Working on educational research methods with masters students in an international online learning community

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Abstract

In this paper we discuss the background to this study in the development of the international MSc *e-Learning Multimedia and Consultancy*. The aims of the study focus on the conditions for achieving communication, interaction and collaboration in open and flexible e-learning environments. We present our theoretical framework that has informed the design of programme as a whole which is based on a socio-constructivist perspective on learning. Our research is placed within an action research framework and we outline our position within the critical or emancipatory tradition and also our standpoint on the use of ICT in education. We discuss the design of the programme and also our pedagogical approach and describe in detail the particular context for this study. We report on the student experience of being learners on this module, their perceptions of what they have gained most from learning from and with each other and their responses to the various ways in which 'scaffolding' has been designed and implemented by the tutors. Finally we offer some reflections on the conditions for achieving well-orchestrated interdependence in open and flexible e-learning environments.

Introduction

The background context for this paper is the international MSc *e-Learning Multimedia and Consultancy* that was developed from the TRIPLE M Advanced Curriculum Development (CDA) Project supported by the European Commission under the SOCRATES programme (1998–2001). The programme has involved an active and continuing

partnership between Hogeschool van Arnhem en Nijmegen in the Netherlands and Sheffield Hallam University in the UK. Our overall approach towards this enquiry is set within an ongoing action research framework. The experience of tutors and students involved in earlier stages of development are documented in Owen, Hudson and Tervola (2005) and Hudson, Hudson and Steel (2006). In this paper we draw on that experience but focus on the fourth module of the programme, Research Methodologies in Education and Training, which took place during the second semester of 2002–03. This module involved 14 students working together, based at two local study centres in Nijmegen and Sheffield, together with two students based in Brussels, one in Linz, Austria and another in Kimberley, South Africa. The programme as a whole is framed within a virtual learning environment (VLE) and the pedagogical approach in general involves international studies, local studies and independent study. The former involves working in international groups using the VLE, videoconferencing, email and synchronous discussions. The local studies involve face-to-face meetings in national groups at local study centres supplemented by videoconferencing. In the case of the students working at a distance from the two local study centres, alternative means of face-to-face contact were already in place or were established. In the case of the student in South Africa, there was a local tutor to support this student who had been involved in working with the tutor team at the formative stage of development of the project. With regard to the students in Belgium and Austria, they made visits to Sheffield and there was further regular contact with the tutor team through ongoing involvement in EC-supported projects. Face-to-face meetings were supplemented by one-to-one communication via email, videoconferencing and telephone.

Aims of this research
The aims of this research have been gradually refined over the course of the development of the programme since the first pilot phase in the second semester of 1999–2000 as reported in Hudson *et al* (2000). The evaluation of early modules on the programme highlighted the wish of the students for greater international collaboration than had been their experience to date. This was expressed by one student in particular who argued that collaboration in any environment is about needing each other and with reference to Salomon (1992) drew attention to the fact that collaborative learning requires much and well-orchestrated interdependence. As discussed in Hudson *et al* (2006), in reflecting upon our experience we are confronted with the reality that promoting collaboration is both complex and challenging. Accordingly our major aims are to explore the indicators that characterise effective pedagogical practice and student engagement in open and flexible e-learning environments. This point of departure, combined with the outcomes of earlier phases of development, has given rise to several research questions as follows:

1. What new opportunities are afforded by the technology for collaborative learning and for supporting it in open and flexible e-learning environments?
2. How can we best facilitate purposeful engagement of autonomous and independent learners in e-learning environments?

3. To what extent is the notion of assessment *for* learning a key condition for achieving *orchestrated interdependence* and autonomy in e-learning?
4. What are the optimal conditions for achieving well-orchestrated interdependence in open and flexible e-learning environments?

Theoretical framework

The theoretical framework that has informed the programme design is underpinned by an emphasis on the social aspects of computer mediated learning as discussed in Hudson (2000). The theoretical framework as a whole owes its influence to the ideas of Vygotsky (1962, 1978), Lave (1988, 1996) and Lave and Wenger (1991). A key assumption underpinning such a perspective is that socio-cultural factors are essential in human development. Intellectual development is seen in terms of meaning making, memory, attention, thinking, perception and consciousness, which evolves from the interpersonal (social) to the intrapersonal (individual). In discussing the influence of such a perspective, Lerman (1996) describes language as providing the tools for thought. It is argued that language is not seen as giving structure to the already conscious cognising mind; rather the mind is constituted in discursive practices. Vygotsky emphasised the notion of *internalisation*, by which the means of social inter-action, especially speech, are taken over by the learner and internalised. However we prefer to describe this as a process of *appropriation* (of language). From within such a perspective computers are seen as technical tools which mediate human activity and interaction which can be seen as the 'the "carriers" of socio-cultural patterns and knowledge' (Wertsch, 1994). The convergence of computer technology and collaborative learning has led to discussion of cognition as a distributed phenomenon. Distributed cognition emphasises that the process of cognition does not reside solely in the individual learner or the collaborative group. It is distributed between the individual, the group and the tools in use (Salomon, 1992; Scardamalia & Bereiter, 1996). It allows for collaboration across time and space and also gives the possibility that communication is expressed as spoken language, text on the computer, or via jointly manipulated images. Accordingly, processes of communication, interaction and collaboration are seen as fundamental to the conditions necessary for higher mental functioning and for achieving learning.

Research methodology

As indicated earlier our overall approach towards this enquiry is set within an ongoing action research framework. In relation to this aspect, as Kemmis (1993) highlights, the nature of action research is open to debate and is the result of a number of waves of advocacy over a period of several decades in the English-speaking world. Each wave has been shaped by the particularities of its time and to some extent reflects specific cultural and historical conditions. In particular Carr and Kemmis (1986) have highlighted three traditions each with a distinct set of characteristics. First they identified 'technical' (or instrumental) action research, which they describe as 'frequently like amateur research conducted under the eye of university researchers.' Second there is 'practical' action research, which is consistent with the advocacy of Schön (1983) in the US, and Elliott

(1991) in the UK. Thirdly they draw attention to 'emancipatory' or 'critical' action research, as advocated by Carr and Kemmis (1986). This third tradition takes a strong stance on action research as a critical social science, rather than simply as some form of practical reasoning, seeing it as connected to social action and social movement. This connection between social research and social life is seen as intrinsic to research as an activity. An overriding goal of this approach is the aim to change the social world for the better. If such change is to be achieved then it will come through improved shared social practices, the shared understandings of these social practices by the community and also the shared situations in which these practices are carried out. Accordingly such research is always critical in the sense that there is a relentless striving to better understand our current situations in order to improve them. However it is also critical in the sense of being 'activist'. By this is meant the very processes through which we learn ie, collaborative learning through joint activity in which communities of learners set out to learn from change through the very process of making changes whilst at the same time studying the process and consequences of these changes. The aim is based on an understanding of ourselves engaged in shared social practices (both students and tutors) as the *agents*, as well as the products, of history.

As researchers, we subscribe to this latter position in relation to the process of research itself and also in relation to the process of the development of the use of information and communications technologies (ICTs) in education. Furthermore we would describe ourselves as adopting the perspective of 'socially constructed technology' (Lee, 1999). In her discussion about the possible different theoretical perspectives on 'new infomedia', Lee (1999) highlights three perspectives that she describes as: (1) optimistic technological determinists, (2) pessimistic technological determinists, and (3) those advocating socially constructed technology. In general technological determinism is based on a view that new infomedia have their own innate characteristics and they 'just run on their own' (Lee, 1999). The optimistic view is concerned merely with promoting the adoption of the new technologies and simply ignores any potential negative social impact. The pessimists believe that there is nothing to do but accommodate these new technologies. From such a technological determinist position, the new communication technologies are seen as tools used by powerful groups such as multinational corporations to take control of society as part of the wider agenda of globalisation. However from the perspective of socially constructed technology, the view is that such technologies are themselves flexible and can be used either for means of suppression or more significantly for liberation. We advocate that the social shaping of technology is governed by the ways in which users give their own meanings to ICTs and through the adaptation of such products and services to users' own purposes. Furthermore such a perspective highlights the importance of understanding the technologies and also placing them under critical analysis so that as citizens the wider community can exercise its role in influencing future development. In the words of Lee:

The socially constructed technology perspective is preferable because it puts communication technology back into an interactive social and cultural context for scrutiny. It rejects the deterministic view and restores the role of *human agency* (our italics) in the technological developmen-

tal process. This perspective also provides a stronger claim for infomedia literacy education as it offers a socially participatory model to follow. (Lee, 1999, p. 146)

Against this background, action research can be described as providing a framework for thinking systematically about what happens in social situations, implementing action for change and monitoring and evaluating the effects of the action with a view to continuing the development. By using this framework action researchers can not only improve what they do, but also their understanding of what they do (Kemmis & McTaggart, 1982). Linking the terms action and research highlights the essential feature of the method: trying out ideas in practice as a means of improvement and as a means of increasing knowledge about the given situation. Action research provides a way of working which links theory and practice into one whole: ideas-in-action. Elliott (1991) has described action research as the study of a social situation with a view to improving the quality of action within it. Within this tradition the observer is seen to be a part of the social situation and therefore a factor in bringing about change. The more critical stance taken by Carr and Kemmis (1986) is based on a view that potentially action research can be strongly *empowering* and *empancipatory* in that it gives practitioners a *voice* through participation in decision making in their organisations, and some control over their environment and professional lives.

Starting points for this research have been the standard approach towards module evaluation through means such as end of module questionnaires to both staff and students. In addition we have adopted an ethnographic approach with the aim of exploring emergent issues as they arise naturally through the process of enquiry. In relation to this aspect we have found the approach of responsive evaluation as outlined by Stake (1973) to be particularly relevant. This approach aims to be responsive to the concerns and issues of the 'stakeholders' involved in the evaluation.

The cycle of action research can be seen to consist of four *moments* as outlined below in Figure 1. Accordingly, in order to undertake action research, one aims to develop a *plan* of action, *act* to implement the plan, *observe* the effects of action in the context in which it occurs, and *reflect* on these effects as a basis for further planning, subsequent action and so on, through a succession of cycles.
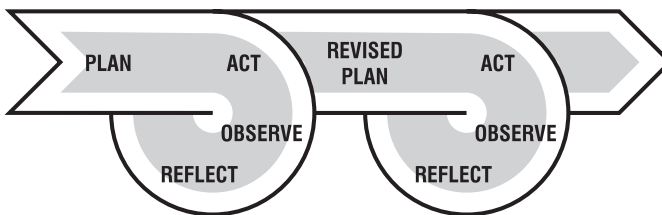

Figure 1: The moments of action research through a succession of cycles

The context in which this research has been undertaken is one based upon a collaborative approach to team teaching, evaluation and action planning within the programme team. Several of these cycles have led to wider dissemination of the outcomes—for example as outlined in Hudson *et al* (2000, 2006) and also in Owen, Hudson and Tervola (2005). This process of action research is conceptualised within a broader framework of design research as outlined and discussed further in Hudson (2005a, b).

We have also drawn on the notion of 'critical incidents' as outlined by Tripp (1993). However in doing so we developed this idea further, given the asynchronous nature of the communication over time in a VLE, and described such aspects as 'significant situations.' In his discussion of the nature of a critical incident, Tripp (1993, p. 8) notes that, whilst incidents of all types simply happen, critical incidents are produced by the way we look at a situation ie, an incident is rendered critical through our interpretation of the significance of the particular event. When we take something as a critical incident we make a value judgement, in relation to the significance that we attach to the meaning of the incident. Furthermore he notes that in principle, we can read any and everything that happens in a critical fashion. It is on this basis that we have offered accounts of particularly 'significant situations.'

Programme design and pedagogical approach

In designing and planning the programme considerable emphasis has been placed on enabling collaborative activity in multinational teams. In relation to this aspect we share the general perspective offered and the crucial distinction between cooperation and collaboration made by Hakkarainen, Lehtinen, Lipponen, Muukkonen and Rahikaianen (1999). They highlight the way in which recent research on the role of collaboration in learning has searched for more meaningful theoretical frameworks that could better guide the development of technology-aided learning environments. They also highlight the distinction between cooperation and collaboration based on different ideas of the role and participation of individual members in the activity. Cooperative work is seen to be accomplished by the division of labour among participants, whereas collaboration involves the mutual engagement of participants in a coordinated effort to solve the problem together. We have also been influenced by the thinking around the notion of 'powerful learning environments' (Buchberger, 2001; Grabinger, 1996; Kirschner, 2001), which imply the creation of learning situations that elicit active and constructive processes of knowledge and skill acquisition and ample opportunity for interaction, communication and cooperation. Additionally students should be encouraged to set their own learning goals and be guided in taking greater responsibility for their own learning activities and processes or as Buchberger (2001, p. 10) says 'in powerful learning environments students become progressively *agents* (our italics) of their own learning activities and processes.' Accordingly a project and team based approach towards learning underpins each module of the programme and we have given emphasis to the need for well-defined group tasks (Salomon, 1996). For the potential added value of collaborative learning to be achieved it is expected to involve challenging and intensive interaction between par-

ticipants. Furthermore we agree with Lowyck (2002, pp. 9–10) who advocates that this means that the task has to be:

1. multifaceted, allowing each partner to contribute to the common task;
2. sufficiently complex which let the group show more expertise than isolated individuals;
3. oriented towards social goals in order to stimulate social activities and attitudes; and
4. unambiguous as to elicit coordinated interaction.

Accordingly for the tutor, the issue of 'group or network management' becomes predominant.

The specific context for this study
The research methodologies module 2002–03
As indicated earlier, the Research Methodologies in Education and Training (RM) module involved 14 students working together during the second semester of 2002–03. They were based at two local study centres in Nijmegen and Sheffield, together with two students based in Brussels, one in Linz, Austria and another in Kimberley, South Africa. The students' professional roles include those in the UK of a secondary county ICT consultant, a primary school teacher, two police officers involved in training and development and a multimedia developer in higher education. The Nijmegen group comprised a lecturer in higher education, a technical writer, quality control engineer in the ICT field, ICT consultant, education consultant and a marketing manager of a regional newspaper. The group studying at a distance comprised a provincial Education Department Adviser for ICT {in South Africa}, two web developers from the European School Net in Brussels and a lower secondary school (Hauptschule) teacher from Linz, Austria.

The RM module aims to promote a critical understanding of various paradigms and methodologies in the conduct of educational research, in preparation for undertaking independent research for the dissertation. It draws on traditions that give emphasis to research on processes of teaching and learning and to critical-communicative approaches to research on teaching and learning. It also aims to lay the foundation in research methods of particular relevance to pedagogical processes as preparation for the Dissertation module.

The teaching-studying-learning experience is structured around three strands, which run through the entire module, all of which contribute to the summative assessment of the module as a whole: These are:

1. active participation through discussion and collaboration;
2. the critical analysis of a published refereed journal article leading to Assignment 1: A Critical Analysis;
3. the process of research planning leading to Assignment 2: A Research Proposal.

Each strand is an essential element of the whole. The aims of the active participation component include setting the context and content of educational research and also

Figure 2: Opening page in the virtual learning environment

providing the scaffolding and support for the ongoing development of the other two components.

The authors of this paper are co-tutors on the module, which is framed within the VLE that is supported by Sheffield Hallam University as illustrated in Figure 2.

The research methodologies module in 2001–02
The module had run for the first time in the second semester of 2001–02 with the same team of tutors, although with a smaller number of students, with just four at each study centre. As might be expected with part-time professional participants, a number of students experienced some difficulties related to work and/or domestic life, which limited their capacity to keep up with the demands of the module. However the impact on the maintenance of the learning community was significant with the result that the level of communication, interaction and collaboration in the second half of the semester fell away to below the level that had been anticipated. The evaluation of the module revealed that there was an insufficient critical mass towards of the second half of the semester to maintain the learning community at its anticipated levels, once two or three members started to become less active. This problem with achieving a critical mass of participants is echoed by Mason and Weller (2000) who report how they changed the standard size of the tutor group from approximately 15 students to 20 in order to maintain such a critical mass of contributors to the online conferences. Furthermore the evaluation revealed that the regular weekly tasks, although interesting and motivating to the students, distracted time and effort from the central concerns of the

summative assignments. It was also suggested that the phasing of the assignment hand-in dates would help future students with issues of time management, especially in the second half of the module. Accordingly assignment 1 was phased to be submitted immediately after the Easter vacation at the end of April 2003 and assignment 2 at the end of May 2003 on completion of the module.

The experience of the students on previous modules of the programme
For the cohort who studied on the module in 2002–03, they had experienced group sizes in the mid-teens and high levels of communication, interaction and collaboration on the first two modules of the programme in 2001–02. However the evaluation of the module in Semester 1 of 2002–03 indicated a generally lower level of communication, interaction and collaboration in the online learning community and some sense of disappointment on the part of students and tutors at the level of development of the learning community.

Approach to the design of the teaching–studying–learning situations
The module started at the end of January 2003 and spanned 18 weeks of which at least two weeks were holiday weeks in both centres. The scheduling of the submission dates of the assignments was revised with the first assignment, involving the critical analysis of a published research paper, due to be submitted after 12 weeks and the second assignment, involving the development of a research proposal, to be submitted at the end the module. The online communication, interaction and collaboration was scaffolded in the sense discussed by Bruner (1985) via the design of a number of activities which consisted of:

- Discussion Fora in response to set Reading Tasks;
- Discussion Topics in response to reflections on prior experience;
- Group Activities.

The Discussion Topics included responses to the questions 'What is educational research?', 'What makes a significant research question?', 'Qualitative or quantitative methods—does it matter?' and a response to a photograph in relation to data analysis and interpretation. These aspects were interspersed with discussions based on set readings which included Chapter 1 of Cohen, Manion and Morrison (2000) on the 'Nature of enquiry' and also Chapter 3 on 'Research design issues: planning research.' In addition there were two Group Activities. The first group activity involved the critical analysis of a research paper that was conducted in an international group. The second group activity involved the design, trialling and evaluation of a data collection instrument/technique(s) also in international groups. In addition the students were asked to provide peer formative assessment on drafts of both assignments at set times within the module schedule.

Methods of data collection
Data were collected from a variety of sources which comprised:

- An end of module student questionnaire that was completed online by 11 of the 14 students;

- An end of module staff questionnaire;
- An end of module focus group discussion via videoconference between Sheffield and Nijmegen;
- An end of module group discussion between tutors with external examiners via videoconference between Nijmegen and Sheffield;
- An end of module group discussion with student representatives, tutors and module leaders in Nijmegen on completion of the module;
- The module statistics collected automatically in the VLE;
- The dialogue contained in the various discussion fora, with the prior consent of the participating students following a request and associated statement of research ethics.

In addition outcomes of the initial process of data analysis and interpretation were provided to the students for their comments, feedback and validation by submitting a full draft of this paper to the VLE prior to final publication.

Data analysis and interpretation
The overall statistics collected by the virtual learning environment gives a broad indication of the degree of online communication and interaction with the learning environment by recording the total number of 'accesses' by participants. This amounted to over 71 500 during the period of the module and represented over 2.6 times as many accesses as the previous module. In fact a small number of students had been unable to maintain progress at the anticipated rate because of sudden and unexpected changes in work patterns. These students reported a sense of 'being left behind' by the strong sense of forward momentum within the module.

In response to the questionnaire all the students responding agreed that they felt as if they belonged to a learning community, that the atmosphere of the learning community promoted their learning and that they had enough support for the studying process. Also all these students felt that they had succeeded in the module. This sense of community was one that was shared by the tutor team. Two did not feel the benefit of peer support and three did not think that international collaboration with fellow students promoted their learning, although all except one student felt that the local study support promoted their learning. Nevertheless all the students agreed that the module content met their personal learning goals and that the module activities were challenging and motivating. All the students thought that the Reading Tasks and Discussion Topics promoted their learning and all except one student agreed that the Group Activities did so. A variety of aspects were emphasised in the open responses to the question of what most promoted student learning. The most cited aspects were the assessment items and the discussions in the local meetings (over half the students referred to these aspects). The other most cited aspects were to online group work, reading tasks and online discussions. Examples of specific responses to what the tutors did to promote students' learning included: 'the structure of the unit was well thought out,' 'well-planned activities, discussions and assignments,' 'the role of the tutors in giving feedback on drafts' and 'providing motivating feedback.'

The discussions at the end of the module revealed a number of particularly significant aspects to the module which reinforced the interpretations of the members of tutor team. Accordingly we offer the following accounts of three particularly 'significant situations.'

Significant situation 1: interpretation of the photograph
The most significant aspect of the module which came through from discussions with students and staff and the open responses to the questionnaire was the use of the photograph in relation to the discussion on the theme of data analysis and interpretation. This prompted a short but intense discussion over a period of 10 days in the latter part of the module—see Figure 3.

The photograph that was used as the basis of the activity is entitled 'Gun Law' by John Gaps and is reproduced in Brown and Dowling (1998, p. 85). The activity was divided into two stages with the students being asked in the first stage to access the photograph, which was reproduced with the copyright permission of the original author for a limited period in the VLE, and to simply analyse the image and to offer individual 'readings' or interpretations of what meaning was conveyed. The photograph was deliberately presented without a title or any description of the background context. These spontaneous responses were posted to the discussion forum, with the request to the students to resist

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Discussion Board

Top of Form

▣ Add Forum

| 1 ▾ | **Data Analysis and Interpretation** | (Modify) (Remove) |
| | For Discussion Topic in week beginning 05 May 2003. | [78 Messages]
[All read] |

| 2 ▾ | **Peer formative feedback on Assignment 2: Research Proposal** | (Modify) (Remove) |
| | This area has been set up to facilitate dialogue and peer feedback on the development of your research proposal, the first draft of which is due by 14 May. | [117 Messages]
[All read] |

| 3 ▾ | **Peer formative feedback on Assignment 1: A Critical Analysis** | (Modify) (Remove) |
| | This area has been set up to facilitate dialogue and peer feedback on the development of your critical analysis. | [132 Messages]
[All read] |

Figure 3: Discussion forum on data analysis and interpretation

reading other contributions prior to posting their own initial response. The second stage involved reading a short paper on data analysis and interpretation which was posted in the VLE and responding to the questions posed as part of the preparation for the local meetings and associated videoconference on May 15, 2003.

In their discussion about quality in analysis, Brown and Dowling (1998, p. 80) make a useful distinction between information and data by arguing that *data* is *information* that has been read in terms of a theoretical framework or in terms of an analytic structure of some other kind. In responding to Stage 1 of the Reading Task, it was expected that the different 'readings' of the photograph would reflect a variety of theoretical frameworks or analytic structures and also of prior assumptions about expectations and the purpose of the task and indeed this proved to be the case.

An early contribution to the discussion forum came from Caroline:

Current Forum: Data Analysis and Interpretation	Read 35 times
Date: Sun May 4 2003 12:58 pm	
Author: Caroline	
Subject: Initial interpretations of photo by Caroline	
	(Remove)

* Unspeakable cruelty of human kind
* Ironic background presence of the press that is only interested to "shoot" the moment regardless the risk for their own lives
* People watching around, they seem that the view of the soldier-victim don't affect them much! (is it because it is a usual site? is it because they try to run away from the action field?)
* Foreground: Soldier-victim. The victim is A CHILD!
The position of the soldier against the victim indicates clear
oppression. Memories are rising of past events and recent wars.
* It crossed my mind that this photo is possible to come from a movie stand??? (I would like to beleive so!)

This contribution produced a number of direct responses—this one from Martin:

Current Forum: Data Analysis and Interpretation	Read 27 times
Date: Sun May 4 2003 8:26 pm	
Author: Martin	
Subject: Re: Initial interpretations of photo by Caroline	
	(Remove)

Caroline, the same things crossed your mind as mine. I also want to believe that this is a filmset. But I am not sure.
If this is a real incident from a war scene, than I agree fully with you.
I don't agree with you that the press is only interested in shooting nice pictures. A lot of them, and I know them personally, think it is there duty to show the world was is really going on.

(Reply)

Marcus responded on the theme of whether the situation was real life or from a movie:

Current Forum: Data Analysis and Interpretation
Date: Sun May 4 2003 9:17 pm
Author: Marcus
Subject: Re: Initial interpretations of photo by Martin

(Remove)

Now as I read your contributions and look at the picture again, it also appears to me that this scene could come frome a movie, as it's so surreal (with the film crew, spectators). Either movies nowadays are getting to real or the reality just seems to be an "extraordinary" movie—anyway, both is scary.

(Reply)

This thread of discussion continued with several other contributions. In particular Caroline made reference to the fact that during her vacation in Greece, she observed that the information available from the (then) current war in Iraq was very different to the information received in Holland. She asked where the line should be drawn between getting information to inform public opinion or in simply dramatising events. Also Karl noted that 'Well, after a second look I am quite sure that the soldier does not want to protect this guy. Concerning the question is he dead or not I am not sure... .'

A further thread within the discussion began by Marcus interpreting the photograph as a 'white soldier' physically suppressing the black young man. This led Martin to question Marcus about how he could be sure that the soldier was white and to the following response from Marcus:

Current Forum: Data Analysis and Interpretation
Date: Sun May 4 2003 9:24 pm
Author: Marcus
Subject: Re: Initial interpretations of photo by Marcus

(Remove)

Martin, I do identify the soldier as a white person. However, thinking about it, I didn't check specifically when looking at the picture the first time. Probably my mind simple tried to fit the image in some sort of standard frame ("oh yes, that's clear, the old pattern"). It's kind of weired to have this prejudice being white, isn't it?

(Reply)

Drawing the discussion back to the issues of the RM module, Martin responded with the following contribution:

Current Forum: Data Analysis and Interpretation   Read 20 times
Date: Mon May 5 2003 12:04 pm
Author: Martin
Subject: Re: Initial interpretations of photo by Marcus

(Remove)

I think that is what makes research so difficult. How should you, as a researcher, discard your own interpretations, feelings and prejudice?

(Reply)

This contribution drew the following response from Karl:

Current Forum: Data Analysis and Interpretation   Read 20 times
Date: Mon May 5 2003 12:28 pm
Author: Karl
Subject: Re: Initial interpretations of photo by Marcus

(Remove)

This is really a major aspect Martin, but I would ask the question is it actually possible for a researcher to descard his or her interpretations...
Because with all initial actions of thinking or acting you have or feelings and sometimes also your prejudice in mind?!?

The following day Gerry made his initial response as follows:

Current Forum: Data Analysis and Interpretation   Read 25 times
Date: Tue May 6 2003 11:43 am
Author: Gerry
Subject: Re: Discussion Topic for week beginning 05-May-2003

(Remove)

First World Soldier detains Third World Youth! The scene could be anywhere from the US invasion of Grenada to current military involvement in the Middle East. My guess is that its taken in a US 'peacekeeping / enforcement' action in the Caribbean or Africa in the 70s or 80s.

The US soldier is detaining a youth, whilst observed by local people standing on the cargo container and by agents of the international media, (TV crew bottom left), John Gaps among them.

The photo raises several issues such at the morality of the international media and our own voyeurism regarding 'action' news. It also raises the question about the international role of the US in the late 20th & early 21st century—'pax americana' and the War Against Terrorism?

Gaps is a famous war & sporting photographer, an interesting combination! He once wrote, "Truth is truth. You must keep your eyes and efforts focused on what is true", but what is truth?

This was followed by Matt's contribution:

Current Forum: Data Analysis and Interpretation   Read 25 times
Date: Wed May 7 2003 10:50 pm
Author: Matt
Subject: Initial interpretations of photo by Matt

(Remove)

"Peacekeeping forces today managed to contain widespread looting at the port town. This picture was captured by our news reporting team (seen in background). The peacekeeper used recognised restraining techniques on one youth—the weapon can be seen discarded nearby. There were several onlookers... ."

Jane's response came relatively late into the discussion and her opening remarks draw attention to that fact:

Current Forum: Data Analysis and Interpretation   Read 32 times
Date: Fri May 9 2003 12:59 pm
Author: Jane
Subject: Initial interpretation by Jane

(Remove)

Holy crow! I only take my eye off blackboard for a couple of days and suddenly I've 34 messages to read. But the first part of this assignment looks quite fun.

I seem to remember a similar photo being held up as an example of a perfect learning object—self contained, re-usable in a variety of teaching contexts, and open to re-interpretation. Here goes...

- The photo has been taken outside in bright sunlight, between or within walls of buildings that are under construction or have suffered damage. A heap of rubble or stone, a couple of tyres and two or three radio masts are also visible.

- In the foreground, I see a soldier with a gun—a rifle or machine gun. He appears to be kneeling on the back of a civilian, who is lying pressed into the ground. The soldier appears alert; determined.

- Behind these two, I see three or four others. At least two of these appear to be civilians fighting or ducking. The third is standing watching, holding some equipment. The fourth cannot be clearly made out, but appears to have a camera.

- In addition there are some civilian spectators on the walls/roofs of nearby buildings. They include at least one child being carried piggy back. Not all are watching the scene just described—some are looking elsewhere. They are not worried for their own safety

My impression is that the soldier and equipment man are white whilst the civilians are black. The overall impression is of a peacekeeping incident rather than outright fighting on the one hand, or simple policing on the other. Of course, I am no specialist in analysing photos, or the particular subject matter and people depicted.

Having read the other messages and studied the photograph again, Jane observed that she could 'now make out the soundman and film man,' who she had noticed at first and asked the question 'Incomplete or inaccurate observation?' Furthermore she expressed surprise at 'the strength of emotional responses to the image', noting that 'For me, I have to suspend judgement until I know more about the context of the situation.' She also responds to Gerry's posting with the comment and question: 'The style is spot on Gerry—have you ever done any reporting?'

Seb responded by expressing agreement with Jane and taking the discussion further:

Current Forum: Data Analysis and Interpretation   Read 19 times
Date: Sat May 10 2003 4:04 pm
Author: Seb
Subject: Re: Initial interpretation by Jane

(Remove)

I agree with you Jane that there has been a really emotional response to the picture but I think it is justified in the sense that violence is shocking and more especially when it seems to be some oppression of some kind. I however feel that the "context" could shed more light and could help for us to give a more accurate and acceptable version of what we see.

(Reply)

There followed a contribution from Gerry, who spoke collectively for the group at one stage, and which served as a summarising comment, although the discussion continued for another two days with several more contributions:

Current Forum: Data Analysis and Interpretation   Read 24 times
Date: Sun May 11 2003 3:42 pm
Author: Gerry
Subject: Stage 2

(Remove)

I read the paper, which Brian (*as Module Leader—authors' addition*) posted with interest. I like the opening quotation by Paulo Friere, one of my educational heros. One of Friere's arguments is that nothing can be neutral, that neutrality in fact is a position that allows the status quo to remain.

It's interesting, therefore to look at the 'neutral' reading of the photograph and think about the language used by Brown and Dowling. Is suppression a neutral word? The soldier is described as being benevolent, even when armed and restraining the youth by pressing him into the dirt. The Haitian is described as being weak and easily suppressed, he may have been carrying a stick, 'a primitive weapon for a primitive people'. This is not the language of neutrality!

So to address Brian's questions:
1. Our initial responses to the photograph were emotional, ranging from responses concerning the individuals involved, to the semiotic responses such as my own, in which the soldier represents the First World and the youth the Third World, coloniser & colonised. We need to understand the context of the photograph in order to know what was happening and why. We also need to be aware of the possibility of different interpretations of that context—one person's freedom fighter is another person's terrorist.

2. Data needs a context for it to be interpreted. Within that context it cannot be dealt with neutrally, but it carries the opinions of the providor and analyst. We must, therefore, view the data and its analysis with a critical eye. Are there other interpretations that can be introduced by others?

3. The researcher needs to be aware that their data will not be neutral, that their interpretation will not be neutral and that the conclusions drawn by people reading their findings will not be neutral. The reader needs to be aware of the same issues and needs to read the findings of others with a critical eye

These contributions provide a short account of one aspect of the teaching-studying-learning experience on this module and the level of data analysis could be taken a stage further by looking more closely at the nature of the communication involved. However one aspect that is clear from a reading of these contributions is the strongly *emotional* aspects of a number of the responses, with many contextual factors and underpinning assumptions brought into the frame of reference. In local discussions, what was especially interesting, was Matt's own evaluation of his contribution which he had intended as a neutral reading, based on his experience as a police officer. He questioned his own 'neutrality' in the way in which he referred to 'peacekeeping', 'peacekeepers' and also to the stick on the ground as 'the weapon'.

Significant situation 2: on how to do research
We have chosen to highlight this particular situation following our discussions as a tutor team of the first stage on analysis in preparing this paper. The particular discussion took place earlier in the module in response to the first Reading Task on the Nature of Enquiry and focuses on research as a systematic, controlled, empirical and critical process. This episode was initiated by a contribution from Martin:

Current Forum: Reading Task 1: The Nature of Enquiry
Date: Thu Feb 6 2003 7:36 pm
Author: Martin
Attachment: martin_-_reading_task_1.pdf (11462 bytes)
Subject: Herman's Reading Task 1

(Remove)

Ppfff! Heavy stuf this chapter. I learned a lot of new words, both in English and in Dutch!
In the attachment is my reflection on this chapter.

(Reply)

In his attachment, Martin wrote:

'Research is the systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena. (Kerlinger, 1970)

I had never thought about such a definition before and like in all definitions there are a few words that are essential. The term critical is very important in my view. You can do a lot of things systematic and controlled, you can have a lot of experience but it is the critical analysis of all the outcomes that makes research worth doing it.

And what makes the outcome and conclusions of research a science? It helped me to think about that when I read the five steps of Mouly (1978) on page 10; experience—classification—quantification—discovery of relationships—approximation of the truth. Do we not all do this automatically in some respect in daily life without realising it? We divide things in good/bad; ugly/beautiful; worthwhile/worthless; strong/weak, etc. But how do we do that and is this the truth?'

This prompted the following response from Klaas as a module tutor, which focused attention on the meaning of the term 'critical' and Martin's subsequent reply:

Current Forum: Reading Task 1: The Nature of Enquiry   Read 19 times
Date: Tue Feb 11 2003 1:30 pm
Author: VAN VEEN, Klaas
Subject: Re: Martin's Reading Task 1

(Remove)

Dear Martin,
your reflections on chapter 1 are provoking. Nice! You state that in the definition of Kerlinger only a few words are essential and then you talk about the critical one. But what is critical actually? It is such a common word and every individual will describe him or herself as critical nowadays while others will say you are not critical. It's a vague word, and especially when doing research.
I actually would like to argue that the other words are more important when doing research: systematic, controlled, empirical. Why? Simply because this are the characteristics that\ makes science a science, so to say. You state very nicely that we all do Mouly's five steps in real life, and then you ask, how do we know it is the truth? Well, the truth is hard to find, but we can try to create an agreement on what the truth is, namely by doing our research in a systemic way, controlled as much as possible, and especially empirical. That gives us proof of what the truth might be.

Of course, it is good to be critical (whatever it may be) but to be critical, you need data of which you know that you collected them in a systematic, controlled, empirical way. That concern is also part of a critical attitude, so that we do not construct our beliefs of truth on our own limited, non-systemic, uncontrolled ways of perceiving reality.
Cheers!
Klaas

(Reply)

Current Forum: Reading Task 1: The Nature of Enquiry
Date: Tue Feb 11 2003 3:42 pm
Author: Martin
Subject: Re: Martin's Reading Task 1

(Remove)

Klaas,
Thanks for your feedback. This helps me thinking in a different way about research and about Kerlingers definition. Why could Cohen not say this as simple as you did? It would have made the reading of this 'dictionary' a lot easier.
Thanks,
Martin

The reference to 'thinking in a different way about research' was a typical reaction to this reading task as also was the expression of the level of reading difficulty, although this was by no means restricted to the students from the Nijmegen centre. Furthermore this situation can be seen as an illustration of the importance of tutor feedback to a student, and also as a form of *scafffolding* (Bruner, 1985). In this particular case the tutor reacted in a very direct way to the student, instead of presenting it in the form of questions for instance, or waiting for or challenging other students to react. The reaction of the student seemed to confirm that it had a positive effect ie, he understood now why. The apparent success of this tutor–student interaction might be understood as an illustration of the Vygotskian notion of the zone of proximal development (Newman & Holzman, 1993) in practice ie, the tutor intervention took the answer of the student to another level and this response seems to enable the student to have the feeling that he learned ie, he understood.

Significant situation 3: on the influences of the researcher's own perspective
(subjectivity and biases)
The next example was chosen in a similar way to the previous one and is intended to illuminate the way in which the researcher's own perspective in terms of subjectivity and biases comes into the frame. This episode was initiated by the following contribution from Jane:

Current Forum: Reading Task 1: The Nature of Enquiry   Read 24 times
Date: Fri Feb 7 2003 7:08 pm
Author: Jane
Subject: The nature of inquiry—reposted

(Remove)

Wow! My head is spinning and I feel like I've swallowed a dictionary.

I found the reading fascinating, and I'm pleased we were forced to read it in detail. It's very well written; every time I came up with a question I found the question raised and answered later in the text.
Here are some thoughts raised:

1. As a result of my scientific indocrination(!), I have a latent belief in the positivist approach. In spite of knowing the limitations of the method, I've never really taken social science seriously.

2. Having read the chapter, the subjectivist approach detailed in Box 1.2 makes far more sense to me and fits in with my world view. However, I don't yet understand the practical method by which one can arrive at useful (general) theories by taking a subjectivist approach.

3. Critical theory gives practical purpose to the anti-positivist approach. However, despite my natural inclination to choose research questions aligned to the social democracy agenda, the scientist in me is horrified by the attempt to tarnish the perfect [sic] objectivity of science with a political agenda!

4. For example, I'd like to engage in an ideology critique, but I don't really think it is a valid approach. Also, any attempt to engender change is itself subject to ideology.

5. One reason I stopped being a scientist was that I could see bad practice going on around me, and stopped believing in the myth of objective science. The section on research, politics and policy making is a unwelcome reminder of bias in research. Maybe the solution is simply to become a critical theorist after all!!

So. Much food for thought. I think I stand by my initial definition however.

'Educational research seeks to improve the educational process by investigating educational practice and outcomes. This may be helped by an open culture of discussion, by effective dissemination of results and by defining practical conclusions for policy makers.'

In an ideal world, research should be completely neutral and removed from considerations of progress and policy. However in the real world, this is a realistic summary of what research might manage to achieve.

(Reply)

This prompted the following response from Klaas, which focused attention on the inherent subjectivity of the research process and on some of the ways of dealing with this methodologically:

Current Forum: Reading Task 1: The Nature of Enquiry
Date: Tue Feb 11 2003 1:38 pm
Author: VAN VEEN, Klaas
Subject: Re: The nature of inquiry—reposted

(Remove)

Dear Jane,
I also think that in an ideal world we still don't have neutral research or something like that, as long as we deal with human beings who always differ in the way they perceive the world, related to the glasses they wear. Also posivistic research, that has a claim to be neutral or more objective, has a very subjective base, namely as chapter 1 states, a certain view on reality and how to explore it. So, I would say, taken into account that subjectivity is inherent in research, a researcher should be open and clear about his or her assumptions and points of view, so that I, as a reader, will know.
Klaas

(Reply)

This exchange led to the following dialogue and further questions on ways of dealing with such subjectivity:

Current Forum: Reading Task 1: The Nature of Enquiry   Read 18 times
Date: Thu Feb 13 2003 1:06 pm
Author: Dennis
Subject: Re: The nature of inquiry—reposted

(Remove)

Klaas
I agree that we all have preconceptions which affect any research we do. I like the idea that we should set out our assumptions witin our research from the outset, the problem I have is "How do we recognise our preconceptions or assumptions so we can explain them to those who read our work?" Many of the assumptions, pre-conceptions etc are, by their very nature , things of which we are unaware

(Reply)

Current Forum: Reading Task 1: The Nature of Enquiry   Read 17 times
Date: Thu Feb 13 2003 1:22 pm
Author: Jason
Subject: Re: The nature of inquiry—reposted

(Remove)

One way of identifying assumptions and pre-conceptions is to discuss (and to stay in discussion) with other people. Reflecting on the way they interpret, act and re-act on your information brings forward the assumptions you make.

(Reply)

Current Forum: Reading Task 1: The Nature of Enquiry   Read 18 times
Date: Thu Feb 13 2003 2:42 pm
Author: Dennis
Subject: Re: The nature of inquiry—reposted

(Remove)

I agree to some extent Jason but do we need to give a comprehensive account of our personal upbringing,education, life experience, at the start of a research paper so that the reader might get an understanding of how we think? even then unless the reader experiences that upbringing, education etc in an identical way their understanding *must* be less than perfect.

Whatever interpretation the reader puts on our words is also governed by their assumptions and pre-conceptions. How accurate an understanding can we have of each other given that we all see others in the light of our own experience and beliefs. Our understanding of another person can at best be an approximation of what they are.

I mentioned in my comments on "chapter1" that I liked the idea of symbolic interactionism. I think this comes into play here. I might use language to describe my assumptions and you will interpret it using your concept of what the words mean. If you then restate your understanding of my assumptions then I might re interpret them and so on until we reach a "shared meaning" Even at that point there seems to be no way of knowing we have completely and accurately understood each other.

We can use scientific annotations eg, H_2O for water, or use the hexidecimal code for colours on a computer screen, but we have no specific code for describing our beliefs, feelings or experience other than language. (perhaps art or music might be considered a way of expressing these things but they are open even more to interpretation)

I writing this I am beginning to realise what an interpretive view of reality I seem to have. I must go and think some more about all this:-).

(Reply)

This last posting prompted the following response from Tony:

Current Forum: Reading Task 1: The Nature of Enquiry   Read 13 times
Date: Mon Feb 17 2003 9:56 pm
Author: Tony
Subject: Re: The nature of inquiry—reposted

(Remove)

I have seen from your personal web page that you are a musician and finding H_2O, computer screens, hexadecimal code and music in one single paragraph indicates how many thoughts are crossing your mind when you write about education and research. I very often feel the same way, looking at my own interpretations from so many different angles is what has driven me all my life. (rather personal comment)

Discussion

We conclude this paper by returning to the key research questions posed earlier. First we will consider the first question concerning what new opportunities are afforded by the technology for collaborative learning and for supporting it in open and flexible e-learning environments. Undoubtedly it is the case that the technology afforded opportunities for international collaboration between both students and tutors on an ongoing basis that would otherwise not be easy to replicate via other media. The asynchronous nature of the discussion gave a degree of flexibility over and beyond that which would be available in a traditional setting. Furthermore the time available for the consideration of the contributions may have been a key factor in the depth of the issues considered in the discussion and in the generally high quality of debate that took place. These factors echo those benefits identified by Lipponen (2002) of computer networks which break down the physical and temporal barriers by removing time and space constraints given the delay involved in asynchronous communication which allows time for reflection in interaction. Furthermore the online discussions can function as a collective memory for the learning community, by storing the history of the knowledge building processes. A particularly striking aspect of the feedback was the response to those questions which focused on the affective dimensions of the experience. All the students responded by agreeing or strongly agreeing to feeling a sense of belonging to the learning community, a feeling of succeeding in the module and to a sense of the atmosphere of the learning community promoting their learning. These responses were despite the fact that a few students had not felt the benefit of peer support or the international dimension. This finding resonates with the thinking of Bielaczyc (2001) who argues that one of the key factors in the successful implementation of computer supported collaborative learning is the need for the design and development of an appropriate social infrastructure. Moreover she identifies three levels at which this infrastructure needs to operate. First she identifies the 'cultural level' which is associated with the philosophy and norms established between teachers and students. Second is the 'activity level' which involves social practices and third is the 'tool level' which involves the use of the technology. Lipponen (2002) extends this model, in ways that match our experience, by arguing for the secondary importance of the technology and for the primacy on 'advanced and innovative pedagogical practices (or needs) that already exist' that can exploit the opportunities afforded by the technology to take them further.

The second question relates to how best can we facilitate purposeful engagement of autonomous and independent learners in e-learning environments. In general the use of a variety of strategies involving discussion fora in response to set reading tasks, discussion topics in response to reflections on prior experience, group activities and peer formative assessment on drafts of assignments worked effectively in promoting purposeful engagement, autonomy and independence. The overall structuring of the various tasks, assessment requirements and orchestrated feedback were all key factors in the process of facilitating purposeful engagement. In addition the local meetings played an important role and were cited by more than half of the students, through the open responses at the end of the module, as one of the most important aspects in promoting

their learning. These meetings gave the opportunities to provide the students with general overviews and enabled them to consolidate their detailed understandings. The first reading task on the Nature of Enquiry contained much that was entirely new to the students and many new ideas and terminology that were difficult to grasp. This also created difficulty for online discussion. The local meetings also provided opportunities to support the students emotionally eg, in providing reassurance in addition to additional explanation and opportunities to discuss some of the underlying ideas. Accordingly the 'blended' nature of the learning experience was a distinctive aspect of this experience.

The third and overlapping question relates to the extent to which is the notion of assessment *for* learning a key condition for achieving orchestrated interdependence and autonomy in e-learning and is considered to be of relevance. It can also be said that the use of a variety of strategies involving discussion fora in response to set reading tasks, discussion topics in response to reflections on prior experience, group activities and peer formative assessment on drafts of assignments worked effectively also to promote a high level of interdependence within the learning community. This conclusion can be drawn from the evidence of the high levels of interaction, communication and collaboration in the discussion forum. It also supported responses to the questionnaire which indicated that all the students agreed that they felt as if they belonged to a learning community, that the atmosphere of the learning community promoted their learning and that they had enough support for the studying process. Also this sense of community was one that was shared by the tutor team. Furthermore the responses to the question about which activities promoted learning confirmed the importance of assessment in this module because of the way in which the role of the assignments was stressed by the students. What all the responses illustrated is that the tutor team was able to engage most students in this e-learning environment as a result of the complex interaction of (1) structure of the module as a whole (eg, reading tasks, group tasks, local sessions, discussions online and processes of peer feedback); (2) the content of the tasks and assignments; and also (3) the processes of tutor feedback to the students.

With regard to the fourth question on the optimal conditions for achieving well-orchestrated interdependence in open and flexible e-learning environments, this question is one that will continuously drive ongoing development. Furthermore the four points raised by Lowyck (2002) are considered to be highly relevant in relation to tasks that need to be multifaceted, sufficiently complex, oriented towards social goals and unambiguous in order to elicit coordinated interaction. A strong sense emerged within the local meetings and final focus group discussions at the end of the module that it would represent a considerable improvement to the experience of the module if the photograph activity, or something similar, could be brought forward right to the beginning of the module. Some very strong reactions had resulted from the reading of Chapter 1 on the 'Nature of Enquiry' from Cohen *et al* (2000), which reflected those of the first cohort a year earlier. There were numerous protests about the difficulties of the language (including the native English speaking students) and the complexity of the ideas after the initial reading. However as the ideas were repeatedly returned to throughout the module, the

relevance of thinking about the philosophy of the research process seemed to become apparent to all. The discussion in the local meeting in Sheffield prior to the final video-conference was summarised by one of the Sheffield students as follows:

Yes, we had a conversation about the way in which some of the activities in the unit might be placed in a different order and the one which we took was the very good activity where people were giving initial reactions to the photograph and then the discussion that followed on from there. We thought it might be valuable to put that right at the start of the unit in order to encourage discussion about the kind of assumptions that people make and then how those assumptions may well be changed and developed by the addition of further information and that actually then links very well to that initial question that we had some very good discussion on about ie, What is educational research? I can't remember the exact wording of the question, but I think those two link together and I think that probably would make, for me, a much more coherent start for the course. I don't know what you feel about that?

Yes, I mean for me it was that exercise, you got raw reactions if you like, you got real live reactions and it brought in emotions, it brought in biases, it brought in subjectivity, objectivity. It brought in all the elements that we've been reading about so for me it works that we do that exercise first and then you're actually reflecting on your reaction to the academic theorists and what they're saying about research and evaluation and can actually relate yourself to the theories so you've got something real to relate to theory and not something abstract that, perhaps relating to theory, so that's why it would work better for me and I think it's definitely worth a try at the next cohort.

Conclusion

To conclude we would like to reflect on a primary aim of the module team which was to engage students with idea that the aims, processes and outcomes of empirical educational research need to subjected to critical scrutiny of underlying assumptions and that the process of interpretation is one to be approached only after careful and deliberative reflection. This perspective of educational research as a critical social and human science challenges the relatively widespread instrumental view of research about teaching and learning as some kind of practical reasoning based upon the gathering of relatively unproblematic information. The general sense of the tutor team is that we succeeded to a large extent with this aim. However the real test of that interpretation will lie in the quality of work contained in the final dissertations from the group of students in 2004.

Acknowledgements

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