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Sustaining Online Learning During Times of Change Through a Multi-Disciplinary Community of Practice

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Abstract: The Durban Institute of Technology comprises seven campuses and some twenty thousand students. It is the first university of technology in a post-apartheid South Africa, resulting from a merge between Technikon Natal and ML Sultan Technikon. During a period of deconstruction and reconstruction of the South African education system and our own, local work environment, we implemented the Pioneers Online collaborative action research project in response to a particular set of challenges. After three years there are three generations of Online Pioneers in this cascading community of practice. A fourth generation of online practitioners was inducted this week (December 2003). In this paper we take a snapshot - describing the challenges, our strategic response, the fruits and implications of our approach, concluding with lessons learnt and recommendations.

Introduction

With seven campuses and some twenty thousand students, the Durban Institute of Technology (DIT) is the first of South Africa's so-called post-apartheid higher education institutions. DIT was formed in 2002 by the merger of Technikon Natal, and ML Sultan Technikon – two near-identical, vocationally-oriented higher education institutions across the road from one another. Sustaining and growing web-based learning here during a three year period of great change has been an adventurous journey. In this paper we reflect on our strategic response to the challenges.

Broader Context

Hernes (in D'Antoni, 2003) succinctly captures today's higher education dilemma in "The new century: societal paradoxes and major trends". One of the tensions mentioned is a world-wide emphasis on increased modularisation, quality, flexibility and the use of technology on the one hand, and diminishing state subsidies and resources on the other. The situation in South Africa is no different – tensions are merely exacerbated by the imperative for transformation, as spelled out in the Higher Education Act of 1997.

The Problem

What strategy would help sustain and grow online learning during challenging and changing circumstances, in an under-resourced institution? This is the question we have been wrestling with frequently over the last three years of the merger. Challenges experienced fall into three categories, namely ownership, fragmentation and resources:

Lack of Institutional Ownership

Online education at DIT has evolved bottom-up, driven by the creative spirit of a handful of “lone-rangers” - that is, individual staff members who are energetic, early adopters of innovation (Taylor, 1998). For as long as there is no explicit institutional mandate and parameters for the implementation of online learning, DIT will be hard-pressed to justify its new identity as an institute of technology which offers career-orientated programmes, aiming to produce graduates that are equipped to function in a technological and e-commerce-driven work environment.

Lack of Ownership of Practice by Lecturers

We have previously observed and experienced the dangers of a “production approach” (where a team of instructional designers develops online materials *for* lecturers). It requires a large and expensive infrastructure. The production approach has had detrimental implications in a pedagogical sense in that it lead to the dependency of lecturers on instructional designers whom they perceive as “experts”. A production focus tends to lead to a “technocratic” approach to teaching and learning practice, as opposed to a “ ‘deep meaning’ orientation” (Zuber-Skerrit:1990:10). The approach results in a tendency to lecturers becoming removed from the heart of the courses that they know intimately and for which they are able to create unique, workable solutions.

Fragmentation

Our institutional landscape is characterized by the fragmentation of departments, faculties and campuses. While there are a number of pockets of exemplary practice, innovative educators are isolated, unaware of the work of like-minded innovators in other departments, and unlikely to experience contact with such counterparts. Lecturers are generally demotivated and the morale of staff is extremely low.

Resources

The institution has been in a financial crisis and after an auditing exercise it is clear that human and computer resources will be cut back to rectify the deficit.

Research Aim

Foremost in our minds has been our aim to “*extend the scope of involvement in the pedagogical use of CITs (Communication and Information Technologies) from the margins towards the centre of institutional practices*” (Taylor, 1998) - in spite of the challenges.

A Theoretical Foundation

Below follow some of the key readings that have guided us in our exploration of the problem:

Teamwork

In support of teamwork to counteract institutional fragmentation, Taylor (1998) says “teamwork leads to new partnerships being forged across disparate institutional domains in dynamic and productive ways”. Lally and McConnell (2002) support the use of technology to foster teamwork, arguing that “computer networks offer opportunities to work across traditional departmental and institutional boundaries”.

Incentives, Resources and Rewards

One of our interests had become providing incentives, resources and rewards for online lecturers to motivate them to sustain their practice. Cothrel & Williams (1999) confirmed the need to connect and nurture over-committed educator-innovators and to encourage institutional recognition of innovation.

We resonated with Zvacek's "True confessions of a guerrilla technologist", especially the emphasis on a need to understand "the obstacles in the path of instructors who attempt to integrate technology applications into their instruction. It is equally important to know the incentives (or lack thereof) for innovation, and to recognize the multiple (and sometimes contradictory) priorities imposed on the faculty member who chooses to adopt new teaching strategies" (1991:41). Robinson and Borkowski (2000) also emphasise the importance of an institutional structure that rewards faculty for developing online instruction.

Staff Development Through Action Research

Zuber-Skerritt supports an action research approach to education innovation, a "'deep meaning' orientation" (1990:10) to teaching which enables lecturers themselves to research educational problems in cycles, and, in the process, create unique, workable solutions.

Community Building

Robinson and Borkowski (2000:226) claim that "it is the collaborative environment, a deliberate part of the training design, which supports the faculty and trainers in the process." We subscribed to Pedler's (1981) principles of community building, namely equal participation and responsibility. Each community member takes primary responsibility for identifying and meeting his own learning needs, and each person is responsible for helping others identify and meet their needs and for offering him/herself as a flexible resource to the community. We also became interested in effective mentoring which "creates the kind of synergy that lends itself to personal and professional development, that is developmental for both individual and organization, and that encourages a climate of support, teamwork and openness for the improvement of morale and the reduction of stress levels" (Smith and West-Burnham, 1993).

In *Communities of Practice*, Wenger (1998) explores the relationship between learning, meaning and identity. Wenger argues that "communities of practice are not only a context for the learning of newcomers but also...a context for new insights to be transformed into knowledge" (214). He also believes that education, in this context, "is not merely formative, it is transformative" (263).

Sustainability Through an Incremental Approach

Taylor (1998) stresses that sustainability is of central importance in the institutionalisation of new educational practices. Zvacek (2001) emphasises the benefits of an incremental approach to implementation: "a philosophy that encourages incremental change makes faculty members likelier to adopt new strategies than if they're expected to start from ground zero".

Our Strategic Response

A team comprising two educational technologists, a technician and an administrator in the Centre for Higher Education Development launched the Pioneers Online project in collaboration with academics, librarians and technicians. The project has been used as a vehicle to refine a strategy cyclically, over three years. With a focus on emancipation and empowerment, the project falls in the realms of critical social theory (Maggs-Rapport, 2001), with collaborative action research as the chosen methodology (Zuber-Skerritt, 1990; Carr & Kemmis, 1986).

Tab A to TabC contains an analysis of our response to the problem:

OWNERSHIP		
Problem	Response	Rationale
Ownership of practice by lecturers	A do-it-yourself, action-research approach	Lecturers do the actual design, development and implementation of web-based courses, to attain a deep meaning orientation to teaching and learning
Ownership of practice by institution	A <i>cascading</i> community of practice	Gradual, steady implementation – fifteen lecturers per year added to the community - to drive the practice “bottom-up”, in keeping with limited capacity.
	Emphasis on research	Each participant undertakes to contribute to the communal knowledge base by writing and presenting a research paper after a year’s participation – research is valued in the institution and this approach facilitates institutional buy-in.

Table A: Problems Related to Ownership

FRAGMENTATION		
Problem	Response	Rationale
Fragmentation & isolation of innovators	A community of practice <i>across disciplines</i>	Online and face-to-face workshops bring together participants from different disciplines to counteract lone ranging and to encourage the cross-pollination of ideas .
No incentives for, and low motivation of lecturers	Emphasis on: <ul style="list-style-type: none"> • Pioneering; • Exclusive skills and becoming internationally marketable; • Creativity; • Safe space • Future accreditation 	To motivate participants to participate under trying circumstances. Pioneering implies achievements <i>in spite of</i> the challenges.

Table B: Problems Related to Fragmentation

RESOURCES		
Problem	Response	Rationale
Limited support capacity in instructional design	An emphasis on peer support, mentoring and collaboration	The members of a community of practice have a range of expertise – there is an emphasis on taking responsibility for making your needs heard and helping others.
Limited technical infrastructure	Gradual, cascading implementation	Members are encouraged to implement courses where the technical infrastructure is able to cope.

Table C: Problems Related to Resources

The metaphor we have used to conceptualise the way in which members participate is a “multi-layered donut”. The layers are the different realms in which participants operate, and continuously move between, during the process of becoming web-based learning practitioners over a period of a year. At the end of that year members graduate, after which they continue to practice (teach DIT courses), give and receive support.

Fig A illustrates this concept.

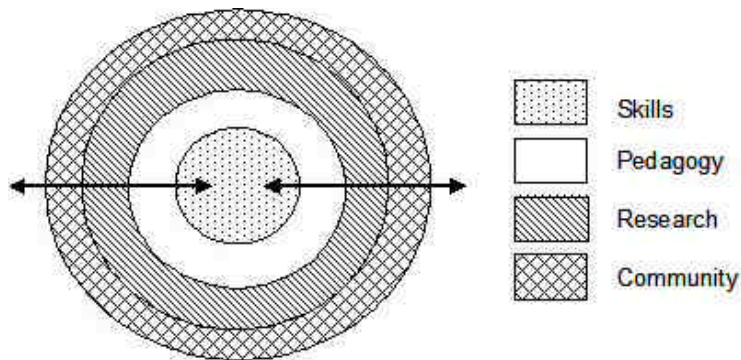


Figure A: A Multi-Layered Approach to the Development of Web-Based Learning Practitioners

Do-It-Yourself (Skills)

Participants learn to design and develop virtual classrooms. Learning takes place during workshops, online activities and one-on-one consultations with instructional designers.

Best Practice (Pedagogy)

Participants re-examine their past practices and teaching methodologies, explore new ways of being and doing, and may adapt to exploit opportunities for interaction and collaboration offered by an online learning environment.

The Double-Helix of Action Research

Two recurring, cyclical strands, namely reflective and participatory action research, are intertwined and hence the metaphor we use to describe this dynamic process is a double helix. At regular intervals during the year participants use action research methods to reflect on the process of problem-solving and re-curriculation. In creating and facilitating online courses, lecturers plan, act, observe, reflect and report on/share the process. This is done in online journals. Participants give each other constructive feedback on these reflections. The journal entries eventually result in action research papers which are published online for the community launch, which heralds the end of one cycle, and the beginning of another. “Graduating” participants present their papers and demonstrate their online courses to new members. On a macro-level participatory action research is employed when participants give regular feedback about the development of the community and the design of the project.

Do It Together (Community of Practice)

Learning activities take place in a collaborative environment, to enable interaction amongst members from different departments and faculties. Another important principle is that members strive to maintain a safe communal space in which to experiment, learn and interact. In the process of collaboration, a communal resource base (journals, papers, online classrooms, discussions etc.) has been built up.

Building on the foundation of the donut, the outcomes of one year’s participation are for a member to participate in an online class as a learner; design an online course; manage a class online; facilitate online learning for students; conduct action research into online learning; and interact with other online practitioners in a community of practice.

Results

Tab D to Tab F contains a snapshot of the current state of affairs, after three annual project cycles. Data sources used are email questionnaires, online discussions, journals and papers. Participants' feedback appears in italics and inverted commas. Aspects marked by an asterisk * are priorities for future development.

OWNERSHIP		
Response	Results & Typical Feedback	Reflections
A do-it- yourself, action-research approach	<p><i>"You have no idea how empowering this course is, to someone like me."</i></p> <p><i>"I could never thank you enough for a course and a year which has changed my life forever. You have made me deeply passionate about teaching and my job."</i></p>	* Time constraints of participants is still a very real problem. Obtaining research grants to reduce lecture loads is one possible solution.
A cascading (gradual) community of practice	<p>Current online database statistics:</p> <ul style="list-style-type: none"> • 5962 online users • 123 online courses • 48 practicing lecturers <p><i>"I would like to see you get greater commitment from...management personnel to ensure a smooth running of the course. I had to convince my manager that I had to have Friday mornings off, for example!"</i></p> <p>In some departments the cascading effect is kicking in as we envisaged it. Due to effective mentoring in Civil Engineering, for example, there was 1 online lecturer in 2001, another 2 in 2002, 1 more in 2003 and 5 new pioneers joined for 2004 – totaling 9 online lecturers in one department.</p> <p>From 2001-2003, collaborators have produced 45 in-house papers, 24 international conference presentations and 4 peer-reviewed publications.</p>	<p>Attrition rate: On average five participants have dropped out during their first year of participation.</p> <p>On the positive side, new institutional policies developed in 2003 are in support of the practice. The next step is clear-cut parameters from deans of faculties - to sustain their efforts, lecturers need to know that their innovations are valued by the institution.</p> <p>The emphasis to date has been on providing a training ground for beginner researchers, yet some lecturers have achieved international recognition for their work.</p> <p>* There is a need for increased mentoring to get in-house papers published.</p>
Emphasis on research		

Table D: Results and Reflections Related to Ownership

FRAGMENTATION		
Response	Results & Typical Feedback	Reflections
A community of practice across disciplines	<p><i>"My brain is working overtime. I have just designed another course this morning. It sprung from Shan's talk on experiential learning."</i> (Child & Youth Development lecturer getting ideas from a Chemistry lecturer)</p> <p><i>"Fortunately, I came to the realization that like the ugly duckling, I had something unique and special to offer."</i></p> <p><i>"We are providing real-world learning experiences for our journalists which cannot be taught in a lecture room...We're having a</i></p>	<p>Synergies arose from conversations between lecturers representing a wide spectrum, from Community Nursing (in the Health Faculty) to Quantity Surveying (in Engineering).</p> <p>In 2003 learners in Online Journalism became active and equal members of the community of practice, in true constructivist style.</p> <p>* In 2004 there will be lecturers from campuses far from our centre and we need to move away more from face-to-face</p>

	<i>bit of a baptism of fire, but we're learning fast.</i> " (Journalism student)	interaction, towards online interaction with collaborators. Some lessons learnt: Create real opportunities for collaboration in the form of concrete activities. Concerning the social and emotional aspects of learning don't under-estimate the importance of face-to-face shared lunches (jokes and poetry around the table), affirmative feedback, peer-recognition, the celebration of achievements, inexpensive rewards (chocolates and T-shirts), and in particular an emphasis on identity and rituals, to create a sense of belonging.
Emphasis on: <ul style="list-style-type: none"> • Pioneering; • Exclusive skills and becoming internationally marketable; • Creativity; • Safe space • Accreditation 	<p><i>"Pioneers Online did provide a safe space for me to learn the technology, reflect upon and refine my personal pedagogical style, explore my creativity and potential. It helped me stay motivated, hopeful and to dream."</i> (A graduate pioneer's reflection on completion of the first year)</p> <p><i>"Creative thinking. OAH! Very thought provoking. I already imagine the learners fighting for space."</i> (a newly-inducted pioneer's reflection, after one day's exposure to graduates' presentations)</p>	<p>Due to these emphases, the project has attracted some of the most adventurous and creative staff members.</p> <p>* Accreditation is in the process of being obtained through institutional channels, by linking our curriculum to an existing degree in Higher Education Development. Once finalized, accreditation will be granted in retrospect through the institution's Recognition of Prior Learning mechanisms.</p>

Table E: Results and Reflections Related to Fragmentation

RESOURCES		
Response	Results & Typical Feedback	Reflections
An emphasis on a peer support system and collaboration	<i>"Through this collaboration participants recognized where individuals' strengths lay and so began tapping into the appropriate sources, e.g. some were excellent in formulating concepts whilst there were others that had the technological expertise. Building on peoples abilities, brought the team together."</i>	<p><i>"I think that the idea of a self-sustaining (with regards to the transfer of knowledge, expertise and support from "past" to "present" pioneers) community-based model is a fabulous idea. However, it does not seem to be coming together as planned. It needs to be seriously looked and re-implemented in a fresh and new way that will achieve the initial objective."</i></p> <p>* Within one particular year peer support has been effective, but it has not worked between members from different years. Through the cascading approach we have now built up enough capacity to launch Astronauts Online – to give graduates a sense of identity, a place to belong and a reason to return, to give and receive support.</p>
Gradual, cascading implementation	Members are encouraged to implement courses where the technical infrastructure is able to cope.	* We need a strong partnership with our new Information Technology Support department to sustain innovations.

Table F: Results and Reflections Related to Resources

Results need to be considered in the context of the merger. For example, voluntary exit packages taken by staff members affected the size of our community and created vacuums in the institution's management structures. We entered into an extended period of uncertainty – during 2002-2003 there was no director of IT, academic departments were jointly managed by two departmental heads, and faculties by two deans. All institutional policies became redundant and hence policy work in online learning done previously became undone. Many part-time posts were severed and hence we lost funding for our mentoring posts. The creation of faculty-based campuses meant that computer laboratories were uprooted and moved, affecting learner access, and limiting flexibility. Our centre was also relocated to another campus.

On the positive side, the merger brought about new opportunities for networking and collaboration. Stale practices and cultures were renewed and new synergies arose from the dynamic of a new institution. We believe that a community building approach to the practice of web-based learning has enabled us to capitalize on the merger. We look forward to participate in the reconstruction of the only university of technology in the KwaZulu Natal province.

Conclusion

It is important to acknowledge that the collaborative action research process never finishes – there will always be a need for agile innovators to operate on the edges of change. While a number of aspects in the project need to be improved, we have evolved a survival strategy of balancing tenacious efforts with letting go.

In the words of Mark Shuttleworth, “*The important thing to realise is that any pioneering activity has risks associated with it.*” It is easier to take risks together – and hence the need for community building and peer support, infused with influences from diverse disciplines, will always remain a priority.

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