Educational design as transdisciplinary partnership: Supporting assessment design for online

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The design of student assessment for the online context can be a disquieting experience without the support of colleagues and a group of peers from across a range of disciplines with whom to share ideas. This paper reports on interviews conducted with academic "peak performers" as well as some educational design practitioners about the current practices of designing for online assessment. A transdisciplinary approach to educational design is proposed for further exploration.

Keywords: educational design, transdisciplinary, crossdisciplinary, partnerships, online assessment, Mode 2 knowledge production.

Introduction

Educational design is a professional practice with its roots in the systems model of instructional design (Gagné & Briggs, 1974). Educational design practitioners come to their profession through a range of qualification pathways and are well informed by theory, diverse though this may be (Schwier, Campbell, & Kenny, 2004). In general, designers work intensively with the immediate pedagogical questions of curriculum and assessment design. They usually do so in direct collaboration with the subject matter expert and occasionally, within multidisciplinary teams that include technical as well as academic staff. The key concern of designers is to ensure educational rigour through the integration of appropriate learning theory into the learning materials and events being designed.

A long standing associated role of educational designers has been that of academic staff development – empowering academic staff to design, develop, evaluate and reflect upon the quality learning experiences of their students. While this facilitation role is commonly acknowledged by educational designers themselves, even in terms of being agents of social change, Schwier *et al.* (2004, p.94) state "it isn't enough to work quietly and effectively in the shadows". Increasing demands on all academic staff in the tertiary sector have meant that an educational design method which seeks to work collaboratively across disciplines would leverage the creative inputs of a range of staff and ensure the sustainability of educational design activities while preserving academic standards.

An earlier paper (O'Reilly, 2003) describes an action learning approach to educational design in which academic staff are brought together from across diverse disciplines to work in small teams comprised also of reference librarians and technical support staff in the process of designing, developing, evaluating and reflecting upon strategies for online assessment. This paper builds on that earlier work through an examination of academic "peak performers" across a range of disciplines, and educational design practices in four regional universities within eastern Australia. Discussion considers the potential of educational designers to provide leadership in moving beyond the comfort zone to explore the issues emerging from designing across a widening curriculum and the concomitant production of transdisciplinary knowledge.

Transdisciplinary partnerships

Distinctions between disciplines and their particular knowledge structure have traditionally made it possible to argue the connection between teaching and research in universities. Academics research within their disciplines clearly knowing this structure of knowledge and the nature of the disciplinary discourse with which they are engaged. However, in many domains knowledge production is now "cutting loose from the disciplinary structure and generating knowledge which so far is not being institutionalised in the conventional way" (Gibbons, 1997, p.5). Cooperation among disciplines is being explored increasingly in the higher education sector with a more recent blurring of disciplinary boundaries and genres. Klein (1990) breaks down the difficulties in defining what she terms

"interdisciplinarity" into three major components – general uncertainty about what the term means, lack of professional identity within the context and a dispersed discourse arising from the latter two confusions. In order to consider how disciplinary relationships might be defined in current evidence, let's consider Jantsch's earlier distinctions between the terms in common usage:

- *Multidisciplinarity* – a variety of disciplines occurring simultaneously without making explicit possible relationships or cooperation between them
- *Pluridisciplinarity* – various disciplines grouped in such a way as to enhance the cooperative relationships between them
- *Crossdisciplinarity* – various disciplines where the concepts or goals of one are imposed upon other disciplines, thereby creating a rigid control from one disciplinary goal
- *Interdisciplinarity* – a group of related disciplines having a set of common purposes and coordinated from a higher purposive level
- *Transdisciplinarity* – the coordination of disciplines and interdisciplines with a set of common goals towards a common system purpose (from Jantsch, 1970, p.106)

With the benefit of these clearly articulated distinctions, the previous work in exploring "cross disciplinary" action learning sets (O'Reilly, 2003) should be redefined as a transdisciplinary partnership activity – engaging academics from a variety of disciplines in the common purpose of designing assessment for online and with an aim for a common system purpose (rather than a common product outcome). The transdisciplinary partnerships that developed in this problem focused action research process were described by participants as highly creative and have provided much appreciated opportunities for cooperation free from disciplinary constraints.

The role of educational design in these partnership relations is of primary interest here, since it could be described as having a bird's eye view of disciplinary practices within higher education institutions. This paper offers insights from the author's professional experience of facilitating collegial interaction at a regional university where educational design resources are rather too scarce to be exclusively based within one disciplinary context – an approach which it seems is echoed at other regional universities. The educational design process is explored in the context of designing assessment for the online environment as a strategy to support both classroom and distance education. The focus on assessment rather than on the design of all teaching and learning elements has meant that a deep exploration has been possible in relation to assessment and its connection to teaching and learning as a whole.

Beyond academic disciplines to intellectual communities

Within the academic profession historically, there has been a struggle to distinguish amongst formal intellectual activities in terms of defined disciplinary differences. Becher described different disciplines as forming the basis of different types of communities based on specific modes of work, organisational patterns and common values (Becher, 1987) in which different modes of research and teaching bring about different social perceptions of being an academic. However, it has been argued that Becher's distinctions do not reflect the boundaries that various disciplines draw between themselves (Høstaker, 2000). Increasingly, knowledge development across traditional boundaries is being considered by academics as a valid transaction between diverse players (Ravn, 2004) and a demonstration of the dynamics of new intellectual communities in the academy (Frost, Jean, Teodorescu, & Brown, 2004).

University academics can be facilitated into a shared context for knowledge development and thus find themselves involved in shared praxis. Educational designers are well placed to facilitate such interdisciplinary or transdisciplinary activities for creative collaborations to address complex questions of learning and assessment design. The costs of ignoring commonalities in this kind of educational design process can be considerable such that escalating workloads as well as the proliferation of "islands" of design activities can be the result.

Convergent epistemologies – Mode 2 knowledge production

Becher's (1987) descriptions of the distinctions between "hard" and "soft" disciplines, and the division between "pure" (development of knowledge) and "applied" (knowledge developed for application to a purpose) research modes, was helpful in that they have set a stable context for raising questions of the social construction of knowledge and knowledge as *praxis* arising from interaction. In "soft" disciplinary

fields, complexity is acknowledged as an integral part of the research and teaching, while approaches such as action research are often the methodologies chosen to investigate such complexity. Action research commonly demands a level of involvement from those central to the inquiry, and the methodological processes work to preserve a sense of interconnectedness and complexity while maintaining validity and reliability. Knowledge construction in this case is typically a social, negotiated and iterative process, which incidentally, is very suited to the professional practice of educational design.

Another perspective on the construction of knowledge is provided by Klein who considers the "nostalgia for lost wholeness" as one of the pressures on traditional knowledge development in the disciplines and speaks of explorations of interdiscplinarity as "evoking a common epistemology of convergence" (Klein, 1990, p.11). New knowledge development processes have also been discussed by Gibbons and associates since the 1990s. Gibbons agrees that disciplinary specialism has long been seen as a secure and reliable way to advance knowledge – and calls this "Mode 1 knowledge" (Gibbons, 1997, p.7). Mode 1 knowledge is "generated within a disciplinary, primarily cognitive context," while "Mode 2 knowledge is created in broader transdisciplinary social and economic contexts" (Gibbons et al., 1994, p.1).

By comparison Mode 2 is more socially accountable and reflexive (Gibbons, 1997, p.9). It is characterised by being produced in the context of application and having a transdisciplinary function. Typically this kind of research and knowledge production occurs when temporary networks of people come together for a purpose and who disperse once the problem is either defined or solved. By virtue of such a multidimensional approach, a greater sensitivity to the impact of research is conceived from the outset. "Mode 2 does more than assemble a diverse range of specialists to work in teams on problems in a complex, applications oriented environment. To qualify as a specific form of knowledge production it is essential that inquiry be guided by specifiable consensus as to appropriate cognitive and social practice." (Gibbons, 1997, p.11)

The transdisciplinary approach to educational design being suggested in this paper, illustrates the integration of a diversity of disciplinary perspectives into the problem focused action research practice of collaborative design, particularly for assessment as it is facilitated in the online context.

Peak performers and innovations in assessment

Much is currently being explored in terms of the opportunities and constraints afforded by the online context for assessment of student learning (for example Booth et al., 2003a, 2003b; James, McInnes, & Devlin, 2002; Morgan, Dunn, Parry, & O'Reilly, 2004). While acknowledging the many issues of concern in this emergent practice, this paper will focus simply upon the support that can be provided to academic staff (the subject matter experts) by educational design processes when designing assessment for online. Overall it can be said that the subject matter experts who have been involved in assessment design for online have been "peak performers" as described by Hersey, Blanchard, & Johnson (2000). Their common interest and willingness for reflecting upon their experiences of teaching in order to be continuously improving is most evident, and stands as a contrast to those of their colleagues who remain fixed in their approaches to teaching. Educational designers are charged with supporting all comers – the willing and the not so willing, and the interesting thing emerging from the data which follows is about the perceived benefits of working in partnerships, networks and teams for design and development activities. This transdisciplinary partnership also means that staff with diverse capabilities and levels of commitment are in a position to be influenced and mentored by the peak performers in the group.

During this data collection, the process of locating exemplary online assessment design led to the identification of several academics who were known as the early adopters in their universities, and who had by now found themselves mentoring and influencing others. As Rogers and Shoemaker (1971) reported, "the earlier adopters are less dogmatic than later adopters. Dogmatism is a variable representing a relatively closed belief system…" (p.187). As the following case studies will show, these peak performers were not rigid at all and were even inspired to reflect creatively within the course of the research interviews!

Educational design models

From its beginnings in the earliest days of Skinnerian psychology, instructional design practices have their roots in a very behaviourist tradition. This kind of linear model was seen in the advent of "programmed instruction"and some of the early approaches include Mager's (1984) focus on instructional

objectives, Dick and Carey's (1978) systems approach for designing instruction and the applied approach of Gagné and Briggs (1974) which ensured that instructional theories informed the practice of effectively designing "events of instruction".

From these theoretical beginnings as linear behaviourist models of practice, thankfully, changes in the professional practice of instructional design have accompanied the emergence of contemporary learning theories. Recent changes evident in the profession in Australia also include a renaming of the role in many institutions to that of "educational design" (Bird, 2002). This is often attributed to the new processes required when considering greater flexibility in learning and teaching, and when including the use of the Internet with its resultant technological considerations in pedagogical design.

Since the constructivist learning theories with their implications for teaching and learning have been on the horizon (Kuhn, 1970; Wittgenstein, 1965), impacts on educational design models of practice have been widely considered (Duffy & Cunningham, 1996; Jonassen, 1994). Willis (1995) and more recently Crawford (2004) also discuss theoretical models based on constructivist learning theories and thus emphasise the iterative and the negotiated nature of the educational design process.

Willis (1995) states that general education design experts are a "myth" and designers who can effectively work from a constructivist interpretivist perspective must be immersed in the discipline in order to be of genuine assistance. This is not a position easy to support in Australian practice as evidenced by the data that follows. In the regional universities examined in this study, educational designers are not appointed to work as discipline based advisers. Rather, as Willis (1995) goes on to say, educational designers do not expect to maintain control of the outcomes. They work as consultants and facilitators to subject matter experts who actually design the instructional material themselves.

Crawford's (2004) contribution to the field builds on the previous work of Willis (1995) in that is does not eschew complexity in practice, and provides another non-linear model that depicts the continuous nature of educational design, making explicit the critical role of evaluation within the scope of practice. The Crawford (2004) model also refers particularly to the online context for learning and teaching.

Likewise, the impetus for transdisciplinary educational design in partnership with teams of subject matter experts from diverse disciplinary backgrounds has emerged at Southern Cross University from the need to find sustainable development of effective, efficient and pedagogically sound assessment designs for the online context. In this context, questions of authentic, discursive, semiotic and reflexive assessment (Duffy & Cunningham, 1996) can also be collegially and comprehensively explored. This study also asks – in the context of designing assessment for online, are educational designers exploring creative and recursive approaches to practice? Are transdisciplinary educational design activities being undertaken?

Methodology

The work reported here follows from earlier components of an action research project at Southern Cross University. Some background is provided to put the current sample of interviews into context.

Beginning from a voluntary web survey conducted in four regional universities in eastern Australia between June 2002 and June 2003, questions of how and why assessment was being designed for online implementation were explored. A small number of academic staff responded from the target institutions – University of Southern Queensland, University of New England, Charles Sturt University and Southern Cross University. Where respondents indicated agreement to a follow up interview, these were conducted by phone during first semester, 2004.

Follow up interviews were conducted to explore the nature of assessment design and to follow up on questions of educational design input to the design process. Furthermore, in order to identify those academics who are designing for online assessment and who are considered by their peers as inspirational, the snowball method was used as the process of sampling additional academic staff. In this way each academic interviewed about their own approach to designing assessment for online also suggested a colleague they considered to be carrying out innovative work in this regard. In all, 22 interviews were conducted and Academic cases 1 and 2 reported below, were derived from this sample.

Questions arising on the level and nature of educational design input to the process of designing assessment for online led to the need to interview educational designers themselves. A purposive sample of educational designers in these four regional universities was interviewed in small focus groups (videoconference, teleconference or face to face), and in one case by one to one discussion on the phone. The recorded interviews were transcribed and where on two occasions, recordings failed, reference was made to written notes taken at the time. All four Design cases reported below were derived in this way. A draft of this paper was circulated to those concerned for checking and all feedback has been incorporated.

In the meantime, two action learning cycles have been completed with staff at Southern Cross University (semester 2, 2002 and semester 2, 2003) in which cross disciplinary action learning sets sought to reflect upon the design, development, implementation and evaluation of their assessment of students for the online environment. Some results of these explorations are discussed in O'Reilly (2003) where transdisciplinary teams of five staff worked together with an educational designer to produce subject specific assessment designs for three fields of study (in each of two action learning cycles). Academic case 3 reported here is derived from this aspect of the research.

The method of sampling has meant a very selective process and the interviews reported in this paper include (a) those academics who are interested in reflective practice and those open to innovation in assessment as core to teaching and learning, and (b) a self selected group of educational design practitioners at the same four regional universities from which the sample of academic staff was drawn.

Case studies of peak performers

Each of the three case studies that follows has been taken from interviews conducted at a different regional University in Australia. Only three of the four universities in the study, yielded exemplars of online assessment through the sampling method used. Pseudonyms have been used to preserve anonymity and to respect confidentiality.

Academic case 1
Interviewee 1, an academic from the disciplinary field of education who was co-teaching a group of 50-60 students, reported on decisions made to design online collaborative activities and software based activities for assessment of students. In the process of designing these assessment regimes (one undergraduate and one postgraduate) this academic valued opportunities to consult with and seek validation from her primary team teaching colleague who was also qualified to provide technical support. When questioned on the influences upon their assessment design, Interviewee 1 referred to reflections on past teaching experience as well as students' feedback. Influences from the relevant literature encountered since the introduction of these subjects in 1999 included key publications about online communities of practice and the process of scaffolding student learning in the context of group work. In addition, discussions with another 'critical friend' colleague were important to the creative process of designing challenging and effective assessments and as such, illustrate a multidisciplinary approach (Jantsch, 1970).

An educational designer did have some involvement in development of subject outlines and a follow up role included verification of alignment between assessment activities and stated subject outcomes, as well as advice on developing appropriate marking rubrics. There were no further opportunities provided or organised for this academic to consult with a cross disciplinary team of colleagues, though once this question was raised in the interview this most open to suggestion academic considered an additional disciplinary input she would seek in her next revision of these subjects. She commented… "teams of assessment consultants sounds like a good idea… In terms of principles of collaborative practice… it would be nice to look at feedback from the business world".

Academic case 2
Interviewee 2, an academic from the disciplinary field of engineering who also manages the team teaching of 300 students, named the design, development, implementation and review of assessment in his subject as a "multi-disciplinary team" approach. Seven academic staff from two faculties (engineering and science) are involved and supported by educational design and technical support staff. Regular team meetings have been a feature since the introduction of this subject in semester 2, 2002, and the strengths of this collaboration, which brings together a diversity of perspectives from within the engineering and science domain, are highlighted in the comment "people with different expertise bringing complimentary

strength to the team". Due to the scale of the initiative, and in accordance with problem based learning, the "staff team also need to function as a team, similar to a student team". Any differences between staff experience, capabilities, relative levels of contribution and workload allocations must also be managed.

In Jantsch's (1970) terms this example reflects an interdisciplinary approach and opportunities for input from a broader disciplinary base were explored in interview. This academic proposed the value of future consultation regarding the design of assessment with staff from psychology and perhaps the field of arts.

Academic case 3
Interviewee 3, an academic from the field of management and commerce, has moved from solo activities in design, development, implementation and evaluation of assessment strategies through a period of working in cross disciplinary design teams, to ongoing reflective practice activities.

From 1999, when the multi-disciplinary approach to design, development, implementation and evaluation of assessment for online was supported by university executive, this academic began to maximise opportunities to consult with colleagues from other disciplines, educational design, technical design and support staff. Following participation in an in house online staff development workshop, Interviewee 3 took on board the suggestion by library staff (also involved in the workshop) that they be included in the teaching process. His teaching innovations continued to develop through collegial exchange of ideas via school based workshops and university wide seminars hosted by the Teaching and Learning Centre.

This case contrasts with the first two cases described as this academic participated in the cross disciplinary action learning sets as described elsewhere (O'Reilly, 2003). On interview for this component of research, Interviewee 3 commented that he saw his involvement in a cross disciplinary action learning set for creative design of online assessment, as supplementary to his personal (broadly consultative) approach. He appreciated that through action learning "suggestions were made to pursue ideas… ideas became clearer particularly regarding the group activities [assignment]". He stated that "not enough is facilitated like this" in order to provide more staff with the opportunity to consider multiple perspectives on their own approaches to assessment, and to conceive of their work in transdiscplinary terms.

Transdisciplinary partnerships from an academic perspective

The academic staff interviewed in this small sample all made explicit their attempts to consult with colleagues and peers during the process of designing assessment for online. In each of the three cases the collaborative activities reported were initiated by the academics themselves. Clearly this interest in having a "critical friend" with whom to reflect on assessment design is an indication of the reflexive processes and the quest for continuous improvement inherent in exemplary teaching practice. Such efforts are evidently constrained by structures within each university that may allow interdisciplinary discussions but prevent easy access to transdisciplinary consultative processes. Reports of broader consultative teams extended only to involvement of colleagues from allied disciplines. Where educational designers might have had a role in facilitating transdicplinary interactions, there was little evidence of academics engaging with them in a timely and recursive way, as suggested by the Willis (1995) and Crawford (2004) models.

Canvassing perspectives on educational design

In order to further field test the questions of the education design potentials for facilitating transdiscplinary consultation in the design of online assessment, focus group interviews were conducted with education designers from each of three universities, and a one to one phone interview was conducted with an educational designer from the fourth university. Interview protocols used were consistent with qualitative research though most of the audio and video recordings of interviews were hampered by technical problems, so extensive reference was made to written notes taken at the time.

Design case 1
Two "instructional designers" were interviewed from Interviewee 1's institution and they both agreed that no real crossdisciplinary or transdisciplinary design work has been occurring within their university as exemplified by the comment that "largely most of the design work has not been team related". Design activities occur in the traditional mix of one to one and faculty based methods. Classification of designers at this university is that of general staff rather than academic, hence their title "instructional designers". This classification further contrasted with the usual involvement of educational design staff in that the

process of design was often restricted to the latter end of the writing process i.e. the creative planning and design of assessments would have already occurred prior to the involvement of instructional designers. Academics with innovative ideas on teaching, learning and assessment are required to find their own creative support networks either within the university or through published literature. However, if instructional designers have established good relations with academic staff they can be called upon to advise, provide ideas and informal feedback. There has recently been recognition for university-wide teams in some development initiatives such as a pilot project focused on learning designs, and these teams are mooted to include instructional designers, IT services staff and production staff in future.

The expanded role for these instructional design practitioners include project based responsibilities such as "media manager" and "coordinator of MCQ testing tools". Critical feedback from instructional designers is regularly sought by teaching staff to inform future improvement of classroom teaching practices. Academic staff development occurs in both formal and informal settings at this university, where these events support an exchange of ideas from across a range of disciplines. Cross campus exchanges of ideas occur on a more formal basis around identified issues of interest.

Design case 2
The educational design role at Interviewee 2's institution was described by four (academic) members of the team as primarily a centralised service. Each of the four educational designers worked with academic staff within a number of disciplinary contexts and described the current institutional emphasis as being on a CD and print based "hybrid model". Online design features were utilised in off-campus study packages and, to some extent, for the assessment process in both submission and feedback stages. An emerging model of assessment for online was still to be discussed at a management level, but its limited use for the moment was described as being determined by authentic and relevant learning contexts.

The educational designers at this university also each carried additional portfolios such as academic staff development, involvement in a university-wide graduate attributes initiative, teaching and learning inductions for new staff (conducted centrally and thus transdisciplinary), and the development of tertiary preparation courses. It is through the tertiary preparation courses such as those on English language ability for overseas students and those on advanced information literacy for postgraduate students, that a transdisciplinary perspective was brought to the design process. Staff development seminars and workshops also provided the most convenient forum for cross fertilisation between disciplines around specific topics and "on a needs basis". Otherwise the model of educational design at this university was more of a traditional mix of one to one and "groups from Faculty" as determined by project needs.

Design case 3
A focus group of two educational designers was conducted in person at Interviewee 3's institution, where the role is an academic one based within the Teaching and Learning Centre. Each of the educational designers interviewed described their work as primarily taking place on a one to one basis in conjunction with academic staff designing their teaching, learning and assessment. One of the educational designers commented that she works with the more problematic cases as the "innovators need us least".

The online context for assessment is only incorporated where special or authentic objectives prevail, such as in the case of programs delivered to students who travel for their employment and need to study and carry out assignments while in transit. Design work was also said to occur with small groups and school based groups of staff. There were no crossdisciplinary or transdisciplinary design activities reported (beyond those of the researcher's own) as these were said to be "not the bread and butter of our educational design work".

As with earlier cases, additional staff development responsibilities for educational designers at this university generate opportunities for crossdisciplinary dialogue amongst academic staff.

Design case 4
Though no academic staff emerged as exemplars from this institution due to the sampling method used, Design interviewee 4 is included to provide a designer's perspective for all four universities in the study.

The instructional designers in this institution work as general staff from a centralised Teaching and Learning Centre through a series of arrangements covering individual support, funded faculty projects,

and large cross faculty projects supported via annually awarded VC's teaching development grants. Collaborative development teams including academic, instructional design, library and technical staff are occasionally convened for development of teaching, learning and assessment strategies within generic academic support or study skills packages.

The question of combined degrees in this university has raised the possibility of cross disciplinary collaboration in assessment design but such initiatives are not yet evident. There are however, some cases where units core to multiple programs provide assessment options according to disciplinary focus of the students e.g. a geology subject may have different assessment options for geography students as compared to those indicated for the science students.

Further investigation is needed to discover how the large cross faculty projects approach the shared process of assessment design at this university. One example given of a collaborative project was where "both groups [science and education] were quite knowledgeable about teaching strategies and theory, and one of the scientists had done some additional studies in the area of assessment, so it was probably successful for other reasons in terms of the educational developer input…".

Reflections on case studies

While the major caveat for the discussion that follows is the small size of the research sample reported, there are some interesting reflections to be shared from the interview data. Overall the findings confirm the view that prevailing educational design practices do not conform to the proposed transdisciplinary approach. Potential benefits for this approach are evident from the interviews with academic staff and it is suggested that educational designers consider taking up the challenge to explore for themselves the potential value of facilitating team based design of assessment in settings that allow a diversity of disciplinary perspectives.

Interviews conducted with academic staff who were identified through a process of snowball sampling to be innovators in online assessment, revealed that while they consulted to some extent with their discipline based colleagues and an educational designer (particularly with designers classified as academic staff), they did not often consult with colleagues from outside their own disciplinary area. These academics were also found to be reflexive and actively engaged in reflections on practice.

Teams of academics who are reportedly brought together for design, development and implementation of assessment strategies, tend to only include a small cross section of allied disciplines as well as technical advisors. Although librarians seem to be commonly involved in the provision of preparatory courses across disciplines, the inclusion of reference librarians in assessment development teams was not found in any initiatives other than the researchers' own work (O'Reilly, 2003). The desirability of their inclusion at a design stage is reinforced by a national exploration of librarians' role by Doskatsch (2003, p.113) who states librarians need "confidence to collaborate with faculty in designing learning activities…"

Through purposive sampling, groups of educational designers at four regional universities in eastern Australia were interviewed. It was found that the predominant experience of crossdisciplinary and transdisciplinary dialogue within any "intellectual communities" tends to occur at academic staff development seminars and workshops. Some transdisciplinary design initiatives were reported such as tertiary preparation, information literacy and language proficiency courses, though some tailoring for specific disciplines is often embedded within the teaching strategies of such courses. As a general rule, educational designers did not feel in a position to convene crossdisciplinary and transdisciplinary design meetings. However, it may be that educational designers could be further encouraged in their own reflective practices in order to be of some assistance to the peak performers who at this point in time seem to get by with a minimum of educational design support.

Partnerships or perish

From the evidence found in interviews it is difficult to see Mode 2 knowledge development in practice, except perhaps in the centralised academic staff development activities described, or in the creation of generic skills packages. However, it is the view of this researcher that educational designers are extremely well placed to facilitate the necessary discourse between and across disciplines. When aiming

towards the design and development of assessment for online, the questions of technological and pedagogical affordances and constraints can frequently benefit from a range of perspectives brought to bear upon the issue. The image of educational designer as change agent also returns us to work of Schwier *et al.* (2004) who investigated educational designer's perceptions of themselves and found that "there was a need for the types of social change that ID [instructional design] can provide" (p.91).

"The rubric of survival in academic research is changing from 'publish or perish' to 'partnerships or perish'." (Gibbons, 1997, p.16), and although this statement refers to the conduct of research, in accordance with this sentiment by Gibbons, there is an imperative for universities to consider partnerships in educational design processes. In the absence of evidence to show widespread adoption of constructivist interpretivist, recursive and reflexive models of practice, it is being proposed here that the creative process of educational design be strengthened and sustained by transdisciplinary partnerships in certain design activities such as assessment.

In this small study, transdisciplinary partnerships have been reported as an effective way to inspire innovations in assessment (Academic case 3) and seemed to the academic peak performers interviewed as promising greater benefits in the collaborative design process (Academic cases 1 and 2). If we are to implement Mode 2 knowledge production through the educational design process, we can bring staff together in reflective contexts to solve the design of assessment for online for each individual, while at the same time finding a consensus on 'cognitive and social practice'.

It is suggested in the writings of Klein (1998) that opportunities to bring together individuals for creative cross fertilisation and innovations also result in convergent epistemologies, however this assertion needs further investigation. At the base of all such explorations is the welcome suggestion that creative assessment design by staff can stimulate enhanced learning by students. One thing is certain, the educational design practices of today at some Australian universities might still show enduring signs of their roots, but there is now increasing evidence to suggest that a more transdisciplinary problem focused action research practice of collaborative educational design warrants much more investigation for the creativity and intellectual leadership it promises.

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Please cite as: O'Reilly**,** M. (2004). Educational design as transdisciplinary partnership: Supporting assessment design for online. In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Phillips (Eds), *Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference* (pp. 724-733). Perth, 5-8 December. http://www.ascilite.org.au/conferences/perth04/procs/oreilly.html