Communities in practice: A community dimension for the UNSW Learning & Teaching Exchange

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An online learning and teaching exchange, integrating a range of communities of practice with a showcase of good practice, and the tools to develop sound teaching approaches - it sounds a fine venture, but what should it encompass? How will it be framed and contextualised? How will it be managed? And – most importantly – whom is it for, and how will it engage users in a meaningful way, embedded into the context of their current practice? This is not an untrodden path, there are numerous examples of exchanges, repositories and communities developed on a grander scale than the one planned for UNSW, most recently the ALTC (formerly Carrick) Exchange, designed and developed under the auspices of *ascilite*. The designers of the UNSW Learning & Teaching Exchange have learned from and built on these developments, with an intention to eventually complement those wider initiatives. Our Exchange will provide an environment for UNSW academics to share their learning and teaching practice and develop their academic career in a local context, aiming to integrate local activities with wider initiatives in learning and teaching research and practice nationally and internationally. This paper draws on the literature on communities of practice and the scholarship of teaching and learning, and reviews some recent online developments in higher education that informed the planning of the UNSW Learning & Teaching Exchange.

Keywords: learning and teaching exchange, online communities, communities of practice, scholarship of teaching and learning, learning object repositories

Introduction

UNSW's need for an institution wide "web-based learning and teaching exchange to highlight good practice and research" has been identified by UNSW stakeholders and recognised by decision makers by including it as one of the indicators within the Learning & Teaching Enhancement Plan (UNSW 2008). Similar initiatives in higher education, such as online learning and teaching resource websites containing support documents and learning objects and sometimes including self-help tutorial-style material, have traditionally been developed as static document repositories. This form has afforded little or no opportunity for comment, discussion, contribution or collaborative redevelopment of resources. Designing and building online resources has been a labour-intensive task for resource-poor learning and teaching departments. Maintaining them, facilitating forums for interaction, and engaging busy academics in using the resources effectively has often been an insurmountable challenge.

Recent developments in social networks, particularly those engaged in interactions using social software tools, present increasing evidence that it is possible to create and maintain successful participatory communities focused around shared interests and supported by networked social tools. Whilst conceptualising the UNSW Learning & Teaching (L&T) Exchange several questions were raised in response to the developments and research published on learning repositories and networks to support teachers in an academic context - what if the resources were created, shared and managed by academics themselves? If forums for sharing of teaching experiences, practices and resources were integrated into academic development pathways? And if learning and teaching departments were tasked to facilitate community processes, and manage the enabling technology, rather than to produce and deliver content? This could make more effective use of learning and teaching support resources while modelling a learner-centred environment, demonstrating a social constructivist approach that we hope to engender in academics' own learning and teaching practice.

It seems increasingly apparent that development of a static showcase or repository alone would be inadequate, outmoded and difficult to sustain. Current theory and examples of practice in the area of online repositories in the learning and teaching context assure us that a truly sustainable and dynamic

'exchange' should be capable of much more – in providing exemplars, academic development pathways, peer support and review processes, and resources to promote innovation and creativity. It could provide opportunities for career development and recognition, a forum for leadership in learning and teaching to be demonstrated, developed and supported, and promote a culture of collaboration and peer support through communities of practice. The web platform now permits a new dimension for the Learning & Teaching 'commons' and gives space for communities to engage in dialogue around shared interests that has been cultivated in physical space for years.

This paper summarises a preliminary research review of current practice and experience of other organisations having similar needs in developing learning and teaching repositories and fostering learning and teaching focused communities of practice. It sets a theoretical framework for the project, defines the values that underpin this development and functions as a basis for future interactions with the institutional stakeholders. The paper also presents a development plan and model for the UNSW L&T Exchange. This paper would be of interest to other organisations that explore the possibilities of developing sustainable and vibrant communities around online learning and teaching resource repositories.

The community dimension of the UNSW L&T Exchange

A strong need for a learning and teaching best practice showcase is captured in the institutional statement of strategic intent 'B2B – Blueprint to Beyond' (UNSW 2006), and is embedded in the current Learning & Teaching Enhancement Plan (UNSW 2008), which propounds objectives such as:

〈 Promote program coherence and curriculum quality across courses.
〈 Establish a Commons for teaching staff.
〈 Continue to promote flexible learning approaches which integrate educational technologies with face to face teaching.
〈 Collect, disseminate and reward good practice and research in learning and teaching.

However, there are some gaps in the rationale so far. We needed to identify what our prospective users (academics) perceive as their needs in sharing their learning and teaching practice. We needed to understand how the online platform would relate to their existing relationships and current activities. We needed to analyse what resources will be required for development, and for maintenance of this facility. Perhaps most critically, we needed to understand the meaning of 'community' in this context. The definition of what our communities are, how they operate, and what support mechanisms they require appear to be prerequisite to any further developments and considerations. The literature in the area of communities of practice, teaching commons, and the scholarship of teaching and learning seems to be exceptionally useful in informing our planning process. A summary of the key issues that informed our model is set out below.

Communities of practice

The UNSW L&T Exchange idea is based on a model of a network of communities of practice linked loosely by a central body or organisation and whose activities and learning experiences are documented (in whole) and facilitated (in part) by an online space. Here 'community of practice' (CoP) refers to the notion outlined by Wenger (1998) that he describes as being characterised by three key ideas:

〈 **What it is about:** a joint enterprise as understood and continually renegotiated by its members;
〈 **How it functions**: mutual engagement that bind members together into a social entity;
〈 **What capability it has produced:** the shared repertoire of communal resources routines, sensibilities, artifacts, vocabulary, styles, etc.) that members have developed over time (Wenger 1998).

In regard to developing and nurturing CoP Wenger suggests that the dynamics of a CoP are not consistent from one to the next, so in the event of an externally imposed influence, the community response will vary largely depending on its circumstances:

> Just because communities of practice arise naturally does not mean that organisations can't do anything to influence their development. Most communities of practice exist whether or not the organisation recognises them. Many are best left alone–some might actually wither under the institutional spotlight. And some may actually need to be carefully seeded and nurtured. But a good number will benefit from some attention, as long as this attention does not smother their self-organising drive. (Wenger 1998)

Wenger (1998) indicates that leadership and facilitation roles are crucial to all CoP and that they take many forms. He argues that the leadership roles are filled by "recognised experts [who] need to be involved in some way, even if they don't do much of the work", and that their presence is needed to legitimise the community "as a place for sharing and creating knowledge". Significantly, he continues that leaders must also have legitimacy within the community, saying: "to be effective...managers and others must work with communities of practice from the inside rather than merely attempt to design them or manipulate them from the outside" (Wenger 1998). It is arguably as much about understanding and identifying with the value systems of the community as it is about achieving recognition as an expert.

These points are significant for the development of UNSW L&T Exchange, because they suggest that communities can be fragile ecosystems with unique internal structures and dynamics, both formal and informal, which react differently to external stimuli. We must therefore strive to work within them in recognition of the uniqueness of their circumstances, rather than aim to impose an artificial structure on top of them. This suggests the need for a targeted, flexible, and devolved organisational structure, and a similar online technical framework of the UNSW L&T Exchange; both of which are informed and/or governed by the consensus of the network of CoPs, rather than the institutionally imposed structure and rules. As Wenger (1998) concludes: "The art is to help such communities find resources and connections without overwhelming them with organisational meddling".

From the standpoint of planning networks like UNSW L&T Exchange, complexities emerge when multiple CoP participate in a joint effort. Inevitably multiple value systems and focal points represented by different CoP will emerge, all of which must be considered and reconciled. The organisational and system processes require the flexibility to incorporate all of these considerations, while the notion of a devolved organisational structure in which the members of the different communities themselves largely direct their online activities in the UNSW L&T Exchange system requires a technical framework that is fluid and flexible enough to accommodate this reality.

The 'teaching commons'

Another conceptual framework that informs the development of the UNSW L&T Exchange is 'teaching commons' as defined by Huber and Hutchings (2006, p26):

> a conceptual space in which communities of educators committed to pedagogical inquiry
> and innovation come together to exchange ideas about teaching and learning and use them
> to meet the challenges of preparing students for personal, professional, and civic life.

They describe the defining features as being common resources (with management regularising access) combined with institutional arrangements devised to foster social co-operation. While teaching commons had previously been largely conceived as supported by physical spaces and activities, the expansion of this notion to include virtual spaces, activities, tools and resources was inevitable. There are many examples of this occurring, including MIT's Open Course Ware development, the Carnegie Institute's Knowledge Media Library, and Web-based course portfolios supported by peer review of teaching at the University of Nebraska (Huber and Hutchings, 2006).

The developments described in the review of cases below could all be considered to be examples of teaching commons, and the challenges to uptake and community engagement that are described there are echoed by Huber and Hutchings, who specify that creating and sustaining demand, campus support, quality, publicness (copyright), incentives to use, attribution and recognition, and institutional support are key issues in establishing successful teaching commons.

Scholarship of teaching & learning

The 'scholarship of teaching and learning' (SoTL) represents a growing impetus to "make transparent how we have made learning possible" (Trigwell, Martin, Benjamin & Prosser, 2000). An international society for SoTL (ISSOTL[i] has been established. The ISSOTL website directs readers to Wikipedia to read (and contribute to) the definition of SoTL, currently described as: "scholarly inquiry into student learning which advances the practice of teaching by sharing this research publicly". This is supported by the Carnegie Institute's CASTL[ii] initiative which sees the development of SoTL as enhancing both student learning and recognition of teaching. SoTL has tended to be viewed as an esoteric activity carried out by learning theorists until quite recently, but as Huber and Hutchings (2006, p28) point out, "[p]ractitioners must participate in the effort if it is to have real consequences in the classroom. And it is the work of practitioners that one finds increasingly in the teaching commons." This is reiterated by

Kreber (2007, p1) who acknowledges the importance of "modest or small-scale efforts aimed at reflecting on one's own classroom teaching and sharing what was learned as a way of engaging with this kind of work."

Critical to practitioner engagement in a teaching commons is the extrinsic (sectorial, institutional, departmental) valuing of teaching activities (Kreber 2007), and the inclusion of teaching performance and outcomes in promotion criteria. This is a significant motivator for teachers to publish and develop artefacts to contribute to a teaching portfolio, and through this become engaged in the reflective practice and peer review processes that characterise their discipline-based research. Huber and Hutchings (2006, p26) assert that there is "a general sense … that the educational mission of higher education deserves more status and visibility", and that serious scholarly attention for pedagogy, driven by its intrinsic usefulness in helping faculty address pressing issues in their teaching practice is resulting (Hutchings & Huber, 2005). It seems imperative then, that a community dimension to the provision of online resources must support scholarly processes, authentically engage teachers in their pedagogic practice, and assist in academic career progression as an important incentive.

Review of current practice

The strategic importance of facilities to collect, disseminate and reward best practice in learning and teaching has been recognised across the higher education sector, and in recent years there have been several initiatives in developing such community-based or community-supported online resources. These include: the ALTC Exchange[iii], servicing the Australia higher education sector; some UK-based developments explored in the 'Community Dimensions of Learning Object Repositories' project completed in 2007; the Universitas 21 Learning Resources Catalogue project at UNSW; and the UNSW Environmental Network community. The UNSW L&T Exchange does not intend to duplicate the purpose and functionality of similar facilities, rather function as a local networking and resources system that can complement more widely available tools. The experience of relevant developments that helped in defining and planning the UNSW L&T Exchange is outlined below.

ALTC Exchange

ALTC Exchange is a centralised online service that provides learning and teaching resources and also supports collaboration across higher education sector in Australia. It was launched in 2008 and is currently at an early stage of building a range of learning and teaching resources and engaging organisations and academics in collaboration and disseminating their learning and teaching practice and research through this facility. The underlying technology is still being developed. Without doubt the ALTC Exchange will evolve in the future, both in its collaborative community and technological aspects. This development was of particular consideration when conceptualising the UNSW L&T Exchange, for two reasons: UNSW L&T Exchange is planned in full awareness of the developments around the ALTC Exchange and is framed to focus on local institution-specific niche needs that are not addressed by centralised ALTC Exchange service; and the UNSW L&T Exchange development can greatly benefit from the comprehensive scoping exercise (carried out by *ascilite*) entailing literature review, research into current practice, study of engagement into the higher education sector and development of communities of practice in relation to sharing and disseminating best practice in learning and teaching, that informed the development of the ALTC Exchange. The scoping review that underpins the development of the ALTC Exchange largely focuses on pedagogical, socio-cultural and organisational challenges and benefits rather than technological ones.

Some of the findings of this review and recommendations made by *ascilite* echo our conclusions in relation to the CoP and 'teaching commons' literature. Supporting and encouraging **user engagement** was seen as one of the key issues in creating a successful community around a sustainable online resource repository (Lefoe et al 2007). Communicating the purpose of the endeavour and expectations for participation whilst addressing real needs of the users were identified as key priorities for the ALTC Exchange. Some of the suggested strategies to entice users to participate, such as aligning with institutional promotion processes and rewarding contributors, highlighted the need to integrate the learning and teaching resource sharing activities into existing institutional processes and negotiate the Exchange's position in relation to institutional policies. This suggested strategy will be addressed when planning the UNSW L&T Exchange. Appropriate UNSW stakeholders and decision makers must be engaged in the early stages of the planning process to ensure that there is a seamless process enabling academics to create and share artefacts through UNSW L&T Exchange as part of their teaching portfolio and that their activities in UNSW L&T Exchange are closely linked to their academic career and promotion.

It was recommended by reviewers that ALTC Exchange emphasise the opportunities to disseminate information about local learning and teaching projects and activities and provide learning and teaching project communities with tools and online spaces to collaborate. The possibility of establishing online presence for local UNSW learning and teaching projects could be a strong motivating factor enticing existing UNSW CoP to use the UNSW L&T Exchange for distributing resources and conducting conversations online, especially if the sharing and collaboration process is made easy and the platform is flexible enough to enable participants to control access rights and define their audience (from public to private resources and activities). Opportunities to link local initiatives and resources with ALTC Exchange will also have to be explored in order to provide a wider context for local learning and teaching developments.

Another major category of recommendations outlined by *ascilite* was related to **resource contribution**. Possible strategies of actively approaching and encouraging potential contributors to participate in and use existing resources, where possible, were discussed in the review. When planning the UNSW L&T Exchange all the existing institutional learning and teaching activities, academic development programs and online content must be evaluated as prospective UNSW L&T Exchange online resources and reused where appropriate. If the UNSW L&T Exchange is integrated in the existing academic development framework, informal CoP and collegial networks that are often formed through participation in these programs could be strategically directed to use UNSW L&T Exchange collaboration tools to continue dialog initiated at face to face events and in this way generate new learning and teaching resources.

Peer review and commentary as one of the most familiar and widely accepted collaboration and quality assurance models in the academic world was highlighted as another key group of recommendations. It was advised that ALTC Exchange established a formal peer review process that would align with institutional policies and promote quality scholarship of teaching and learning. It was recommended that both formal peer reviewers and participants engaging in informal commentary on each other's work would be recognised and rewarded. This is an important consideration when planning the UNSW L&T Exchange, because an integrated peer review system would establish credibility of online resources shared and artefacts created and help the integration of the UNSW L&T Exchange into the academic promotion and other institutional processes.

The key difference between the ALTC Exchange and the planned UNSW L&T Exchange is that the UNSW L&T Exchange has an existing physical campus-based community that is already engaged in multiple ways of generating and sharing resources, both online and off-line, while ALTC Exchange seems to be aiming to encourage and support cross-institutional collaboration that often has a much more fragmented community engagement (i.e. often for the duration of the project). While this is the strength of the UNSW L&T Exchange, relevant institutional stakeholders will have to be engaged from early on to ensure that real community needs are identified and addressed in order to establish a vibrant and sustainable local community around UNSW L&T Exchange that functions in strong relation to the ALTC Exchange as a wider context and generates online resources that could feed into the ALTC Exchange.

Community dimensions of learning object repositories (CD-LOR)

The CD-LOR project (Milligan, 2007) in the UK aimed to investigate barriers and enablers to successfully embed and use learning object repositories (LORs) in support of teaching and learning, within a diverse range of learning communities. The project emerged in response to literature suggesting that the sharing of digital resources within communities could address the issue of identified cultural and social inhibitors to the reuse of LOs (Littlejohn, 2005). For this project, eight use cases were chosen for further study and development.[iv] While the UNSW L&T Exchange will focus on teaching exemplars and resources rather than LOs, the community dimension is equally relevant in its reframing of the development context from a system and content focus to a user needs focus.

The project found that the barriers to uptake of LORs could be usefully categorised as cultural, pedagogical, technical and organisational, and defined a key set of characteristics (or dimensions) of LOR communities that should be considered when examining repositories and their uptake by specific communities. A proposed framework for the development of LORs combines the community and repository dimensions, framed as a series of community-focused questions, and is elaborated in the CD-LOR Guidelines document. The authors suggest that:

> Sometimes your repository will be set up with a view that a community will coalesce around it. You should not, however, assume that this will necessarily happen once your

repository is available. You might need to plan specific activities in order to enable acceptance and adoption of your repository. (Margaryan, Milligan & Douglas, 2007, p5)

The project document outlining recommendations for future developments (Margaryan, Milligan, Douglas, Littlejohn & Nicol, 2007) reported that problems were encountered in gathering evidence of use of LORs, due to small numbers of users, and asks whether this is because the project is in development, or because user needs and barriers to use are not adequately considered – the UNSW experience with the U21 LRC suggests the latter (see LRC study below). They suggest that "LORs should be based firmly on the needs and context of the end user communities that the LORs aim to serve." (Margaryan et al, 2007, p4)

It has been suggested that learning objects do not capture the essence of good teaching, as they cannot provide insight into tacit changes in teaching tactics, or the ways that teachers interact with students. Dialogue within communities of practice may be necessary to flesh out the real context and application of learning objects (Margaryan & Littlejohn, 2007). Arguably this is applicable to a broad range of online teaching resources, such as exemplars, learning designs and pedagogic tools, which have likewise proven to be resistant to effective dissemination through technological systems alone (Oliver, 2006).

Margaryan & Littlejohn (2007) also point out that there tends to be a contradiction in the views of stakeholders of these systems – curators/administrators focus on the system itself, and the long-term focus of their objectives (enhancement of teaching outcomes), while users are focused on a wider context of activities and systems, and are concerned with how the system can support their short-term goals of course implementation. Margaryan and Littlejohn (2007, p633) report that "[l]ack of alignment between the vision and the day to day implementation has been cited as an issue affecting transformational change in many organisations (Collis and Moonen, 2001; Hammond and Karran, 1998)" (Margaryan & Littlejohn 2007, p633).

These commentators conclude that for user engagement a pedagogical rather than technology focus is critical, along with provision and management of community facilities and tools, and explicit support for scholarship of teaching promoting the enhancement of the status of teaching as an academic activity (Margaryan & Littlejohn, 2007; Huber & Hutchings, 2006). Based on this we believe that planning the UNSW L&T Exchange should not focus on provision of resources and technology only, but should encompass strategies to ensure community engagement.

The learning resource catalogue (LRC) and the environmental network (EN)

As illustrated earlier, though the technical aspects in providing a virtual space for interaction are significant, it is the non-technical elements of an online community that are the most crucial to its continuance. Online tools must be seen to have inherent value before users will be motivated to access and use them; and these motivators are rarely technical in nature. Indeed in many cases the technical framework that underpins an online environment plays only a minimal role in the community that develops around it. Effectively, the community determines the success or failure of an online application, not the application itself. Two different UNSW initiatives: the Learning Resource Catalogue (LRC) and the Environmental Network (EN) are an illustration of this.

The learning resource catalogue
As described in Koppi et al (2005, p1), the LRC saw its inception in 1999 in a Universitas 21 collaboration that sought to "make efficiency gains by minimising replication and to reuse the existing unpublished learning and teaching resources that are replicated by universities the world over." The project was founded upon, and indeed focused on, the technical environment that was to establish the storehouse of the learning object metadata, and later the materials themselves (referred to as learning objects or learning resources) – the LRC3 application.

Ongoing development of the LRC3 took place over a period of several years, during which time the LRC software went through several iterations of development increasing complexity and sophistication. During this time uptake of the application was far smaller than had been hoped. As a result new tools and features were continuously launched in the hopes that it would help the project reach "critical mass". Critical mass was thought to be the point where there were sufficient resources in the catalogue area that user numbers would skyrocket and the application would become self-sustaining. A few years into the project's lifespan administrators began to realise that one of the key gaps in the model was the lack of a community presence to drive the usage. The LRC underwent a substantial redevelopment that saw the addition of a group area to the existing catalogue section. This group area included facilities for sharing links,

uploading files, engaging in discussion, and even reviewing and evaluating each other's teaching materials. The objective was to "promote the development of new learning resources (objects that can be catalogued in the LRC) by a group that is able to see what is already owned by the group members." A certain degree of uptake of the new area did occur by administrators and to a lesser degree researchers – who largely used the file upload feature - however the LRC community area never saw the bloom of usage that had been hoped.

Attempts were made to increase awareness of the project's mission via a variety of methods including presentations, project conferences, publications, group and one-on-one training sessions however usage never improved. In most cases the discussion was focused on how to drive usage to the site, or how the site could be used, rather than on the needs and existing activities of the community. Ultimately when the project was forced to implement cost-recouping measures via partner subscriptions the number of member institutions dropped significantly and the project was eventually terminated in 2006.

The environmental network
The Environmental Network (EN), established in early 2005 at the Institute of Environmental Studies at UNSW, seeks to establish a community of environmentally-focused organisations from across the public and private sectors – including government, non-profit organisations, private firms and educators. From the start, the EN was focused on community building and an issue that was above and beyond the technical confines of the site, namely "the important issues of the environment and sustainability."[v] In contrast, the LRC's inception was largely – if not exclusively – focused on the acquisition of resources, which left its scope relatively narrow and targeted user activities solely on the repository.

The EN's mission immediately introduced the need for and relevance of offline activities that brought together like-minded individuals in pursuit of a broad, multifaceted goal for which they already had a vested interest. The EN would thereby become a facilitating mechanism for a greater purpose, rather than an end in itself, as was arguably the case with the LRC. It was these activities – not the online application – that represented the primary driver and motivator for the participants. The success of the project therefore appears to have arisen far more from the efforts of the community than the technical component, which arguably had no impact on the outcomes whatsoever, as the technical aspects of both sites were virtually identical.

Community dimensions of the LRC and the EN
In the case of the LRC there were two key perspectives in the landscape of the project, each of which represented entirely different communities of practice. Unfortunately for the LRC, only one of these was fully understood and considered. This aspect was that of senior managers and institutional decision makers, who were primarily focused on the "efficiency gains" discussed in Koppi et al (2005). These objectives were not reflected in the core value of the second aspect – that of lecturers and academics staff who were the primary user group, and had the resources the LRC needed. As Koppi et al (2005, p5) discuss, the values and objectives of these communities were inherently different:

> The prevailing culture is one where teaching materials are considered personal and private and even something to be protected. This is in marked contrast to the concurrent cultural trait of publicising research findings as widely as possible. The reason for these opposing traits being held simultaneously by an academic is probably linked to a reward system. Publishing research findings is competitive and rewarded by such things as tenure and promotion whereas publicising teaching resources attracts no parallel reward. Within the prevailing system, spending time on identifying, describing and cataloguing teaching resources may in fact be seen as counter productive with respect to earning rewards. Whilst fulfilling a social responsibility is sufficient reward for some contributors; this is apparently not a common motivator.

Furthermore, by approaching the task of increasing project awareness from an application-centred standpoint, the values and perspective of the community that actually had the resources – the lecturers and academic staff – was not considered. This resulted in the alienation of academic staff who, as a result, found no interest or personal value in the project, nor the application. From their perspective, attempts by LRC project staff to engage with them amounted to attempts "to design them or manipulate them from the outside" (Wenger 1998). In the instance of the Environmental Network the Institute of Environmental Studies clearly identifies with and shares the same values as the other future members of the Environmental Network, and is comprised of recognised subject-matter experts. This would have afforded them a significant amount of internal legitimacy within the community. The mission statement for the Network related directly to the interests and values of the future members.

Technically, the EN is a modification of the LRC Learning Resource Catalogue.[vi] The catalogue and peer review tools were removed; the backend code, database structures, and entire remaining technical framework were copied verbatim from the LRC. The implications of this are profound: despite the nominal presence of 18 international institutions and substantial development resources put into the application, the LRC struggled and ultimately failed to inspire widespread use of the application. With a significantly smaller pool of resources, half the code base, and virtually no additional development, the EN has developed a small but loyal and growing community that relies upon it as a facilitating mechanism.

Development perspectives for the UNSW L&T Exchange

The UNSW strategic institutional priorities drive the UNSW L&T Exchange development to fulfil the need to showcase best learning and teaching practice at UNSW. The straightforward response to this would be to develop an online repository containing only 'polished' case studies of good learning and teaching practice produced by learning and teaching department staff. However, building on the learnings from the CoP and 'teaching commons' theoretical frameworks, it is apparent that if we do not achieve a full buy-in and sense of ownership by the academics and practicing communities from the very outset, this enterprise will end up as just another 'dead' web space, institutionally run at first, then forgotten. Drawing from studies on similar online repositories, and especially analysing LRC failure in contrast to EN success, our intention is to make every effort possible to take into account users (academics) needs and establish a vibrant and self-sustaining community around the UNSW L&T Exchange based on wider concerns and activities about L&T issues and SoTL. The development of the UNSW L&T Exchange will be informed by stakeholder focus groups and professional development needs analysis exercises that are being planned for 2009. As discussed earlier in the paper, the 'rules of engagement' will have to be defined by the needs, value systems and focal points of the existing CoP centred around L&T issues at UNSW. The technical platform must be flexible and robust enough to accommodate diverging needs of various communities and individuals.

The UNSW L&T Exchange must be integrated with UNSW institutional policies and provide academics with opportunities to create and share online artefacts to be used in their teaching portfolios and in this way support them in the promotion process. We will tap into existing UNSW academic development programs and communities around them to find ways for participation and contribution to the UNSW L&T Exchange that can support the participants' needs and advance their academic careers. We aim to establish clear links with ALTC Exchange and encourage academics to use the UNSW L&T Exchange as a 'sounding board', a place where dialogue could take place in the local community before resources are contributed to the central 'exchange' at national level. A process for bringing the ideas and content generated through engagement in the community to the level of 'publishable' polished showcase must be designed and developed.

UNSW L&T Exchange must support multiple levels of engagement. It must have multiple entry points and work for all the stakeholders: academics who are just starting their academic career and want to learn from experience of their senior colleagues; people who are excellent teachers and who want to share their tips and tricks with their colleagues in the UNSW community; academics who want to use the exchange to establish an online presence for their projects and advance their standing in the SoTL community, etc. The UNSW L&T Exchange resources will be roughly assigned into several categories, such as case studies, events, 'tips & tricks' and will form clusters, for example, by discipline, project, academic development program, or community they belong to, interlinking them with one another, and enabling the audience to find an appropriate entry points and pathways. Different roles and perspectives that UNSW L&T Exchange users might take will be explored through comprehensive use case scenario development as part of the system design exercise. Use cases will enable us to communicate the design ideas to the stakeholders and empower them to contribute to the development in a non-threatening way, without extensive use of technical jargon. The conceptual model of the UNSW L&T Exchange is displayed in Figure 1.

The development approach

Design-based research could provide an appropriate model for a development such as the UNSW L&T Exchange, where the incorporation of stakeholder and user perspectives into the development process is essential to the integration of community perspectives into the system. Design-based research extends a formative evaluation approach, in that it can not only meet local development needs, but can advance a theoretical agenda by exploring and confirming theoretical relationships (Barab & Squire, 2004).
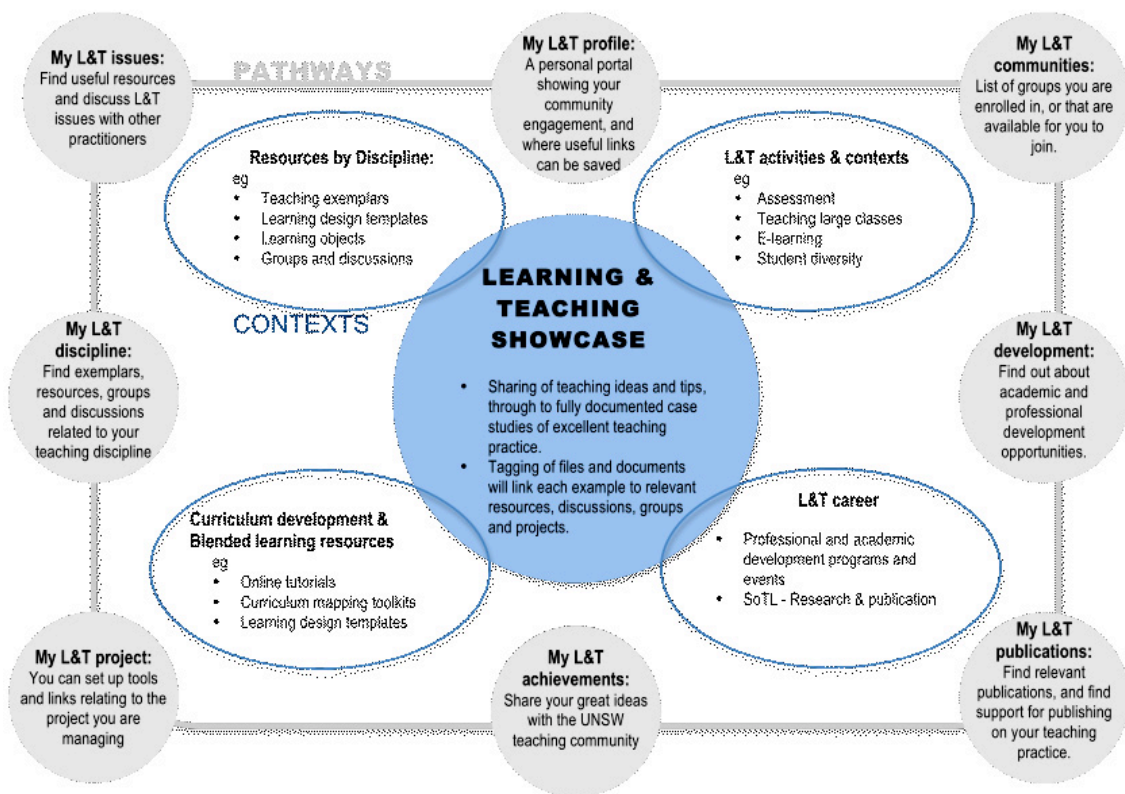
Figure 1: The conceptual model of UNSW L&T Exchange

A design-based research model

Barab & Squire (2004) suggest that educational researchers often have a transformative agenda, and are involved in the development of contexts, frameworks and tools to enable this (for example, the creating of online communities for professional development). They propose that research tools need to go beyond simple observation of learning and the examination of isolated phenomena in a laboratory setting citing the work of Brown (1992) and Collins (1992) in the development of a design-based methodology to approach such tasks. Describing "a series of approaches, with the intent of producing new theories, artifacts, and practices that account for and potentially impact learning and teaching in naturalistic settings" (Barab & Squire, 2004, p2), they cite Collins, Joseph, and Bielaczyc (2004) in distinguishing design-based methodology as understanding the messiness of real-world practice, in a process that involves flexible design revision, multiple dependent variables and capturing social interaction, with 'subjects' recontextualised as 'co-participants'. Like formative evaluation methodologies, a design-based research approach is "naturalistic, process-oriented, iterative, and involves creating a tangible design that works in complex social settings" (Barab & Squire, 2004, p5).

An iterative process in which research and development cycle through design, enactment, analysis and redesign (Design-Based Research Collective, 2003) is also an excellent model for SoTL. This reflects Kolb's (1975) experiential learning cycle (act, reflect, theorise, apply), a basic concept for the constructivist learning approach we aim to model in the Exchange. As a methodology for understanding how educational innovations work in practice it supports a development strategy which not only embeds the active involvement of stakeholders and users of the system but ensures academic rigour in implementation and evaluation often lacking in technological developments.

The ALTC Exchange development team in identifying the design approach for that development found that design-based research was a systematic way to contribute to practice while drawing upon and expanding existing theory (Lefoe et al, 2007). This supports our selection of this approach as appropriate for the UNSW L&T Exchange development.

Future directions

The design-based model will be developed as an action plan to progress the project. Stakeholders will be identified and engaged in the planning process, the Exchange model further developed and detailed, followed by research into appropriate technologies to support the identified functionality. The

foundational research described in this paper provides us with an underpinning approach that should ensure that the Exchange be representative, responsive, and able to engage academic teachers at UNSW in a way that can transform their teaching practice. Taking a research approach to this practical development will provide a model for future developments that is supported by both prior research in the area, and by the active research outcomes of the project itself.

Conclusions

In approaching the development of an online showcase of teaching exemplars for UNSW as indicated by the current Learning & Teaching Enhancement Plan, current web technologies provide the opportunity to extend the scope into a true 'exchange' where local communities of practice and scholarship of teaching practice can be nurtured and supported. Reviewing current practice elsewhere assures us that this approach represents best practice in provision of support for teaching, and will be a timely and useful extension to campus-based learning and teaching activities.

Our research has shown that success depends first and foremost on considering the nature, needs and activities of our local communities, and that the technology solution(s) that are identified for the development are secondary to those considerations.

It is also imperative to ensure that all stakeholders are involved in the development process, and that the systems and processes we incorporate are integrated with other programs and policies at UNSW. Existing communities and intrinsic value of learning and teaching should be seen as the focal point of the UNSW L&T Exchange, with our users enabled to develop and publish their ideas and activities in a flexible way, both locally and in the wider higher education arena.

Clearly, most of the challenges and barriers in making the UNSW L&T Exchange a success will be socio-cultural and organisational. The pedagogical benefits and the potential that UNSW L&T Exchange has in advancing L&T culture and SoTL institution-wide at UNSW strongly outweigh the difficulties and barriers that can be anticipated at this stage.

Acknowledgments

References

ALTC Exchange http://www.carrickexchange.edu.au/ [viewed 19 Jul 2008]

Barab, S. and Squire, K. (2004) Design-Based Research: Putting a Stake in the Ground. *The Journal of the Learning Sciences*, 13(1), 1–14, Lawrence Erlbaum Associates, Inc. http://inkido.indiana.edu/research/onlinemanu/papers/dbr-jls.pdf [viewed 3 Aug 2008]

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The Journal of The Learning Sciences*, 2(2), 141–178.

Collins, A. (1992). Toward a design science of education. In E. Scanlon & T. O'Shea (Eds.), *New directions in educational technology* (pp. 15–22). New York: Springer-Verlag.

Collins, A., Joseph,D., & Bielaczyc,K.(2004).Design experiments: Theoretical and methodological issues. *Journal of the Learning Sciences*, 13(1), 15–42.

Community Dimensions of Learning Object Repositories - Community Dimensions of Learning Object Repositories (CD-LOR) project. http://www.academy.gcal.ac.uk/cd-lor/

Design-Based Research Collective (http://www.designbasedresearch.org/) (2003). Design-Based Research: An Emerging Paradigm for Educational Inquiry. *Educational Researcher* 32(1), http://www.aera.net/uploadedFiles/Journals_and_Publications/Journals/Educational_Researcher/3201/3201_DesignCollective.pdf [viewed 30 Jul 2008]

EN Newsletter. http://www.en.unsw.edu.au/newsletters/ENnewsletter1.htm [viewed 19 Jul 2008]

EN website. http://www.en.unsw.edu.au/topsiteInfo/tools/LRC_Evolution.cfm [viewed 19 Jul 2008]

Executive summary of Report 4 prepared by The Australasian Society for Computers in Learning in Tertiary Education for the Carrick Exchange Project (2008). http://beta.carrickexchange.edu.au/ascilite-report-4-carrick-exchange-project-final-report-executive-summary [viewed 28 Jul 2008]

Huber, M.T., Hutchings, P. (2006). Building the teaching commons. *Change,* 38(3), p24(8)

Hutchings, P., Huber, M.T. (2005). Building the Teaching Commons. *Carnegie Perspectives.* Carnegie Foundation for the Advancement of Teaching.

Kolb. D. A. and Fry, R. (1975). 'Toward an applied theory of experiential learning. In C. Cooper (Ed.), *Theories of group process*. London: John Wiley.

Koppi, A. J., Bogle, L. and Bogle, M. (2005). Learning objects, repositories, sharing and reusability. *Open Learning* 20, 83–91.

Kreber, C. (2007). What's it really all about? The Scholarship of Teaching and Learning as an Authentic Practice. *International Journal for the Scholarship of Teaching and Learning.* http://www.georgiasouthern.edu/ijsotl/v1n1/essays/kreber/IJ_Kreber.pdf [viewed 22 Jul 2008]

Lefoe, G., O'Reilly, M., Parrish, D., Bennett, S., Keppell, M. & Gunn, C. (2007). The Carrick Exchange: Not Just Another Repository. In C. Montgomerie & J. Seale (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2007*, 108-113. Chesapeake, VA: AACE. http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1052&context=asdpapers [viewed 28 Jul 2008]

Littlejohn, A. (2005). Community dimensions of learning object repositories - keynote abstract. In *Balance, fidelity, mobility: Maintaining the momentum. Proceedings ascilite Brisbane 2005*. http://www.ascilite.org.au/conferences/brisbane05/blogs/proceedings/KA3_Littlejohn.pdf

Margaryan, A., Milligan, C., Douglas, P. (2007). Community Dimensions of Learning Object Repositories. Deliverable 9 - Structured Guidelines for Setting up Learning Object Repositories. http://www.academy.gcal.ac.uk/cd-lor/documents/CD-LOR_Structured_Guidelines_v1p0_001.pdf [viewed 22 Jul 2008]

Margaryan, A., Milligan, C., Douglas, P., Littlejohn, A., Nicol, D. (2007). Community Dimensions of Learning Object Repositories. Deliverable 10 - Recommendations to JISC for Future Research and Development. http://www.academy.gcal.ac.uk/cd-lor/documents/CDLOR_Final_Recommendations_v1p0.pdf [viewed 22 Jul 2008]

Milligan (2007). Community Dimensions of Learning Object Repositories - Final Report. Glasgow Caledonian University. http://www.academy.gcal.ac.uk/cd-lor/CD-LOR_Final_Report_v1p0.pdf

Oliver, R. (2006). Learning Designs for ICT-based Learning Settings. *ascilite Newsletter July 2006*. http://www.ascilite.org.au/index.php?option=com_content&task=view&id=50&Itemid=0#leadarticle [viewed 31 Jul 2008]

Trigwell, K., Martin, E., Benjamin, J. & Prosser, M. (2000). Scholarship of teaching: A model. *Higher Education Research & Development*, 19(2), 155-68.

UNSW (2006). B2B Blueprint to Beyond 2010 - UNSW Strategic Intent. http://www.unsw.edu.au/about/pad/B2B_UNSW_Strategic_Intent.pdf

UNSW Learning &Teaching Enhancement Plan (2008). Unpublished.

Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems Thinker*, June 1998. http://www.co-i-l.com/coil/knowledge-garden/cop/lss.shtml [viewed 28 Jul 2008]

Wikipedia. Entry for The Scholarship of Teaching and Learning. http://en.wikipedia.org/wiki/Scholarship_of_teaching_and_learning [viewed 30 Jul 2008]

Endnotes

[i] The International Society for the Scholarship of Teaching & Learning http://www.issotl.org/

[ii] Carnegie Academy for the Scholarship of Teaching and Learning http://www.carnegiefoundation.org/programs/index.asp?key=21

[iii] Former Carrick Exchange http://www.carrickexchange.edu.au/

[iv] Use case scenarios and other project documents are available online at: http://www.academy.gcal.ac.uk/cd- lor/ retrieved at 28/07/08

[v] From the June 2005 EN Newsletter (http://www.en.unsw.edu.au/newsletters/ENnewsletter1.htm, viewed at 28/07/08)

[vi] http://www.en.unsw.edu.au/topsiteInfo/tools/LRC_Evolution.cfm retrieved at 28/07/08

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