The Use of ICT for Research Development in the Humanities at a Multicultural University of Technology

Abstract:
Research development is a key aspect of the Research Co-ordinator’s role at a university. In the case of a newly-merged multicultural University of Technology in South Africa the task is complicated by the fact that the majority of our students come from communities where literacy is by no means a given, and a university background is rare. This difficulty is compounded by the fact that most of our academic staff are accustomed to operating in a Technikon setting, with the focus being on vocational training and Industry-related competences. As if this were not difficulty enough, the Faculty of Arts and Design has an ambivalent status in a University of Technology, in that its creative output is valued as PR but does not enjoy the same status - or monetary rewards - as traditional research. This paper will show some of the strategies which the author, as Research Co-ordinator, has used to build research capacity in the Faculty Arts and Design at the Durban University of Technology. The guiding metaphor is the “wave” model, which shows research as a dynamic transformational activity involving all levels of the university, as well as involving community engagement. This is in contrast to traditional views of research which represent it as an arcane activity carried out by an elitist minority. Some of the key tactics used in the approach described are the re-structuring of the faculty to include a postgraduate Research Centre and use of blended learning for both research administration and research capacity building.

Introduction
Building research capacity is a complex process in traditional universities, given the changes in student and staff demographics and the expectation of further changes in the Higher Education Qualifications Framework (HEQF), but is even more complex in the case of the newly formed Universities of Technology (UoTs), which according to Kraak, “arose from political lobbying with minimal policy documentation evolved to explain the new category and its institutional functions (2006:145). The Durban University of Technology arose out of the merger between ML Sultan Technikon and Technikon Natal and the re-definition of the former Technikons (i.e. vocational tertiary institutions) as “Universities of Technology”. Not only is DUT attempting to develop its research output, but it is doing so against a background where models of effective UoT practice are lacking, and where much of what is said about UoTs is hypothetical or wishful thinking. Christiansen and Baijnath (2007) report that the majority of Higher Education Management staff they interviewed viewed UoTs as mere extensions of Technikons with a greater emphasis on research, and that they thought that much restructuring - and development - was needed to create a true university environment (not that the notion of a “university” is clearly defined: see Thathiah 2007:757). In DUT’s case research capacity building is further complicated by the fact that the majority of our students come from communities where literacy is by no means a given, and a university background is rare (see Christiansen & Baijnath 2007 for the marked change in staff and student demographics). This difficulty is compounded by the fact that most of our academic staff...
are accustomed to operating in a Technikon milieu, with the focus being on vocational training and Industry-related competences. Finally, the Faculty of Arts and Design has an ambivalent status in a University of Technology. Our Faculty’s “creative output” (e.g. exhibitions, performances, films) is valued as PR, and for good reasons. It in fact generates good publicity which could be estimated at the equivalent of several thousand rands per annum, with not only traditional artistic pursuits featured in the media, but also coverage rivalling sports news in popularity, as in the recent media exposure of the Television underwater photography module for BTech. In spite of this, creative output does not enjoy the same status - or monetary rewards - as traditional research. As van der Merwe points out, “Universities are increasingly being regarded as ‘incubators’ for industrial and technological innovations, rather than as bastions of culture” (2004:131).

This paper will describe some of the strategies which the author as Research Co-ordinator has used to build research capacity in the Faculty Arts and Design at the Durban University of Technology. The predominant motif or - metaphor - is based on a “wave” image (see Figure 1), which shows research as a dynamic transformational activity involving all levels of the university as well as community engagement. This is in contrast to the prevalent hierarchical view of research (particularly in the Sciences) which views it as being carried out by an elitist minority. However, following this concept has assisted the author in integrating research initiatives, introducing ITC as both research field and facilitative medium, and pooling existing research resources (even more scarce in the Humanities than in the Sciences). Some of the key tactics used in the approach described are the re-structuring of the faculty to include a postgraduate Research Centre and use of blended learning for both research administration and research capacity building. This paper will start with a description of the wave model, go on to the role of research centres in research capacity building, and then look at developing research capacity with blended learning. After describing some of the ways in which research administration can be facilitated with Information and Computer Technology, this paper concludes with an example of how Technology Enhanced Learning (TEL) initiatives are combined in the “wave” effect described earlier.

The “Wave” Model of Research Capacity Building

Various Faculty and departmental strategic plans were drawn up for research capacity building in 2006/7, and we are currently entering a new round for 2008. The challenge for me as Research Co-ordinator was to integrate various initiatives and pool resources without stakeholders feeling that they had lost autonomy or direction. I also needed a cohesive vision to guide me, rather than a “shopping list” of discrete objectives, no matter how much I endorsed the latter on the basis of individual departmental (or personal) needs. This prompted me to construct the “wave model” (Figure 1) when I was struggling to find ways of explaining my vision of research capacity building quickly and easily to all stakeholders (note that the term “model” is used in the sense of metaphor or description, and not a model in the sense of the Social Science models produced in my research). Researchers tend to forget that all university staff are involved in the research endeavour, from Janitor to Chancellor, and often forget to inform the people on the ground what is going on. Even so, it is difficult to explain research strategies to all
stakeholders, and the results of interminable “Faculty Strategic Planning” exercises are often verbose bulleted wishlists which are - thankfully - forgotten until next year. I found that, in a faculty meeting, the concepts expressed in the wave model, and, in particular, in its graphic representation, could be understood by the Janitor, Human Resource Staff members, and other staff who had no research background as well as by the academics present. When this group were shown the diagram in Figure 1 and it was explained how research was not a rarefied process for the gifted few but something which could involve people at many levels within the university, and which could also feed back into the community to improve the quality of life (following Bhaskar 1986:169), the isiZulu speaking staff immediately started nodding and smiling. This is because isiZulu, the predominant mother-tongue in KwaZulu-Natal, is filled with metaphor and allusion, and from then on the group was figuratively as well as literally “at the same table”.

![Figure 1 The wave model of research capacity building](image)

The wave model should not just be viewed as a metaphor facilitating explanation, however, but a concept which assisted me in “working smart” to marshal all available resources to the task in hand. I need to point out at this stage that the post of Research Co-ordinator is full time, but currently has no dedicated administrative assistant or even permanent office space, that my office computer is borrowed from a student laboratory. The exigencies of the present position, as well as the huge administrative load, possibly explain why the previous two incumbents decided that they did not want the job. However, my passion for research and my pleasure in being able to pursue research objectives full time more than compensated for the shortcomings. I have also had excellent support from the Executive Dean, Deputy Dean and Faculty Officer.
The Role of the Research Centre in Capacity Building

To theorise or have a vision of exemplary practice is all very well, but how does one set in place actual research practices or projects which bind people together in the kinds of loose collaborations or “communities of practice” (Christiansen & Slammert 2006) which are considered to be effective in delivering quality research output? These practices must allow options for collaboration and sharing of resources without rigid boundaries or autocratic control, both of which are anathema to the principle of academic autonomy. Moreover Humanities staff are often “free spirits” or belong to creative disciplines where idiosyncratic practices are the norm rather than the exception. What was needed was a successful example of the wave model in practice: I needed a mechanism which would demonstrate the “wave effect” and model such a loose structure in action. This might, I hoped, prompt other such formations so that whole series - or sets - of waves could be set in motion. One such device which showed potential was a Research Group which Dr Ramu Naidoo and myself had initiated in 2007, involving staff from various departments from both within outside the Faculty of Arts & Design (English & Communication, Education, Journalism, Language & Translation, and later, Television were FAD departments, and Maths and the Centre for Higher Educational Development were from outside the Faculty). The Research Group (which is currently being submitted in 2008 as a “Research Centre of Excellence”) consisted of academic and support staff who were all involved in technology enhanced learning (TEL), mostly, but not all, web-based learning (WBL) initiatives. These ranged from supervising doctoral students researching WBL or TEL, to running undergraduate WBL courses, to hybrid projects combining use of educational software with dedicated websites. All of these projects were using ICT to enhance learning/research at various levels: the next step was to offer participants a community of practice (Wenger 1998) in the form of Technology Enhanced Learning Centre (TELC). This was envisaged as a loosely knit confederation where ideas could be shared and resources not only pooled but increased by application for research funding for the Centre. As will be shown in the next section, all of these ICT initiatives were directed at developing research capacity, whether at undergraduate or postgraduate level. The Centre itself could generate research output in terms of monitoring its effectiveness in developing research capacity. A “Centre for Technology Enhanced Learning” would also give the Faculty of Arts & Design some cachet in emphasising the existing synergy between the Humanities and Information and Communication Technology. For the above reasons, during faculty restructuring in 2007 Faculty Board agreed to make provision for a Technology Enhanced Learning Centre as part of the faculty’s postgraduate structure. This meant that the TEL Centre was a faculty structure proposed by academic staff rather than imposed by Management.

A Model of the Research Process Underpinning Various TEL Initiatives

The blended learning initiatives described in this section are, amongst others, subsumed under (but not governed by) the constellation of TEL projects. They comprise the following:

- An online Arts & Design Research Forum,
Four mixed mode research modules
A mixed mode Writing Clinic for staff and students

The online Arts & Design Research Forum was set up so that Faculty staff and students could have access to research procedures and forms, as well as to conference and funding updates, and research proposal deadlines. As the university is spread over seven campuses, some geographically separated by over 90 km, this website expedites communication and dissemination of research information (set up on Moodle: Modular Object Oriented Dynamic Learning Environment).

A mixed-mode research module was set up and piloted on WebCT in 2002. Although it was intended for the coursework masters in Language Practice (Computer Assisted Language Teaching), the course was considered to be generic. This is because it was based on a model of knowledge construction (see Pratt 2007) which showed research to be a recursive, cyclical process, looping back on itself as knowledge was both absorbed and reconstructed as a result of multiple interactions with experience, texts, mentors, peers and self. The visual representation of the research map in Figure 2 is reflected in the structure of the course tasks. The model also showed the influence of the setting in driving research to its desired end, and the shaping effects of various social constraints and conventions, including local academic expectations. The success of this course was due to the fact that it modelled research processes, with a series of tasks unfolding for students the givens and variables of their diverse research projects. The approach used

Figure 2 Research map showing the recursive, cyclical nature of the research process
was experiential, outcome based, and integrated. In 2007 the CALT Research Module was cloned and a BTech Research Module (slightly adapted) was set up for Journalism students on Moodle and run together with Dr Mikhail Peppas (see Pratt & Peppas 2008). The course was so successful (with a higher pass rate, better quality work, more students completing the course) that it is being run again in 2008, and it has been cloned further for the BTech in Television course starting at DUT this year. A Higher Degrees Research Module has also been set up on Moodle for masters and doctoral students: a group of eight DTech and MTech students researching Technology Enhanced Learning in Maths Education have already been registered on the course and are themselves learning to use Moodle and WebCT in preparation for their research projects. The mixed mode writing clinic is a good example of how ICT is a recurring motif in research at many levels: it is itself one application of my own doctoral research (into written composition and computer mediated learning), it is itself the subject of further research (generating conference papers and journal articles), and was used in 2007 to facilitate dissertation writing by staff registered for higher degrees. Finally, so as to acknowledge exemplary staff and student research and to provide a training ground for journal publication, an online research journal was planned in 2007. The resulting *Journal of Arts & Design* (JAD) is to be launched in 2008, for publication of research news, research articles (for polishing and external publication, approved research proposals (as exemplars), and for less formal articles by staff and students. The BTech Research Module for Journalism stimulated considerable interest in online publications, and one student investigated online research journals as part of her basic research project (Martin 2007). In this way, various aspects of technology enhanced learning feed into each other, instead of staff and student working alone in “silos”.

**Facilitating Research Administration with ICT**

Effective Research administration assists with research capacity building in terms of identifying needs, processing proposals efficiently, and getting funding to researchers timeously. The online Arts & Design Research Forum plays a role in research administration as well as research capacity building, in that it makes procedures and forms (e.g. proposal forms, conference funding application forms) available to faculty staff and students. Three other online sites are used in research administration: an online survey (on LimeSurvey), an online database (on Moodle) and an Arts and Design online Faculty Research Committee website (FRC Online, on WebCT). Part of the Research Co-ordinator’s job is to supply research data to the Director of Research at DUT. Apart from this, it is impossible to build research capacity without knowing key details (e.g. numbers, qualifications, departments and conference/journal output) of faculty staff and higher degree students. These are particularly difficult to establish when departments are situated on different campuses, and the experience of trying to compose a Research Report early on in 2007 suggested that the most reliable data was that filled in by staff and students themselves (even some this had to be cross checked with official data). Mr Pragalatham Reddy, an MTech student in Computer Assisted Language Teaching, set up an online survey (on LimeSurvey) which a quarter of the staff chose to fill in rather than use the electronic form I had circulated via GroupWise. The resulting staff database was converted into Access and the other records captured by a PT Admin Assistant. I used
these data to compile an Access database of the Faculty’s Higher Degree students, as the ITS module for student research details was not activated at the time. The data from both staff and student databases is currently being transferred to an online database on Moodle, as our bandwidth is too limited for fast processing of the LimeSurvey database.

![Figure 3 The Arts and Design FRC Online website](image)

The most effective ICT innovation in research administration has been the use of WebCT6 for Arts and Design FRC Online (see Figure 3). This online facility has enabled the Faculty Research Committee to view policy, funding and proposal documents speedily, and to process routine research business efficiently and swiftly, which, amongst other things, has speeded up higher degree administration and gained more funding for our Faculty than in previous years. Arts and Design FRC Online was modelled on the EXCO Portfolio, which was set up to expedite routine Faculty executive matters (e.g. Round Robins in between meetings) and make EXCO documentation speedily available to members. Arts and Design FRC Online not only expedites research administration (particularly in view of the new research policies and procedures which were introduced in 2007) but also provides a record of all transactions.
Conclusion

Figure 5 illustrates how a Research Centre can support and drive the capacity building process at all levels within and outside of the University, and offer staff a community of practice as opposed to working in isolated “silos”, which is all too frequently the model followed at universities. It is not suggested that Technology Enhanced Learning is the only option: it provides just one such example of how a Research Centre can work. Moreover, this is one such in which I myself am engaged as Group Leader, as it dovetails with so many of my own projects and initiatives, from designing mixed-mode undergraduate courses, through the BTech Research Modules to supervising higher degree students. I am currently supervising one doctorate and two masters students in computer mediated learning, and co-supervising eight Maths Education masters and doctoral students, as well as facilitating two BTech research modules (where I will probably supervise at least five Basic Research Projects). I would not be able to become actively involved in so much postgraduate supervision without the support of the TEL community of practice, and the integration of the many activities where one feeds into and supports the other, or without the use of ICT to reduce the heavy administrative load. It must be noted that Technology Enhanced Learning also has a spin-off effect throughout the Faculty, as many of our staff have excelled at online learning (in DUT’s Pioneers, Astronauts and Cosmonauts programmes), and WBL does not just apply to Maths Education: a beautifully crafted online Portfolio in Jewellery Design won the University’s Delta Award in 2007. Finally, computer technology, as mentioned above,
adds cachet and status to a Faculty whose creative output is traditionally viewed somewhat disparagingly by our more scientific colleagues as merely decorative or good for its PR value (i.e. art work and drama to liven up university functions). It also positions the Faculty of Arts and Design firmly within the ambit of a University of Technology, which is a prudent move in terms of the generally low status of the Humanities in a university milieu which is still dominated by Technicist norms and values. However, it must be stressed that our espousing of technology has not estranged us from our connection with letters and the human touch in learning, which can actually be enhanced through use of ICT (Greyling & Wentzel 2007:655-660). As van der Merwe says of the Humanities: “We are indeed relevant and have a lot to offer. A university without a strong Humanities pillar is not really a ‘universitas’ ” (2004:138).

References


