Preserving the ‘human quality’ in education at a distance

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Abstract: For many educators and developers, the provision for social interaction in the service of knowledge construction is a key feature of online learning environments. This paper examines the extent to which interactions within electronically mediated learning environments can be regarded as equivalent in quality to the types of social engagement which contribute to the social construction of knowledge in the face to face classroom.

Key words: quality, distance education, social construction of knowledge, agents, computer mediated communication

1. INTRODUCTION

The diversity of those aspects of computer mediated distance education that may be targeted in the quest for ‘quality’ is well reflected in the themes of the QED conference. As more experience of these environments is gained, more is demanded of them by both teachers and learners. A factor of particular importance, deriving from the widespread acceptance of those theories of learning that fall under the umbrella of the social construction of knowledge, is the degree to which they incorporate ‘social’ interactivity between participants.

Stemming largely from the initial impetus of Vygotsky (1978), socially constructivist approaches to education emphasise the critical importance of interactions between students, between students and teachers, and more broadly between students and the surrounding community, in facilitating

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learning. Typical of the understandings currently embraced by most educators and by developers of electronic learning environments is the statement that, 'Social constructivism acknowledges that learning is a social activity in which learners are involved in constructing consensual meaning through discussions and negotiations'. (Johnson et al, p. 64). This emphasis in education is also highly consonant with the current focus in most workplaces on the primacy of the 'team player', skilled in the collaborative negotiation of desired outcomes.

These theoretical perspectives are well supported by a growing body of research, a significant Australian contribution being a recent CUTSD project that has facilitated a range of evaluations of different aspects of computer mediated learning in higher education (Phillips, 2002). With the majority of educators taking as a 'given' the importance of the social aspects of knowledge construction, it is seen as critical within most online contexts to engage learners to the greatest possible extent in the active expression and interchange of information, opinion, even of feelings. Means of achieving this include different types of forums for group discussion and collaboration, as well as provision for individual interactions between students or between students and teachers. In addition, recently developed online environments frequently incorporate highly personified electronic entities (agents) fulfilling what is arguably a social function. These may include the roles of tutor, fellow learner, or tutee – agents whose purpose is to be 'taught' by the student. Interaction with pedagogical agents may either complement or substitute for engagement with human teachers or fellow students (Dowling, 2000).

To what extent can online interactions, whether with fellow human beings or with electronic entities, be regarded as equivalent in quality to the types of interactions that are characteristic of the face to face classroom?

2. EQUIVALENCE AND QUALITY

To many educators, a key aspect of quality in the provision of online learning is the degree to which the experience of the learner mirrors, in as many respects as possible, that provided by the face to face classroom. In addition to the provision of interactivity, great store is often placed on the creation of an interface featuring clearly identified metaphorical equivalents of elements of physical institutional environments, such as libraries, meeting rooms and student lounges. The justification for this is frequently framed in terms of equity of provision to all students which, it is suggested, can best be achieved through the highest possible degree of replication of experience between the different modes of course offering. In a recent discussion

between this author and staff engaged in the translation of a unit of study from face to face to electronic mode, it was argued that this derives from the 'fact' that the face to face learning experience encompasses the accumulated wisdom of decades of research into educational practice, and is therefore a model which should be faithfully followed. Further, it was felt by this group that a high degree of apparent replication of the face to face environment was most likely to ensure that both the institution and the relevant government bodies would judge the program highly in terms of quality (personal communication, discussion with academic staff 25 September, 2002.)

Several interesting and important questions derive from a consideration of these claims.

2.1 Identifying and measuring equivalence

While the educators mentioned above placed great importance on apparent equivalence of process, mapping this equivalence from the 'ideal' represented by traditional learning environments onto their electronic counterparts, it can be argued that this is in part an artefact of their lack of familiarity with electronic environments. For increasing numbers of students, accustomed to electronically mediated interaction in many aspects of their lives, this is not the case, and the attempted replication of traditional learning environments may not, in fact, facilitate their learning. Further, there is an abundance of research indicating that electronic interactions should not be regarded as the precise equivalents of their face to face counterparts (Dowling, 2000a, 2000b).

In practical terms, the ultimate measure of equivalence as recognised informally by most stakeholders lies in comparability of outcomes. Do the students studying online perform as creditably on measures of learning as their more traditionally educated peers? It is often argued that this approach is somewhat naïve, and fails to take cognisance of subtle distinctions in the types of learning taking place within the different contexts. Nevertheless, for many students, parents and employers it represents the 'bottom line'.

Perhaps the greatest weakness of this point of view is its failure to take into account the students' performance in those 'social' aspects of learning and performance such as participation, negotiation and collaboration that figure so strongly in the contemporary rhetoric of both education and the workplace. These are aspects of the quality of the learning experience that can be far more readily measured and evaluated in relation to online environments than face to face. Indeed it can be argued that they can be more readily and effectively assessed than more traditional learning outcomes. Benigno and Trentin (2000), for instance, identify the two

particularly significant aspects of evaluation of online courses as being the evaluation of learning and the evaluation of the participants' performance or participation within the course. In so claiming, they acknowledge the richness of data available for undertaking the latter task by comparison with what exists for more traditional modes of pedagogy while lamenting that, by contrast, 'Verifying learning is a difficult task' (p. 263). In some cases, the outcome is equivocal. Johnson et al (2000, p. 29), for instance, found that, while students studying in traditional face to face mode 'held slightly more positive perceptions about the instructor and overall course quality' than their online counterparts, 'there was no difference between the two course formats in several measures of learning outcomes', that is, the online mode was neither detrimental nor measurably beneficial to learning.

Acknowledging the fact that, 'Evaluation ... has become increasingly important in the current quality-driven context of higher education' (Oliver et al, 2002, p. 199), Oliver et al attempt to chart a course through the complexities of qualitative and quantitative methodologies, formative and summative evaluation and so on, through the compilation of an evaluation 'toolkit', designed to assist the researcher in considering and choosing from a wide range of optional approaches to the evaluation and ultimate comparison of different types of learning environments. While such initiatives are undoubtedly helpful, there remain a number of unanswered questions concerning the notion of equivalence both of process and of outcome. For instance, while the online environment undoubtedly provides a rich resource of data for measuring social interaction, is this type of interaction comparable with and transferable to face to face situations, particularly in the workplace? If we throw doubt on the degree of equivalence, yet acknowledge that developing skills in this type of interaction is of value in itself, then we need to further consider the relationship between equivalence and quality in evaluating online environments.

2.2 Social interaction in the face to face classroom

The assumption that traditional face to face learning environments provide the most effective model of interaction is easy to challenge in a number of respects, although we need to guard against perceiving these contexts solely from the perspective of the teacher. At university level, for instance, the mass lecture is clearly intended to provide little opportunity for interactivity beyond the one-way delivery of information from the lecturer to the student. In many of these contexts, however, there is actually a great deal of other communication going on through such means as whispered conversation, note-passing and, in recent times, text messaging. As is the

case with more legitimate forms of interactivity within educational environments, some of these exchanges are concerned with the course content, while others are not. This is a form of social engagement which, although unmandated, can nevertheless have desirable pedagogical consequences, and may indeed particularly suit the learning styles of some students.

The guided interactions characteristic of smaller scale face to face classrooms typical of a school, or a tutorial, are the more usual models for the interactive components of online learning environments. Both on and offline, these incorporate the potential for facilitation or direction by the teacher, for the exercise of some control over participation, and for the monitoring of interactions.

What are the perceptions of students in regard to interactivity in the classroom? Students participating in a recent evaluation of a unit taught in mixed mode by this author revealed some interesting perspectives. Not surprisingly, a number of them felt that they did not always experience face to face learning environments as being highly interactive. Interestingly though, while some regretted this, others claimed that it suited them very well, and that they felt that they learned more 'efficiently' in minimally interactive settings such as large lectures.

Others acknowledged the interactivity of the face to face classroom, but stated that it was not their preferred way of learning. A number of these students identified the potential for less obligatory interactivity as being an attractive feature of online environments. One specifically lamented the fact that participation in discussion groups had recently been made mandatory in a particular online class (student course evaluations, June, 2002).

These tensions between accommodating the preferred learning styles of students and insisting that they undertake their learning through activities that we believe to be beneficial to them in the longer term are not new. They are, however, moving closer to the forefront of pedagogical concerns as we focus increasingly on equipping students with 'meta' learning skills appropriate to the concept of lifelong learning, rather than concentrating primarily on the acquisition of short term skills and content knowledge. While we might argue that certain students would benefit from being relieved of the burden of relentless interactivity in the classroom, these are perhaps the very students who need to learn to engage in social and collaborative learning in the interests of their future employability.

2.3 What special contribution might electronically mediated interactions make to learning?

The fact that electronically mediated communication is qualitatively different in a number of respects from face to face interactions (Dowling, 2000a, 200b) does not necessarily suggest that it is any less effective in facilitating learning. Indeed, when we consider the primacy of electronic communication in the personal lives of today's students, it can be argued that this is an extremely 'natural' medium for them in relation both to the acquisition of information and to their preferred mode of social interactivity. Online communication may not 'replicate' its face to face equivalent, but it is becoming the interactive medium of choice for many young people, who embrace with enthusiasm qualities such as speed of response, unstructured access, and the immediate plunge to the core of meaning characteristic of SMS messages. This latter mode of interaction has recently been reported as apparently overtaking email in popularity. 'More than 40 per cent of people aged 15 or older in Europe's three biggest economies use short messaging service (SMS) on cellular handsets, while 30 per cent use computer email, says research company GartnerG2' (McLuskey, 2002, p6). Such a shift in preferred mode of interaction may mount even greater challenges to the educators of the future as they strive to maintain 'relevance' to their students and to the world in which they will live and work.

In addition to 'relevance', computer mediated social interactions have a number of other potential advantages in relation to learning. Factors which may encourage some students to participate more freely in the social negotiations characteristic of knowledge construction include a degree of anonymity and of student control over the persona presented to the rest of the group. In the absence of certain social 'markers' such as appearance and dress, or of an established 'reputation', some students may feel more able to participate actively in discussion. The ability to opt in or out of discussion, or to interact outside the constraints of 'real time' environments, may provide the more diffident or reflective student with the temporal 'space' needed in order to contribute a considered response. In the literature of pedagogy much is made of the notion of the 'reflective practitioner'. Are the needs of the 'reflective learner' as well catered for, particularly in face to face learning environments?

The ability to operate within one's own time frames can also be helpful to the teacher in responding to students, as can the capacity to communicate as appropriate with either a selected group or with an individual. The ability to structure pedagogical communication in this more 'targetted' way is significantly enhanced in many online environments.

A detailed examination of the actual and potential roles of software agents in participating at a 'social' level in knowledge construction is beyond the scope of this paper (Dowling, 2000c). Suffice it to say that the opportunities for complementing the roles of the human teacher are rich and varied. As with all aspects of electronic learning environments, however, there is always some potential for features to be developed 'because we are able to', rather than because they will necessarily contribute positively to student learning. Happily this is generally well recognised by developers, as exemplified in the following comment made about one online learning environment based on constructivist principles, emphasising communication and collaboration, and also featuring elements of advanced technology: 'The author does not recommend that all CMC systems should have virtual-reality quality or avatars built-in. These tools can be made available and customized by users. The freedom of choices empowers the users to take control of their learning process. In some instances, the add-on tools can be a distraction for online conversation. In some instances they are great tools for increasing interpersonal connections. The use of the tools should match the pedagogical goals of an instructional unit, not just used for the sake of using the tools' (Chou, 2001, p. 189). Indeed, the potential for flexibility and choice might well be cited among the special benefits of online educational environments.

3. CONCLUSION

To many educators the provision of opportunities for social interaction is the most useful and productive feature of online learning environments. Not only is this the key attribute that distinguishes online learning from traditional distance education, but it can be argued quite strongly that it has certain advantages over the social dimensions even of traditional face to face pedagogical interactions in terms of flexibility and also of relevance to students and to workplaces of the future.

Electronic interaction whether with teachers, students, or with software agents does not replicate face to face communication, and in this regard it is difficult to determine equivalence of quality except in terms of learning outcomes – a task fraught with methodological pitfalls. By comparison, the richness of 'process data' concerning participation that is available within many online environments makes evaluation of this aspect of the learning experience a seductive proposition.

The challenge for educators is to resist the temptation to apply overly simplistic notions of equivalence in their evaluations of the quality of online learning environments, while keeping in view the realities of the criteria by

which students, parents and employers judge the success of the educational experience.

REFERENCES

- Benigno, V. & Trentin, G. (2000), 'The evaluation of online courses', *Journal of Computer Assisted Learning*, 16 (3): 259 – 271.
- Chou, C. (2001), 'Formative Evaluation of Synchronous CMC Systems for Learner-Centred Online Course', *Journal of Interactive Learning Research*, 12 (2/3): 173 – 192.
- Dowling, C. (2000a), 'Social Interactions and the Construction of Knowledge within Computer Mediated Learning Environments', in Downes, T. & Watson, D. (eds), *Learning in a Networked Society*, Kluwer Academic Publishers, Boston; 165 – 174..
- Dowling, C. (2000b), 'The role of social interactions in online learning within the Higher Education sector', in *Social Aspects of Higher Education – Polish and Australian Reflections*, College of Social Sciences and Administration, Warsaw University, Poland.
- Dowling, C. (2000c), 'Educational agents and the social construction of knowledge: some issues and implications', *Proceedings of the 8th International Conference on Computers in Education/International Conference on Computer Assisted Instruction 2000*, Taipei, Taiwan, November 2000; 107 - 113.
- Johnson, S., Aragon, S., Shaik, N. & Palma-Rivas, N. (2000), 'Comparative Analysis of Learner Satisfaction and Learning Outcomes in Online and Face-to-Face Learning Environments', *Journal of Interactive Learning Research*, 11 (1): 29 – 49.
- Kearney, M. & Treagust, D. (2001), 'Constructivism as a referent in the design and development of a computer program using interactive digital video to enhance learning in physics', *Australian Journal of Educational Technology* 17 (1): 64 – 79.
- McLuskey, D. (2002), 'SMS eats into email in Europe', *The Australian IT section*, 12.11.2002: 6.
- Oliver, M., MacBean, J., Conole, G. & Harvey, J. (2002), 'Using a toolkit to support the evaluation of learning', *Journal of Computer Assisted Learning*, 18 (2): 199 – 209.
- R.A. Phillips (ed). (2002), 'Learning-centred evaluation of computer-facilitated learning projects in higher education: outcomes of a CUTSD staff development grant', Canberra: Committee for University Teaching and Staff Development, <http://cleo.murdoch.edu.au/projects/cutsd99>
- Vygotsky, L. (1978), *Mind in Society*, Cambridge, MA: Harvard University Press.