Reforming A University Information Systems Course: Discussing a Failure and an Unusual Research Approach

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Abstract

Reporting on an unusual research approach of heuristic inquiry, I use a conversational writing style to describe a five year project investigating technicism and discourse in a failed teaching reform of a university information systems course. The reform failed because I acted unethically due to my underlying technicist agendas As part of the self dialogue component of heuristic research I conducted the following inner dialogue between myself and a figure I named Auguste Comte acting as a devil's advocate. I comment on some dangers and opportunities of using heuristic research.

Key words

Information technology, university, teaching, discourse, qualitative research

INTRODUCTION

From 1991 to 1995, I investigated a teaching reform of a University Information Systems Course involving three lecturers, eleven tutors, and hundreds of students. The essence of this reform was to balance a prevailing *technicism* by encouraging *open discourse* through the introduction of teaching and learning strategies such as group work, a dialogical communication process in the tutorials and mass lectures, and requiring students to keep personal learning journals. For example, at the initial computing laboratories, the tutor and students would share their name, computing experience and general educational and work experience. In following laboratories, the tutor would ask students to mention the ways in which they were making progress in learning, and perhaps applying, the information systems concepts and practice in their everyday life.

As well as discussing points raised in their journals with individual students, I also discussed interesting general points with groups of students. I used interpersonal communication skills such as active and passive listening and 'I' language (Gordon, 1976) to encourage students to ask and answer questions. I forced myself to wait in silence until a reply came from the group and then to wait for several seconds before replying or responding to any student comment.

For two years, I collected qualitative research data concerning the impact of the teaching reform. However, through a component of self-study in the research, I came to understand that I, myself, had succumbed to a form of *inner technicism* in my conduct of the research. I had *imposed* the teaching strategies on the students and tutors, not gaining their *full* permission or imparting *sufficient* understanding of the research, in my technicist drive to gain a research result. To explore this ethical shortcoming, and my underlying technicist agendas, I used a form of research termed heuristic inquiry (Moustakas, 1990) as part of an endeavour to practice reflective practice (Schon,

1983). As part of the *self dialogue* component of heuristic inquiry, I composed an inner dialog between myself and a figure I name Auguste Comte who functions as a devil's advocate.

A DIALOGUE

Comte: If the 1991 to 1993 qualitative studies were flawed, why didn't you just discard it and begin a new investigation?

Mark: Professor C. S. Lewis writes:

> A wrong sum can be put right: but only by going back till you find the error and working it afresh from that point, never by simply *going on,* Evil can be undone, but it cannot "develop" into good. Time does not heal it. The spell must be un-wound, bit by bit, "with backward mutters of dissevering power" - or else not. (1943, p. 9)

If I did not unwind the 'spell' that caused me to ruin the first empirical study, could it not return to ruin a second attempt? So, "with backward mutters of dissevering power" (p. 6), I decided to investigate my ethical shortcomings. To explore my hunch that I had succumbed to an inner technicism, I entered a new phase of the research by employing what Moustakas (1990) terms heuristic inquiry to reflect on "what was the reason underlying my ethical shortcomings, and how could it be addressed".

The impressions thus gained about technicism and open discourse in the outer educational context of the computing classes could act as a backdrop for the heuristic self-study of what I term my *self-as-researcher*. The impressions were:

1. that non-interaction in classes was an indication of technicism;
2. that technicism was encouraged by the nature of the tutorial work-book and the way it was used by the tutors; and
3. that I had unethically operated from an inner technicism in unethically imposing the research on the students and other teachers.

I use Lenzo's (1995) term "researcher-as-self" to allude to the way in which "I" was involved in the research. I use the term *true self*, or *Self*, to refer to that fundamental and central inner energy of a person which actualises the wholeness of the psyche and is the culmination of personal development (Jung, 1968, p. 199).

Comte: What labels would you use to describe your research?

Mark: The study could be labelled using various categorisations. I conducted an heuristic inquiry re-examining the research material that I had collected in the 1991 to 1993 qualitative study which I discontinued. Building on one of the impressions I gained, I conducted a psychologically-based heuristic reflection from 1993 to 1996. According to Lancy's typology (1993, pp. 7, 11, 15, 183), my study can be said to be an independent, teacher-researcher, personal account. Personal account (Lancy, 1993, p. 7) can be autobiography, biography or oral history employing long-term interview, diary, journal and content analysis with typical foci being the process of becoming a teacher and the relation of teaching to other aspects of the life cycle. As an independent study (Lancy, 1993, p. 11), my study investigates issues that would not be likely to attract the interest and attention of a

quantitative researcher. A teacher-researcher (Lancy, 1993, p. 15) research study implies that the role of the investigator is that of teacher and that of researcher.

Lancy (1993) points out that a research written as an autobiography does not need to generate assertions or make judgements on the material. As Lancy comments, I am comfortable with the suggestion that "there is no single interpretation. Each reader must deconstruct . . . the texts for her/himself" (1993, p. 182). In my research, I did interpret research material gleaned from students and research assistants and other lecturers and tutors, but only to elucidate my own autobiography of the study. Nor was it my objective to generate and test assertions such as "using this or that technique can lead to balanced attitudes".

Comte: Was your research a case study? Did it involve ethnography?

Mark: Because I concentrate on giving an autobiography of my own personal history, my study is not an ethnographic study. In other words, the primary purpose is not to give "analytic descriptions or reconstructions of cultural scenes and groups" (Goetze & LeCompte, 1984, p. 2). Indeed, my approach does not fit neatly into Goetze and LeCompte's classifications (1984, Chap. 1). Neither was my research a case study according to Lancy's definition (1993, p. 183).

Comte: Quite unusual. So you did not adhere consistently to your original research hypothesis?

Mark: I took it that in conducting qualitative constructivist research, it was legitimate to allow for the evolution of research interests and foci (Lincoln & Denzin, 1994; Erickson, 1986; Guba & Lincoln, 1989). In my qualitative research from 1991 to 1993, my original intention was to conduct pre-intervention and post-intervention surveys supported with qualitative structured interviews to investigate my early implicit hypothesis that discourse could balance technicism in the teaching-learning process of University Information Systems tutorials. In the early stages, I was particularly interested in "discovering and communicating the meaning-perspective of the people studied" (Erickson, 1986, p. 123). In this I included myself. Overall, my aim was "not proof, in a causal sense, but the demonstration of plausibility" (Erickson, 1986, p. 149). But that first phase of the research was so flawed that I moved on to the second phase of psychologically-oriented heuristic reflection (Moustakas, 1990). I have a hope that I have been part of what Daft and Lewin (1990) comment as: "the significant discoveries, the best science, require us to be more venturesome and heretic in research design, and to explore fundamental questions without knowing the answer in advance" (p. 7).

Comte: Your first phase sounds very much like Thomas Barone (1987a) research which Rist (1987) condemns as "all the negative critiques of qualitative work come home to roost in the article - it is impressionistic, lacks any evidence of considering either the reliability or the validity of the data, the methods of analysis appear entirely idiosyncratic to the author, and the research question seemed framed once the study was over" (p. 448).

Mark: Yes, I have sympathy with Rist's (1987) critique of Barone's (1987a) research as being "hit and run" fieldwork (p. 448). (That is not to say that Barone's (1987b) reply to Risk does not answer the charges.) The difference is that my *two years* of the first phase of qualitative research was no "blitzkrieg ethnography". However, it was some of the other concerns raised by Rist that reinforced my decision to abandon the first stage of the qualitative research and conduct the psychologically-oriented heuristic reflection (Moustakas, 1990). This reflection led me to make three major heuristic impressions.

Comte: All very interesting Mark, but how did you justify these impressions. Did you triangulate by using multiple data collection methods and sources and by using multiple methodologies and analytical approaches to ensure that you obtained the truth about what happened in your classes and your teaching and your inner awareness?

Mark: I can see that justification, truth and a fixed point of reference to enable triangulation is important for you, Auguste. I prefer to use Richardson's (1994) concept of crystalization rather than the notion of triangulation. Like a crystal, my research is a postmodernist mixed-genre text which reflects and refracts ever-changing pictures and images of my central themes. I did not rigorously triangulate to prove objective truths about technicism and open discourse.

However, as Schaller and Tobin's (in press) recommend, I referred to the "quality criteria for interpretive research", which were gleaned mainly from Guba and Lincoln's (1989) work. "Through careful attention to fairness and the ontological, educative, tactile and catalytic criteria for establishing the goodness and, hence, the authenticity of the interpretive research", I endeavoured to adhere (albeit in an unusual way, and with some failures) to the six procedural steps of prolonged engagement, persistent observation, peer debriefing, negative case analysis, progressive subjectivity, and member checks. I did endeavour to show that my impressions and suggestions were sufficiently viable to be taken seriously, with sufficient and clearly specified warrants. However, I concluded that I could not claim the degree of authenticity or trustworthiness which Schaller and Tobin suggested is necessary for interpretive research.

Comte: Even more interesting Mark. Why then, if you could not claim trustworthiness, did you describe these 'impressions' in your thesis?

Mark: I think that it is a question of the degree of authenticity that some authorities expect to see demonstrated in research. I certainly could not claim the degree of trustworthiness that you seem to expect, Auguste. I did demonstrate some degree of adherence to the ontological, educative, tactile and catalytic criteria that Guba and Lincoln (1989) contend is sufficient for authenticity. However, what I think is more important, is an understanding of the nature of heuristic inquiry and heuristic reflection. Incorporating art, poetry and science (Morse, 1994, p. 225), I focused on gleaning impressions about technicism and discourse. While researching, I found myself resonating with the key phrases that Tesch takes from Moustakas (1981, p. 212) to describe heuristic inquiry - "an integrative living form", "being involved, committed, interested, concerned", "intuitive visions, feelings, sensings that [go] beyond anything [one] could record or think about or know in a factual sense"; from Colaizzi (1978, p. 67) - "imaginative presence", "wondering about"; and from Douglas and Moustakas (1985) - "examining with a sense of wonder". With discovery being the emphasis rather than verification, the essence lies in intuition as inner contemplation "at the confluence point of the social sciences and the humanities" (p. 69). My method of reflection, based around insights from Jungian analytical psychology, is similar to what Colaizzi (1978) terms "phenomenological reflection". As Tesch (1990) describes, in phenomenological reflection:

> The phenomenon rises to clearer awareness by approaching it from different angles, for instance from a metaphorical, or a mythical, or a poetic perspective. Phenomenological reflection is a process of "wondering about" and searching, delving into a phenomenon, awaking to it, and letting oneself be inspired. (p. 70)

Reflective phenomenology "aims at a descriptive understanding of psychological phenomena by reflectively disclosing their meaning" (Colaizzi, 1978, p. 68). I do not concentrate on a descriptive understanding of the *experience* of inner technicism. I concentrate on giving *descriptive impressions* about technicism and open discourse, based on my heuristic inquiry and psychological self-study which included inner discourse. I do not concentrate on giving impressions about *my experience* of technicism or open discourse or inner discourse. I understand this as the major difference between my heuristic inquiry (Moustakas, 1990) as distinct from reflective phenomenology (Colaizzi, 1978; Moustakas, 1994). Moustakas (1956, 1959, 1966, 1969 a & b, 1981 a & b, 1990, 1994) has been a pioneer in developing and applying both heuristic inquiry and reflective phenomenology.

Tesch (1990, p. 171) commented that researchers conducting reflective phenomenology do not necessarily adhere to some of the canons of trustworthiness that have been established for qualitative research. She adds that, when considering the results of the research, it is up to the reader: "to decide for yourself whether you want to consider them to be 'legitimate'" (p. 171). Her comment holds true for my heuristically gained impressions, and that is partially why I was bold enough to describe them.

Comte: So you are saying that your appropriation of some kind of mix of heuristic inquiry, and psychological reflection, enabled you to find justification for describing your impressions. I hope that there is more reason than this.

Mark: Yes Auguste, there is something more. The substantive issue, at the heart of my research, evolved to be an investigation of technicism and open discourse from both an inner, psychological perspective and an outer, educational perspective. The inner strategic rationality and reflective inner discourse related to the outer technicism and open discourse in the University Information Systems education. I dialogically move between describing impressions of technicism and open discourse in the computing classes and the inner technicism and inner discourse of my pedagogical self. As we all do, to a greater or lesser degree of consciousness, I carried out a dialogue between that part of me experiencing the outer world and my inner world. The difference was that I consciously used this dialogue to gain descriptive impressions about the nature of technicism and open discourse.

Comte: How exactly does one gain an heuristic impression?

Mark: Moustakas (1990) states that there are usually four phases to an heuristic inquiry: (1) framing the questions; (2) carrying the questions within; (3) listening to other voices; (4) tying it all together. The framing of my questions took place in late 1993 to 1994 as I reflected on ethical flaws in my 1991 to 1993 qualitative study. By carrying the question within, I experienced all the aspects of this phase as described by Moustakas (1990, pp. 28-31) as immersion, incubation, illumination, insights, and explication. In the insights process, I dialogically gained insights into both the inner and outer nature of technicism and discourse. As part of the explication process, and the 'tying it all together' phase, I identified and then explained the insights that seemed to me to be most relevant to responding to the research questions. Moustakas explains that the tone of the heuristic research tradition is to offer responses, insights or conclusions to the research questions. The phrase "impressions about technicism and open discourse" seemed to me to be more elegant than "insights into the nature of technicism and open discourse". After some thought, I came to the conclusion that the word *impression* was a justifiable synonym for the words Moustakas uses.

Comte: But did the research make any difference to yourself, or to anybody, with respect to information systems? How do you answer the initial question you posed to yourself, "what was the underlying reasons for my ethical shortcomings, and how could I address this problem?"

Mark: For myself, I found the main change to my information systems teaching came from being inspired to become what Schon (1983) terms a *reflective practitioner* in an attempt to become a better teacher (see figure 1).
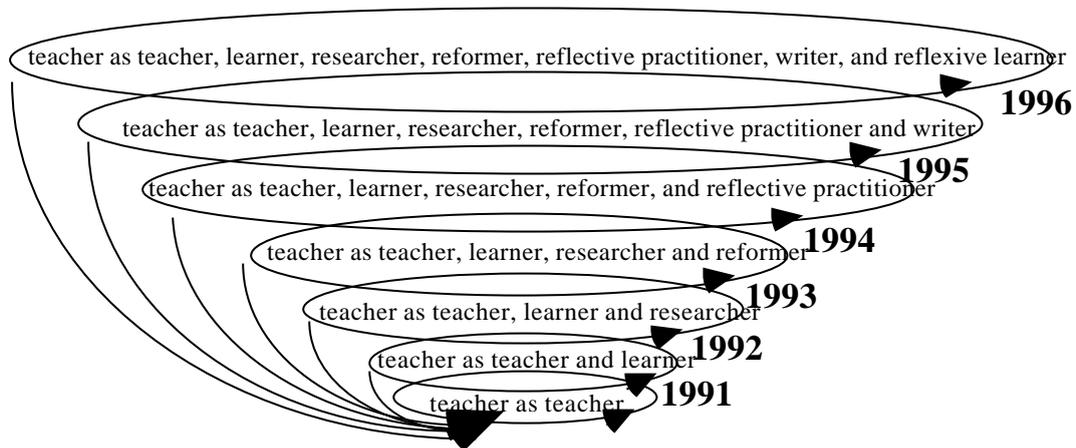

Figure 1. Pictorial metaphor showing the way in which I came
to understand that the expanding interests should be focused
back to the central task of my becoming a better teacher

I was also inspired by Mark von Wodke's (1993) book, *Mind over Media: Creative Thinking Skills for Electronic Media.* I introduced the physical stretching and mental relaxation exercises suggested by von Wodke (1993) into the computer laboratories. Von Wodke asserts that ergonomic, relaxation and imagination activities, even to the point of including Jungian dream interpretation and journal writing, encourage creativity and mental and physical health whilst using computers. For example. as the computers were turning on, I encouraged the students to sit straight, close their eyes and breath slowly and deeply while silently repeating "calm body, alert mind" while breathing in and letting go of tension while breathing out. As the application was loading up from the menu I asked them to join with me in stretching across to the left and then to the right. I stressed the value of ergonomic approaches and the resting of eyes and body. In my post-graduate seminars, and even at times in the undergraduate mass lectures, I guided the students in brief mental relaxation. At times I included visualisations such as imagining a splendid flower blossoming on the computer screen or imagining a rural walk with sun and grass and flowers and breeze. Professor Robert Flood (verbal answer to a question at the keynote address of the Australian Systems Conference, 26 September, 1995) refers to these sorts of practices as physical and mental ergonomics. I encouraged the students to read von Wodke's (1993) book, and even suggested they try out his ideas on reflective journals and dream journals.

Comte: Well, I guess it takes all types to make up the world of research. But do you have any conclusion from your study?

Mark: I have already stated my three impressions. My third impression, about my inner technicism, is about the psychology of doing research. My tentative conclusion is that the deeper levels of the

human psyche, if not recognised and honoured in self-reflective practice (Schon, 1983), will (paraphrasing Norris, 1992, p.180) disrupt even (especially?) our most noble and well-framed attempts at educational reform. As a further research interest, I am exploring the idea that unconscious agendas play a role in the success or failure of information systems projects (Campbell Williams, 1997).

SUMMARY

In this paper, I mention some aspects of the heuristic inquiry, which I undertook as a consequence of my heuristic analysis of my flawed qualitative research project of reforming a university information systems course from 1991 to 1993. I was led to dialogically explore understandings and experiences of technicism and open discourse in the outer world of the University Information Systems teaching reform, and in the inner world of my own pedagogical self. This is a complex notion.

Jung (1968) contends that the dialogue between the outer and inner worlds, the conscious and the unconscious, although of vital importance in almost every area of human pursuit, is often neglected, usually at a cost. I explored this dialogue in the context of reflecting heuristically on a teaching reform in a University Information Systems course. I think that the conscious-unconscious dialogue is present in any research, and is pervasive in academia, but largely ignored, usually at a cost (Campbell Williams, in press a). For some researchers the cost may be high. What price is the self? - or the soul (Campbell Williams, in press b)? For science in general, some would contend that lack of reflectivity, including lack of awareness of the unconscious, lies near the heart of some failures, perhaps *the* failure, of the scientific project of modernity (Adorno & Horkheimer, 1992; Bowers, 1992; Habermas, 1972; Marcuse, 1964, 1969).

Heuristic research, even in management information systems research, is not . . .

> "Madness, you mean?" said the Professor quite cooly. "Oh, you can make your minds easy about that. One only has to look at her and talk to her to see that she is not mad."
> "But then," said Susan, and stopped. She had never dreamed that a grown-up would talk like the Professor and didn't know what to think.
> "Logic!" said the Professor half to himself. "Why don't they teach logic at these schools?" . . . .
> "But do you really mean, sir, " said Peter, "that there could be other worlds - all over the place, just around the corner - like that?"
> "Nothing is more probable," said the Professor, taking off his spectacles and beginning to polish them, while he muttered to himself, "I wonder what they *do* teach them at these schools."
>
> (Lewis, 1950, p. 49)

In this paper, I have endeavoured to demonstrate that, indeed, there are other worlds of research "all over the place, just around the corner" (Lewis, 1950). The research world of heuristic inquiry probably seems strange to some, as, I guess, does my research writing style. But there remains a serious question: "Can heuristic research and unusual research writing lead us to new truths? or, perhaps, to revisit old truths, in new ways?"

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