support, technical support and if needed funding support is made available. Technical and pedagogical support is provided through the e-Learning Development and Support Section (eLDSS). In addition to individual consultations for instructional design support, opportunities were provided for the participants to meet over the term as a 'community of practice' (Lave & Wenger, 1991; Wenger, 1999) to share ideas during their continued work on course development. In these sessions instructors were given the opportunity to pilot the ideas for their course during the development process and receive formative feedback and subsequently revise as needed.

During the e-Scholars professional development workshop, sessions were designed as coaching opportunities for participants to 'learn by doing' and receive feedback to their course ideas in progress; this was the beginning of set of relationships that could develop into a longer term community of practice. A community of practice involves a set of relationships over time, organized around a particular knowledge area or activity that gives members a sense of joint enterprise and identity (Lave & Wenger, 1991; Wenger, 1999). To sustain the community of practice for the e-scholars, continued opportunities for sharing ideas and practices were provided by setting up additional opportunities for participants to meet as a group and by initiating an e-scholars blog to see if an online venue to discussed ideas would be utilized (Sims & Salter, 2006).

In addition to professional development and technology support, participants were eligible for funding support to assist with the completion of the project deliverables of web-based, re-usable course materials. These materials and activities will be put into a course management system (CMS), either web CT or Moodle (depending upon the instructor's choice of CMS) for delivery to the students in subsequent terms. Rather than provide the funding 'up front' and have participants work independently on projects, the funding is allocated as staged funding to be provided as participants complete the different stages of their project and is provided on an as needed basis. Participants could request the first funding allocation upon completion of the staff development week long series after completion of their paper-prototyped course learning map including draft task ideas. Funding enabled staff to hire a student or research assistant to work on the online components of the course during the development phase. The e-Scholars project was allocated a total project funding of $1 125 000.00 HK as part of the allocation of funding for e-learning development innovation projects based on the projection that up to 15 applicants would be accepted into the project; each would be eligible to receive up to $75 000.00 HK.

Evaluation plan

The evaluation component of the e-Scholars program involves two aspects: (i) evaluation at the larger scale 'project' level (the process-based staff development program that guided faculty in their course redesign) as well as (ii) evaluation at the 'course' level (the participants' individual deliverables in the form of redesigned courses). At the project level the key question to be addressed is: "Was the e-Scholars program able to promote active learning-centred teaching?" At the course level the key questions are "Does the course redesign method employed (use of the T5 model and course mapping to incorporate tasks, feedback and active learning) lead to changes in the use of class room time to allow more discussion, feedback and interactivity? Does the course redesign method employed lead to improvements in students' achievement of course learning outcomes?"

Project level evaluation: Outcomes of the e-Scholars Programme

Fourteen staff, representing six departments participated in the first e-Scholars Programme. All fourteen completed the professional development workshop phase and are currently developing courses in a blended mode. Eight plan to teach their course during the fall term (September 2006) and six during the winter term (January 2007). Two participants are working on two courses and one pair of teachers is co-developing a course, giving a total of 17 courses that are expected to be offered to students in a revised mode during the fall and winter term.

Preliminary evaluation of the post-session feedback from the professional development workshop shows that all participants in the e-Scholars workshop rated that they would highly recommend the series to other staff who plan to re-design courses (mean score 5/5 on 5 point scale) and rated the format of both in class coaching and out of class homework to engage with the content resources as very beneficial (mean score 4.6/5 on 5 point scale). Participants also indicated that the course had helped them 'rethink' their

approach to incorporating a blended component as shown by the following sample of unedited comments (July 2006):

> The course helped me change my course to a more interactive manner re using class time differently and using online interactions.
>
> The templates for learning tasks really help with the application of the ideas to practice.
>
> The course is the whole 'box' – online and face-to face. I found the online triggered deeper levels of engagement than I had anticipated. Forced to commit to ideas – was excellent.
>
> Really enjoyed the sessions. Wonderful experience. I really enjoyed the sharing between participants that the coaching sessions allowed.

Course level evaluation: A systematic evaluation of learning impact

Evaluation of the outcomes of the programme deliverables, in terms of the analysis of the re-designed courses, and the impact on student learning is in the early stages as the courses are still in the implementation or development phases. A systematic evaluation will be carried out on each course during and post implementation. This evaluation will include data collection using the following methodologies/instruments to observe associated indicators:

Table 2: Course evaluation plan

Methodology	Indicators
Student feedback - questionnaires, focus groups	perceived usefulness of the learning tasks, perceived increased opportunities for interactions (with peers/instructor/course material) relative to other courses
Instructor feedback - questionnaires, focus groups	perception of the success of course redesign in overcoming the stated instructional challenges, perceived usefulness, perceived interactions (with peers/instructor/course material) relative to other courses, perceptions re students preparedness for class
Classroom observations	observations of classroom actual interactions, changed usage of class time, preparedness of students, student responses to questions
Student performance	preparation for class, student usage of online components, performance on tests/assignments to show achievement of learning outcomes related to the content of the course that was taught in a new way
Attributes of the redesigned course	Review of the final course deliverable to assess: • opportunities for students interactivity with content, instructor, peers (tasks/blogs/forums other tools and how they were used to engage students in learning); • quality of students comments; • type of feedback to student learning; • type and number of learning tasks for students to practice course material.

The preliminary analysis of work completed by the instructors during the development phase is encouraging in terms of seeing learning-centred changes in course design and delivery ideas. The changes incorporated promote time on task and engagement with learning. Since educational researchers acknowledge that these are key factors to academic success and deep learning (Trigwell & Prosser, 1991; Vella, 2000; Weigel, 2002) the course revisions made have the potential to impact on student learning.

The following shows one example of how an instructor plans to change a course in a in Hong Kong Taxation Law.

To deal with instructional challenges identified by the instructor, online tasks were created for four of the course modules to incorporate pre-class tasks and post-class tasks. The changes made fulfil the requirements to provide interactivity, feedback and practice in the redesigned course as follows:

1 Interactivity: Students are required to complete the pre-class task ahead of class and submit online (interaction with content is required to complete tasks). Students are expected to make an attempt and will receive a 'good faith effort' mark if pre-and post class tasks are completed. The students will now be prepared before class and have some prior exposure to the concepts to be discussed in class. The tutors will use class time to discuss the tasks and relevant concepts, respond to student's questions about the concepts that they have submitted to the discussion forum, and move on to the next required step for the course learning module (interactivity during class time with peers/tutor/content).
2 Feedback: Instructor feedback to the students' posted responses will be provided during the tutorial. Before the tutorial the instructor will review the online responses and use the class time to address specific questions. Students will also have an opportunity to review other responses online and compare the responses of other students with their own comments.
3 Practice: Pre-class tasks will introduce students to the concepts, in class discussion will allow them to discuss ideas and strategies and post class tasks will be provided to re-enforce the concepts through application of the principles.

In a traditional lecture-based teaching paradigm, only the instructor is engaged in preparing for a class; students do little preparation and come to class to be 'fed the content' in a lecture format. This instructor rethought the approach to instruction in this course by engaging students in pre-class tasks and changing the use of class time. Table 3 shows the task plan created by the instructor to map out the tasks for Hong Kong Taxation.

Another example of the use of a discussion forum to change the use of class time is provided in a generic anatomy course revision. The following written instructions were given by the instructor to the students regarding the required completion of pre-class tasks:

> The purpose of asking you to do this is to make the lecture time more meaningful to you. The work you will do before coming to class will NOT be completely repeated in class. Therefore it is essential that you devote some time to these tasks and come prepared to the lecture. (… more details provided for the students here about the tasks and how they were to be completed through online submission…). Your responses to all of these questions will help us know how to best present the material in the lecture.

Out of the 480 students in this class, 400 students responded by posting questions and comments into the online discussion spaces provided. The instructor commented on how surprises she was by the quality and quantity of the responses. Here are is small sample of responses, representative of the type of student postings:

> I'm not very clear about the principle about using sympathetic stimulation to initiate heartbeat, you know, in today's clinical practices, there is a treatment precaution using sympathetic defibrillator to initiate heart beat to cure the atrial fibrillation, but it's difficult to understand the principle of it, could you explain it for us in a non-academic way? Thank you.
>
> If there is an immune response for body defence in immune system, are there any changes to the cardiovascular and lymphatic systems, such as changes in heart beat rate, blood flow and lymph flow rate? What are the clinical skills for assessing clients' cardiovascular, immune, lymphatic system?

Table 3: Course task plan: Hong Kong taxation

Pre-class tasks to increase **interactivity** and engagement with content: The pre-class task activity will introduce students to the course material to familiarize them with the content before class. Each week students will be given a case example online and asked questions that they will complete and submit online prior to class time. Additional pre-class tasks may be incorporated to modules to include a drag and drop type of matching activity for students to complete prior to class to help them learn terms appropriate to that module. For other modules that require students to learn and order terms, tasks that require them to define and order items relevant to specific legislation will be available online. Module 'X': pre-class task example: Case Example (students will read this online) Miss Chan purchased a residential property in March 2004. It was let out on 1 June 2004 on the following terms: 1 Term of lease: 2 years from 1 June, 2004. 2 Rent: $15 000 per month for the first year and $16,500 for the second year (payable on the first of each month). 3 Initial premium: $225 000 payable on 1 June 2004. 4 Rates $3 200 per quarter, payable by tenant. 5 Management fee: $1 900 per month payable by tenant to landlord. Miss Chan paid mortgage interest of $25 000 per month to the bank in respect of the aforesaid property for a period of 10 years commencing from 1 March, 2004. On line questions: 1 Which of the terms listed in the case example are relevant in computing Miss Chan's property liabilities for the year's assessment 2003/04, 2004/05, and 2005/06? (refer to the text as a resource to help you decide which terms are relevant). 2 Do you have questions about why or why not any of the above terms are relevant? 3 What would you like to ask the tutor about the readings for this module? 4 Prior to class – read through the questions/comments posted by students on the on line forum. Come to class prepared to answer and discuss these questions.
Feedback: Students will post their responses to questions 2 and 3 on the course forum. In this way all students can see the questions raised and the tutor will scan through the forum postings ahead of class time and provide feedback to the questions in the face-to-face tutorial time.
Change in use of class time: The usual paradigm was to cover new material in lecture format and to introduce and complete two cases in class time. There was not enough time in class to address students' questions in class. In the revised format the students were introduced to the content on line and had to use the course material (from the text based resources) to solve the first case example and respond to questions. (* Authors' comment: It is important to note that the students did not have to 'solve' the problem before class – but to select the relevant information that was needed to do the calculations. This was identified in the planning stage as a key obstacle for students' success; they did not know how to select relevant information from the case studies provided.) The course tutor will review the questions and comments posted by student in the forum and use class time to: • respond to questions posted. • taken up the case example that students completed to provide feedback to students on the relevant terms • continue to the next step of the case to do the actual calculation of the tax liabilities • introduced and discussed the second case example
Post class tasks: **Practice**: To reinforce the students' application of the taxation laws, post-class tasks will provide additional exercises for students to complete and receive online feedback. In this example the next step for the students is to do the actual calculations for the case during the tutorial.

Note. This course is in the development phase during the fall term of 2006; implementation will be January 2007.

These responses indicate that the students had read the material, engaged in the discourse of the subject with understanding, and subsequently posed thoughtful questions. The instructor changed the use of class

time to respond to the students' questions as part of the lecture. A surprise spin-off from this course-redesign was that the instructor decided to advise the tutorial leader of the nature of the responses so that the tutorial could also be used to provide feedback and practice on areas the students had problems with (in this course, the students have the lecture component from one instructor and the tutorial component from another).

Educational implications

The design of the T5 model encourages a task-based, learning-centred approach to course design. The introduction of this method, in a process-based approach to staff development, allowed instructors to 'rethink' the use of in-class time and out-of-class time. In typical, lecture-based practice, the professor does most of the pre-class work, preparing lectures and power points to deliver content-information to students in class. In a task-based approach, the instructor changes his use of time to spend less time on preparing and delivering content and more time providing feedback and coaching to students about their understanding of the content. This feedback can be provided through online coaching as well as in class coaching and dialogue. We know that students learn, not as passive receivers of information, but through opportunities to reflect upon and discuss ideas. Knowledge arises from: "ongoing conversations about things that matter, conversations that are themselves embedded within larger traditions of discourse that we have come to value" (Applebee, 1996, p.3). If students engage in pre-class tasks they come to class prepared for a rich academic dialogue (Novak, 1999). When students are prepared, the instructor is able to redirect in-class time to incorporate meaningful discussion with feedback about the pre-class tasks.

The applied learning mapping process can significantly reduce the amount of time needed for curriculum development at minimal cost without compromising the creation of an effective learning environment. Although a significant funding allocation ($1 125 000 HK) was made available to be drawn upon for the current group of e- Scholars, the majority have not needed to draw upon this funding.

The e-Scholars Programme, in a short time frame, provides foundational knowledge for teachers regarding the importance of interactions in learning as well as an understanding of how to develop and use a task-based approach that promotes deep learning. Participation in a community of learners maximizes the impact by providing feedback from peers in addition to guidance and feedback from the facilitator/coach. The group approach is particularly useful when the time of the instructional designer is limited. The applied learning mapping process allows the instructor to build on this knowledge by focusing on appropriate application of tasks in the course. In addition, exemplars of learning tasks are shared in the learning community by the cohort of participants; current exemplars can be shared and reused by future participants. The combination of the T5 model and applied learning mapping suggests exciting possibilities for guiding instructors in learning-centred, interactive instructional design.

The institutional trend to expand online course offerings for students, and to use blended learning in most courses offered, provides a unique opportunity for faculty to explore options to engage students with course material through in on-line learning tasks. However, since faculty generally choose the lecture for almost all teaching situations, institutions must commit to providing sound advice in best practice if we expect that blended or online courses will be designed as learning centred and interactive. The e-Scholars program combines a resource effective approach, in terms of financial and time resources with a sound pedagogical framework. The process-based implementation model within a learning community promotes active learning and training to scaffold course development over a period of months during course development phase with guidance in how to use technology tools to promote best practice. If these conditions are met, staff development centres have the potential to change the paradigm from replication of content on line to providing a learning-centred experience that promotes deep learning.

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