

Effective Integration of ICT in Blended Learning Programmes: A Morphogenetic Approach

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Abstract: Currently criteria for evaluating mixed-mode courses do not go much beyond the paradigmatic level, which poses problems if the evaluator's preferred paradigm of knowledge construction is not congruent with the course designer's. A critical realist approach is suggested, using Margaret Archer's morphogenetic approach to social structure in order to provide a deep-theory explanation for effective integration of ICT in blended learning, moreover, one which does not favour any particular pedagogical epistemology. This is because critical realism provides a meta-theory for exploring causality at the ontological level, and accepts the existence of diverse epistemological positions in its ontology, rather than prescribing educational belief and value systems. The proposed framework will be illustrated by applying it to three best-practice mixed mode courses designed for undergraduate lecturing, staff induction and research capacity building respectively. It is hoped that this application of a deep-theory explanation will not only identify for practitioners the elements which are likely to result in effective mixed mode course design, but will also explain why this is so. This study is part of an ongoing project being carried out at a university of technology, and is intended to contribute to a theory of hypermedia communication based on social functioning.

Keywords: Blended Learning, Higher Education, Critical Realism, Morphogenesis

Introduction

This account is part of an ongoing exploration of the nature of hypermedia communication, which arose out of the work of a small group of academic staff involved in doctoral and master's research into e-learning applications at the Durban University of Technology. All group members were investigating critical realist concepts of social structure, with specific reference to Margaret Archer's substantive theory of morphogenesis and its implications for e-learning. In a previous paper (2013a) I debated the issue of whether the Internet could be considered a social system in terms of Bhaskar's description (1979, 1998) and Archer's development of it in her morphogenetic approach (1982, 1988b, 1995, 1998). I also suggested (2013b) that Fleetwood's (2005, 3) tripartite description of artefactual reality might be used to explain successful integration of ICT into course design in a research capacity building programme. It was the contention of the latter paper that, for mixed-mode courses to be effective, information and communication technology (ICT) needed to become an integral part of the social context in which teaching and learning took place, and not be treated as an incidental adjunct. In this paper I suggest that the framework provided by Fleetwood's three aspects of artefactual reality might be useful for explaining the effectiveness (or not) of mixed mode courses, and its corollary, namely, that the effectiveness of mixed-mode courses might be assessed by looking at the extent to which ICT has been integrated into the social structure underpinning them. My intention is not to cast aspersions on the excellent work which has been done so far in describing best online teaching practice (see Hanover Research Council 2009), but to explore a theoretical framework which might explain, at a deeper level, exactly why certain practices are exemplary. This paper is structured as follows: firstly, to give an overview of the critical realist orientation adopted by members of the DUT research group and its implications for assessment practices; secondly, to look at Bhaskar's and Archer's description of social structure, and to suggest the implications for mixed mode courses of Fleetwood's description of artefactual reality; next, to apply this framework to three best-practice mixed mode courses; and, finally, to arrive at some conclusions about the assessment of blended learning courses.

The Critical Realist Orientation

While the actual term "critical realism" was coined in a series of essays by Drake et al.(1920), the emerging school of philosophy which came to be termed "critical realism" was developed mainly by Roy Bhaskar (1978, 1979, 1986, 1989, 1994), whose most significant contribution to philosophy was in the area of ontology. Bhaskar emphasised the importance of ontology as a primal issue in all theories about being, whether this is made explicit or remains tacit (Norris 1999, 9). The contributions of Margaret Archer (1988a, 1996, 1998, 2002) and Rom Harre (1979, 1986) are also acknowledged, in particular, Archer's "morphogenetic approach", which developed Bhaskar's concept of social structure into a substantive theory explaining social change. Bhaskar's

ontology comprises three domains, the domain of real, the domain of actual and the domain of empirical. According to Alvesson and Sköldbberg:

The notion of reality as consisting of three domains – the empirical, the actual and the real – is a central one within critical realism. The empirical domain includes that which we can observe – things that happen and exist according to our immediate experience. The actual domain is a broader one, and refers to that which transpires independently of the researcher or any other observer who might record it. Finally, the domain of the real includes those mechanisms that are productive of different events and other ‘surface phenomena’. (2009, 4)

The concept of “stratification” (which occurs in the levels of Bhaskar’s ontology) is a recurring theme in critical realism. It can also be applied to the inquiry process in which deeper layers of explanation are developed as the inquiry progresses (Dobson 2012, 71-72). It is this interest in mechanisms operating at a deeper dimension which sets critical realism apart from other traditions (Alvesson and Sköldbberg 2009, 40). In my previous paper, “Transforming social structure with ICT in research capacity building at a multicultural university of technology”, the levels of stratification involved in my attempts to explain effective mixed-mode courses are described, going from surface explanations (I.) to deeper level social theories (IV.), as follows:

- I. Formulaic: List of discrete course elements (e.g. navigation options, course content, discussion tools, assignment tools)
- II. Paradigmatic: On the basis of the evaluator’s preferred teaching/learning approach (e.g. constructivism)
- III. Systemic: Systemic operation of teaching/learning (allowing for diverse beliefs and values)
- IV. Social theories (i.e. at the level of mechanisms explaining causality): Course design as replicating/transforming the social structure involved in teaching/learning (2013b, 857).

My earlier publications on mixed mode courses dealt with the first three layers of explanation; in this paper, following on to 2013b, layer IV. is explored.

It must be noted that so far there has been little application of critical realist approaches to e-learning (but see Gutteridge 2006 and Reddy 2012). Information system (IS) researchers advocate use of the critical realist orientation for ICT research (Dobson 2001, 2002, Carlsson 2003, 2009, Mingers 2000, 2004, Mutch 1999, 2010). However, while the critical realist philosophy provides a useful meta-theory for inquiry, it does not supply practical guidance as to methodology or the place of technology within its orientation (Dobson 2012, 63). According to Mutch, Archer’s theory of morphogenesis/stasis provides a substantive theory for social functioning within the critical realist perspective (2010, 508-510). Wong (2005) shows how a morphogenetic approach can be applied to research into organisational innovation, and Mutch (2010) does the same for research into database storage.

Archer’s (1995, 1988b) morphogenetic approach, based on Bhaskar’s meta-theory (1978, 1979, 1986, 1989, 1994), provides the theoretical basis for the analysis of both transformation and continuance of social structures. Social structures are thought to be mechanisms with emergent qualities (Bhaskar 1979, 187). However, the actual processes involved in social continuance or change (termed “morphostasis” and “morphogenesis” respectively) are complex cycles occurring in phases over time. It must be noted that the term social structure is in itself problematic (Porpora 1988, 339), as Bhaskar’s initial use of the term was ambiguous, referring not only to the “abstract form” but also to the materiality of the entities involved (Bhaskar 1979, 186). To clarify its use in this paper, the term social structure “is used to capture configurations of causal mechanisms, rules, resources, powers, relations and practices” (Alvesson and Sköldbberg 2009, 42). In other words, it is “a set of relationships between people and other entities which sets the context for human interactions and can be seen to motivate social activity” (Pratt 2013b). Social structures cannot be observed directly, but are manifested only in terms of how they influence actual social interactions. We are born into the social structures set in place by the activities of those in the past (the “long dead”, Archer 1998, 363); our own ongoing social interaction further transforms or consolidates these structures for those in the future. Archer emphasises that structure and agency must be separated in analysis (1988b, 367) as they operate in different time frames; hence the importance of “historicity” (1988a, 196), or the need to analyse social change in terms of the interplay between structure and agency over phases in time.

If Archer’s theory is applied to the use of ICT in forms of e-learning, including mixed mode, it can be observed that both educators and learners have inherited a set of social relationships for teaching/learning based on past interactions but which now include relationships with the material entities of computers and the Internet. It can also be observed that the way we deal with this invisible but powerful context for teaching/learning is still largely governed by the traditional, educational book-based culture. Generations in the future will inherit the social structure transformed by today’s ICT developments, by which time these will be already be passé (as is our book-based culture now). While Archer comments that transformation of social structures can be observed to

occur over wide eras in time (hence her emphasis on “historicity”), new technology (e.g. the introduction of the mobile phone) can trigger dramatic changes in actual social behaviour over relatively short periods. In 2013b I suggest that even the traditionally conservative social structures in education may transform much more rapidly than in the past, owing to the exponential trend in ICT development.

Proposed Framework for Assessment of Mixed Mode Courses

Much of the assessment of e-learning and mixed mode courses is formulaic (Level I.), describing discrete course elements of best practice courses. The value of this kind of assessment is to give novice practitioners specific practical features which they can explore as they develop expertise in course design. As a novice e-learning practitioner in 2002, I myself found accounts of specific course elements - as well as assessment of their value - very useful. Paradigmatic evaluation (Level II.), however, is problematic, particularly if the course evaluator’s preferred paradigm of knowledge construction is not congruent with that of the course designer. While the favoured paradigm for my own undergraduate mixed-mode courses was constructivist, this was because it was viewed as a way of weaning students from the rote learning endemic in KwaZulu-Natal schools, and assisting them to develop as independent learners. But then the undergraduate subject involved was Business Communication, which lent itself to a constructivist approach, and the syllabus had recently been revised so as to be project-based. This orientation might not necessarily suit Physics or Engineering staff, and a fair assessment rubric would need to take into consideration educator preferences and not prescribe one approach as “correct”.

Programme evaluation depends very much on the pedagogical preferences of the course designers and teaching staff. In my roles as English teacher, communication lecturer, and later, research capacity builder I had (and still have) a personal preference for experiential learning. Unlike most academic staff, I immediately saw the potential of outcomes based education (OBE), and, on reflecting on my OBE Communication courses, saw that they were underpinned by the kind of higher order competences identified by Spady (1994) as being essential for adult professional functioning. This is still a paradigmatic-type course evaluation schema, however, reflecting hermeneutic principles.

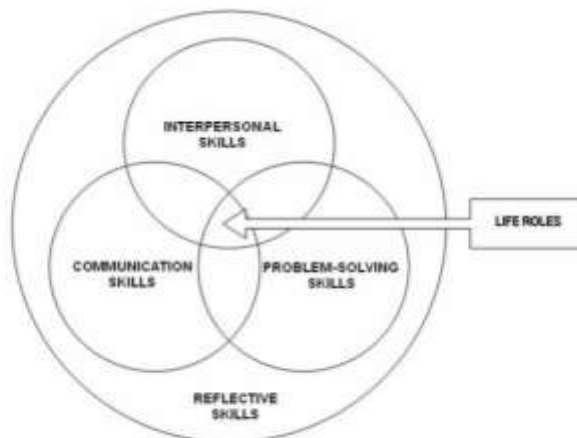


Figure 1: The Higher Order Competences Involved in Integrated Project Work
 Source: Pratt (2011, 8)

My doctoral research involved the formulation of a systemic model of communicative functions, which I subsequently developed into a course design principle. This comprised five functions which were viewed as prerequisites for learning to take place (Pratt 2011, 10-11), as follows:

- Contextual: This function relates to the social context in which knowledge is constructed, and requires the course designer to decide how learning is to be contextualised.
- Ideational: This function relates to the source of the knowledge to be constructed, or the process whereby knowledge actually comes into being (it also raises the question of course content).

- **Interactive:** As knowledge is constructed in learning interactions (including interactions with resources), the course designer needs to anticipate how participants will interact in constructing knowledge.
- **Social:** The social parameters, conventions or constraints operating in a given learning situation need to be identified and made explicit to learners, particularly in respect of local assessment criteria.
- **Reflexive:** This relates to how participants will reflect on and assess their performance in constructing knowledge, and includes the issue of formal assessment (if any) and how it will be carried out, as well as course assessment.

As this course design principle was based on systemic functioning, I then began to re-assess the effectiveness of my mixed mode courses on a systemic basis (Level III.). As systemic operation is congruent with the critical realist principle that mechanisms are the “drivers” of social as well as natural processes, the next move, to exploring the underpinning of systemic operations in the context of theories of social structure was a logical one. However, intense debate with my colleagues and students about the nature of social structure described by Bhaskar and Archer, and the precise nature of the morphogenetic/static processes of social change or consolidation led to the conclusion that yet another level of analysis might prove fruitful in exploring e-learning and mixed mode courses, that of social theories (Level IV.), in particular the theory provided by Archer’s morphogenetic approach. This is the level of mechanisms explaining causality, where course design is viewed as replicating or transforming the social structure involved in teaching and learning. As stated in 2013b, the hypothesis formulated was that the effectiveness of mixed-mode courses might be explained by the extent to which they replicate or transform the social structures of teaching and learning which are already known to be effective (i.e. best practice) in face-to-face instruction or traditional distance education using hard print correspondence. A key issue was whether the “real” existence of computers and the Internet became integrated into the web of relations forming social structure in actual instances of mixed mode learning. This would require clarifying the nature of the mode of “reality” represented by ICT in critical realist terms.

Fleetwood states: “an entity is said to be real if it has causal efficacy; has an effect on behaviour; makes a difference” (2005, 2). A caveat is that “real” entities must not be equated with material entities and “non-real” entities with non-material entities. For example, an idea or belief can affect people’s actions as profoundly as a physical cause, which means that it exists as a mechanism in the “domain of real” (the fact of the belief, not its content). According to Fleetwood (2005, 3), computers and the Internet are “artefactually real”. He further describes the nature of artefactual reality as involving a combination of materially, ideally and socially real entities, referring, respectively, to physical objects, concepts and social relationships. It is the complex relationships between entities such as these which constitute the web of social structures contextualising human social interactions; subsets within these structures would be the “positions” and “practices” identified by Bhaskar as mediating between social structures and human agents (1998, 221). It must be noted that social structures do not just include relationships between people, but also relationships between people and things. ICT has a material aspect constituting the hardware and its material infrastructure, but also has an ideal aspect in the sense of being conceptualised in certain ways by providers and users. Fleetwood points out that, while artefacts have a material existence separate from our ideas about them, we conceptualise them in the same way that we conceptualise certain natural objects, and that these concepts have causal force. Artefacts are “socially real” as they are created for social use. It is the contention of this paper that the effectiveness of mixed mode courses might be assessed in terms of how successfully the artefactual reality of computers and the Internet is integrated into the already existing social structures underpinning teaching and learning. This would involve investigating how the material, conceptual and social aspects of ICT are harnessed to the ends of teaching and learning in course design. The proposed framework, then, explores to what extent the following aspects modes of artefactual reality are successfully integrated into mixed modes courses, namely, with regard to their *material, ideal and social* aspects.

The three mixed-mode courses to be discussed below using this framework are as follows:

- *Comm. Skills Online* (Undergraduate lecturing of English/Communication Skills)
- *WebCT for Dummies* (Staff - and later student - induction to e-learning)
- *BTech Research Module for Journalism* (Research capacity building)

Effective Integration of ICT into Mixed Mode Courses

In this section the extent to which ICT was effectively integrated into the three mixed mode courses will be discussed, in the course of which, conclusions will be drawn about what made the courses themselves effective. In other words, a framework for course assessment is being proposed, using Fleetwood’s three aspects of artefactual reality as points of focus.

Integration of ICT into WebCT for Dummies

WebCT for Dummies was intended for use in a live workshop run in a computer laboratory where inductees could be introduced to the mysteries of blended learning in ways which would lead them through the course and course activities. It also offered information and advice on how ICT was used in a blended learning, which, it was hoped, would lead to heightened reflections about their own experience of it in the course. While the WebCT 4 version used in 2002 has long since been replaced, it is interesting to note the Pilotlearn Blackboard course currently used by DUT EdTech in fact uses many of the features of *WebCT for Dummies*, being a sample course for inductees to work through, while at the same time containing “manual” type information about how to set up the various aspects of a Blackboard Course. However, it lacks the schoolroom metaphors which made WebCT4 more accessible to educators, and which were exploited in *WebCT for Dummies*, and the tongue-in-cheek humour of the latter. This is probably because it needed to be more literal-minded and functional in terms of gearing the whole university staff towards using e-Learning without having sufficient training staff for intensive e-learning induction.

Material Aspects of ICT in WebCT for Dummies

WebCT for Dummies was designed to be held in a computer laboratory with Internet access. At times the instructor would lead the session, and encourage plenary or small group discussions, and at other times participants would work at their own pace on the various exercises in the online part of the course. It was not considered a problem if they did not all keep to the same pace, as long as they were happy following the (sequenced) tasks. Those who did not complete could carry on after the workshop on their own: the idea was to give them the competences and motivation to do so, not to follow in lockstep mode. The presence of computers and the Internet was an integral part of the course, which could not be held except in an internet-linked computer laboratory.

Ideal Aspects of ICT in WebCT for Dummies

It is my experience that educators, no matter how skilled at using word processors, email and research programs such as EndNote or Nvivo, tend to be nervous about learning to use computer mediated instruction in peer groups and even more so at the thought of leading groups of their own students. Anyone who has taught groups of adolescents or lectured young adults will know that this can be stressful enough without the added complication of refractory equipment, as well as the daunting knowledge that most of our learners far outstrip us in techno-savvy. I called the course *WebCT for Dummies* because I myself was a rank amateur, and had only just learned how to set up a mixed mode course, and it gave me solidarity with the participant educators: we were all “dummies”, so we were allowed to make mistakes (which is, of course, a key aspect of learning). Apart from the “dummies” metaphor, the course was based on the metaphor of visiting a school and being introduced to typical school activities, ending with the “home bell” (there were also “extra-curricular” activities). The tongue-in-cheek humour of the content made the technology complicit in the fallible nature of human learning

Social Aspects of ICT in WebCT for Dummies

As well as the laboratory context integrating computers physically with the ICT of the e-learning course, conversely, in the laboratory setting were groups of people working together, which reinforced the idea that people working alone at home or in the library are really still part of a *group* of online learners, even though separated spatially and temporally (i.e. a community of practice). As Lawson suggests, the ICT elements have enabled the “social” to become material, embedded in the ICT infrastructure, which supports and enhances the live experience of leaning in the workshop. When no longer in the actual workshop setting as part of a group of learners, the social aspects embedded in the WebCT course assist the now separated users to re-enact - virtually - the sense of being in an actual learner group.

Assessment of WebCT for Dummies

Material, ideal and social aspects are all interlinked: *WebCT for Dummies* involves an actual group of learners sitting at computers, which offer an idealised version of a day at school, which they enter “virtually” using ICT, whereupon the group, computers and the virtual school experience become melded into a blended learning experience. *WebCT for Dummies* is not particularly remarkable for its metaphors, structure, graphics, texts, or jokes, but it successfully draws on the three aspects of artefactual reality not only to replicate but also to enhance the social structure of teaching/learning for participants. The enhancements are not merely technical in the sense of extending human capacity (i.e. faster, better, more) but also in the sense that the ICT elements offer emergent properties which develop with use. But it must be remembered that *WebCT for Dummies*, while able

to be browsed after the workshop, was a “once-off” experience: different trainers and participants might discover new or unintended uses on various specific occasions, but the course itself offered no long-term development. It was used by many diverse groups, though: conference delegates of very mixed background and ability; university staff, undergraduates and higher degree students.

Integration of ICT into Comm. Skills Online

Unlike *WebCT for Dummies*, which was a once-off staff induction workshop, *Comm. Skills Online* was initially designed as an ongoing semester course for undergraduates, mainly (but not only) in the Engineering Faculty. It was used for the semester Business Communication Skills course taken by students from Chemistry, Dental Technology, Electrical Engineering, Civil Engineering, Maritime Engineering, Survey and Information Technology (IT), and, like *Dummies*, was set up and run on WebCT 4 in student computer laboratories. It was used in combination with *Dummies*, which was found useful for student induction into blended learning, and *ditcom* (later *dutcom*), which was an English Department resource (also on WebCT 4) containing hyperlinked course notes, lesson slides, and practice multiple choice tests. All 6,000 undergraduate students were enrolled on *ditcom*, but it was used most often by students who were also registered on *Comm. Skills Online*. It was adapted for use for one semester with annual courses (which used the same Course Notes), for Child & Youth Development, Town & Regional Planning, Communication in Video 1 and English for Arts (a Foundation course).

Material Aspects of ICT in Comm. Skills Online

It was a problem gaining access to student computer laboratories, so that some groups spent more time in the laboratories than others. The IT group (the only 2nd year group) had no access to laboratories at all, as the academic staff members were using these as lecture venues. However, they were so motivated to carry out the online report project that they used the laboratories after hours or home computers to design and produce some outstanding web pages (see Pratt 2003, 8-9). The Analytical Chemistry students were so fascinated by the course that they would not leave the laboratory during tea or lunch breaks. The student groups who spent the most periods in the laboratories did not “bond” so well in their group project work, however, which required small group interactions in classroom venues. For blended learning to be most effective, then, in terms of achieving the desired outcomes, the students needed a balance of group time both with computers and without. Just putting students in rooms with computers did not automatically lead to effective blended learning practice: for the social structure of learning/teaching to be melded into the virtual experience offered by *Comm. Skills Online*, it seems that the actual experience of operating in an “actual” social structure was necessary, a precursor, even, of the “virtual” experience. I used that knowledge later when designing my blended learning research workshops, insisting that participants were given tea so that they could chat and bond in small groups, and do the social things they could not do on computers; I also sometimes ran sessions for the whole group around a large table, because the immediacy of contact so essential for a vivid teaching/learning is diluted when participants in a large group sit behind computers. This is not to say that computers can be omitted. In terms of extending human capacities, the vastly augmented learning resources, as well as enhanced communication potential, were just as essential a part of the course as face-to-face sessions.

Ideal Aspects of ICT in Comm. Skills Online

As this was a technically-oriented institution, most of the students had positive concepts of computers, and previously educationally disadvantaged students who had never used computers were so keen that they could engage in web searches after 9-15 minutes of instruction (at the time, few of the student laboratories had overhead or data projectors, and some did not even have whiteboards or chalkboards, so that I often had to demonstrate processes to small groups standing around a computer). *Comm. Skills Online* kept the classroom analogy by parcelling off sections of the syllabus, posting electronic copies of term schedules, study guides and notes online, and keeping to the usual English course convention of having theory, written projects and oral work in separate sections, even though an integrated, project-based approach was being used: like *Dummies*, *Comm. Skills Online* was an online classroom.

Social Aspects of ICT in Comm. Skills Online

Not only were the students lectured in plenary sessions in conventional face to face settings, but they were also involved in experiential learning of small group communication competences (part of the English syllabus). This was included not only to ensure that students had some idea of the social structures of human communication they would experience in their personal and professional lives, but also to “socialise them” so that they would be able to carry out course projects in multicultural student groups. The social aspect was made material in the ICT

components of the course by use of instructional content and general forums (mirroring plenary lecture sessions) and the posting online of small group projects. Online slides and revision tests extended general instruction and revision into the virtual area (once more manifesting the social in material form), where they could be experienced individually during or after lecture periods. “Washed out” photographs of students working in lecture rooms or labs were used as the background many of the course materials posted online: this, once more, meant that the social became material. This was a phenomenon which fascinated our less streetwise students from rural areas (to which Facebook had not yet penetrated), who were overheard exclaiming, “Look, we are now on the Internet!”

Assessment of Comm. Skills Online

To sum up, *Comm. Skills Online* was an effective mixed mode course because it successfully integrated ICT elements into the social structure of teaching/learning in the English Communication courses where it was piloted. It must also be noted that syllabuses, study guides and terms sheets framed in the same “officialese” as those issued in the traditional lecture programmes were issued to students so that e-learning component was represented as a “normal” aspect of the English Programme. If there were any queries as to why all students were not using this approach, it was explained by saying there were not enough computer laboratories available to accommodate all 6,000 students, which was a truth all too readily apparent to students used to being denied basic academic facilities by a cost-strapped university.

Integration of ICT into the BTech Research Module for Journalism

The *BTech Research Module for Journalism* has both a history and a sequel. The course (now set up on Moodle) was cloned from the *CALT Research Module*, which was set up on WebCT and was designed as the online component of a blended learning programme intended to lead master’s students registered in Language Practice (CALT1) through the proposal writing process. The *CALT Research Module* was based on the systemic operation of research processes (Pratt 2011, 62-82); this meant that it could easily be adapted into a shell course which would fit any masters or doctoral research dissertation, and which could be simplified slightly to work at BTech (i.e. Honours) level. The *BTech Research Module for Journalism* was later cloned and adapted slightly to form the *Higher Degrees Research Module* for master’s and doctoral students, in the course of which the module was extended to cover not only the proposal writing purpose but also the whole research process from formulating a topic to thesis completion. However, *BTech Research Module for Journalism* will be discussed here as the fact that the same course was run from 2006 to present time means that some of the variations in its presentation could provide evidence to support the case made in this paper. This is because while access to computer laboratories in *Comm. Skills Online* varied, different diploma/degree groups were involved, but in the *BTech Research Module for Journalism* (where computer access also varied) the same degree group was involved.

Material Aspects of ICT in the BTech Research Module for Journalism

Initially the *BTech Research Module for Journalism* started with the most favourable scenario for integrating material aspects of ICT into the social structure or teaching/learning, as in 2006 the Journalism Department had a computer laboratory with Internet connection dedicated to departmental use. This meant that induction into the online aspect of the course was easily achieved, and that regular “refresher” sessions could be held in the computer laboratory. Live workshops were held once a week during term time, but, as most students were employed and could not always get time off and/or travel to the university, the online aspect was very important in maintaining contact with all students and giving students the feeling of belonging to a class group. When specialist laboratory assistance was no longer available (from 2010 onwards) the condition of the computer laboratory rapidly deteriorated until it was no longer usable. This meant the online aspect of the course could be demonstrated only on laptop data projector in the seminar room, which led to a deterioration in the quantity and quality of online student work.

Ideal Aspects of ICT in the BTech Research Module for Journalism

As a major part of Journalists work is concerned with computers and the Internet, the students had no problem with the concept of studying partly online, but saw this as an adjunct rather than substitute for traditional face-to-face tuition, as most members of the group regularly attended the workshops in person. The BTech Journalism Programme Co-ordinator, Dr Mikhail Peppas, also added discipline-specific notes and hyperlinks to

¹CALT:Computer Assisted Language Teaching

the online course, as well as some of the best proposals and research reports, to act as exemplars for students. The exemplars clarified not only the type of content and academic style which was required, but also the scope of the project. One student, who produced an outstanding final report, and was accepted for entry into the University of London, when looking at a previous year's report, declared (with relief): "Oh, I can do *this*." Often research courses are accompanied by a mystique which leaves students baffled and intimidated, and the module, in showing students in advance and step by step how a research report might be accomplished, did much to diminish the mystique and fear, and to inspire hope.

Social Aspects of ICT in the BTech Research Module for Journalism

The BTech Journalism group is a small (15-20), multicultural, yet fairly homogenous (i.e. in career path) group, with a fair amount of social cohesion, which carries over into the virtual area of the course. Much of the success of the *BTech Research Module for Journalism* can be attributed to the students' mentor, Dr Mikhail Peppas, whose expertise, dry sense of humour and caring attitude contributed to the human element of social structure which resonated long after the live workshops in the virtual section of the course. The Moodle discussion forums are personalised by thumbnail graphics of students, which give guests or infrequent attendees (such as myself) the chance to get to know the students (I am good with faces, but bad with names). Our isiZulu speaking students (now over 75% of our student body) tend to be shy about taking part in live discussions if their spoken English is not fluent, and the online discussions led to far greater participation than usually achieved in live plenary discussions during workshops; it also helps them to develop fluency in written English, particularly when there are mother-tongue speakers of English in the group whose forum postings act as models of appropriate communication. In 2010 my Canadian MTech Journalism student was enrolled on the course in a mentoring capacity, and his forum questions to my South African students extended their rather parochial views somewhat, as well as making them realise that well-known indigenous customs might need more explaining and contextualising for an overseas audience. The use of ICT (online course and Internet access) not only made the social manifest in material form but extended the scope of social inclusion so that interactions with the whole group were heightened, and a total stranger from Canada could enter into virtual conversations with students as if he were present in their actual seminar room (the use of thumbnail head/shoulders graphics in Moodle gave the students some idea of the Canadian's age, personality, i.e. pleasant face, and degree of formality, i.e. open necked shirt). Finally, Professor Jonathan Jansen (one time Administrator of DUT) was so impressed with the blended learning approach (which he publicly commended as a "best practice" learning module) that he continued following the course online and became BTech student Maud Blose's supervisor: she is now Co-ordinator (equivalent to HOD) of the DUT Journalism Programme.

Assessment of the BTech Research Module for Journalism

The *BTech Research Module for Journalism* (Pratt and Peppas 2008) was the most successful template of my "shell" type courses. It was slightly adjusted in the last seven years, mainly in response to student feedback (the instructions as to where/how to post answers were changed to read as directions instead of descriptions, e.g. "Post your research topic in this forum.") The Programme leadership and the dedicated computer room appear to have been key factors in its continuance, however, and when, at the start of 2013, neither Dr Peppas nor the dedicated computer facilities were available, the *BTech Research Module for Journalism* was no longer in operation (although it is being partially revived this term). This suggests that, while a positive concept (the ideal aspect) of computers by staff and students is important, a blended learning course such as the *BTech Research Module for Journalism* requires a caring mentor as well as the necessary ICT infrastructure to make it a "normal" part of teaching and learning in an academic discipline: this would suggest that the social cannot become transformed into the material plane without the necessary human and physical resources, no matter how attractively ICT is conceptualised.

Earlier it was mentioned that the *BTech Research Module for Journalism* had both a history and a sequel. It was cloned for use at BTech level in Video Technology and Interpreting and Translation Practice (TIP); in the latter, an isiZulu translation of the tasks and indicative content was provided by one of the TIP BTech students, who used this as her research project. The module was then modified slightly to make it suited for MTech and DTech study, and posted on line as the *MTech Research Module for Journalism*, and also as the *Higher Degrees Research Module* (at MTech and DTech level). The module was at that time also extended to cover the whole research process, including the empirical work and writing up the thesis. The *Higher Degrees Research Module* is available online publicly as an exemplar: when cloned for use by supervisors with small groups of MTech and DTech students the course is closed to the public. I am currently using one such course with four students, and earlier this year held a face-to-face workshop as induction into the blended learning process. Using the module has cut down markedly on the number of face to face supervision interviews, replacing these (in between module tasks) mainly with multiple rapid email exchanges (for which I use my BlackBerry). Use of the module has, in my opinion, led to better group camaraderie and shared leadership amongst students, as well as

accelerating my getting to know each of them individually (I now have pictures on forum discussion postings to associate with the names!)

Conclusion

It was the contention of my previous paper (2013b) that, for mixed-mode courses to be effective, information and communication technology (ICT) needed to become an integral part of the social context in which teaching and learning took place, and not an incidental adjunct. This is achieved at the level of material reality by including computers, software and the Internet (including the online courses) as being “materially real” in the course venue. This, it was hoped, would in turn effect a re-conceptualization of them as part of the “situational logic” (Archer 1996, 145) of teaching and learning in specific contexts. The re-conceptualization of ICT artefacts as “belonging” to teaching and learning is assisted by the instructor and class using these artefacts regularly in association with the learning interaction taking in mixed mode courses. The group is then “re-socialised” within a social structure which has been adjusted to include relationships with ICT artefacts. This paper has suggested that the framework provided by Fleetwood’s three aspects of artefactual reality might be useful to explain the effectiveness of mixed mode courses, and might also be used as a framework for course assessment. While the above discussion has suggested that the material reality of computers and the Internet is a basic prerequisite for effective blended learning course delivery, it has also shown that conceptual and social aspects need to be addressed.

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