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Rethinking the architecture:
An action researcher's resolution to writing and presenting their thesis

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Abstract

The thesis as a bulky 'tome' with a traditional structure - literature review, methodology, research design, findings and conclusions - is a concept under challenge, and especially so with the advent of digital thesis production and performative theses. Such innovations provide opportunities for action researchers to rethink how their work might best be represented. Recently, I completed a doctoral action research project based on environmental education in a primary school. However, I found that trying to force the action research process into a linear writing structure was an unsatisfactory experience. After much anxiety and considerable experimentation, I resolved the problem of 'fit' between action research and the traditional thesis format by creating an alternative architecture. Whilst still producing a bulky 'doorstopper', it was, I felt, a more adequate reflection of the study. This paper outlines this alternative format and discusses its rationale. It also challenges other action researchers to innovate and experiment with the ways they represent their work.

Rethinking the architecture:
an action researcher's resolution to writing and presenting their thesis

Introduction: Identifying the tensions

The advent of electronic publishing, digital thesis production and performative theses is beginning to profoundly challenge the traditional notion of the doctoral thesis as 'tome' - a print-based, 'doorstopper' text of unwieldy size, weight and proportions. This challenge is taking shape in new areas of academic endeavor - such as the 'creative industries' that cross the boundaries of the arts and technologies - as well as influencing more traditional fields of research, for example, education. The effect is that new technologies and arts-based research, in particular, are contributing to a major redefinition of the content and structure of the postgraduate dissertation, which as Stapelton and Taylor (2004) proclaim, has historically been based on the 'structural template of positivism'. While greater influence of digital technologies is likely to be profoundly felt, and soon, calls for changes as to how researchers might represent their work, already has a lengthy history. In qualitative research circles, for example, the push for alternative research writing approaches and formats - particularly the narrative - has already impacted upon theses design and representation with some social science researchers already eschewing writing that is 'scientific' - third person, past tense, value neutral, and passive voice and which, comments Eisner (1988; 1997), preserves "the status quo and the power of the methodologically franchised (p.4)". This trend is set to accelerate with Lincoln and Denzin (2005) identifying struggles around research representation as evidence of the social sciences moving beyond the current 'seventh' moment – the *methodologically contested present* - and into the next - 'the fractured future'. Nevertheless, it is fair to say that the vast majority of doctoral theses – regardless of whether in science, the social sciences, education or the arts, whether based on quantitative or qualitative research - or indeed action research - still follow the traditional scientific report architecture along the lines of literature review, methodology, research design, findings and conclusions.

In my own thesis production – based on an action research in the development of environmental education curricula in a primary school – I experienced considerable angst and frustration as I tried to make my work 'fit' the scientific model initially proposed as the way to structure my work. For background, environmental education is a field that straddles both science and the social sciences, with scientific discourses arguably having had the stronger influence. This has shaped the philosophical foundations of environmental

education, the types of research undertaken, and how these have been represented. Recently, the social sciences have become more powerful in environmental education, broadening the philosophical and theoretical underpinnings of the field (Fien, 1993; Robottom & Hart, 1993). This has widened the research approaches being utilised – including, understandably, contemporary educational research approaches; and has led to greater problematisation of issues around choices in research methodology and methods. In particular, the use of qualitative research approaches and action research have been strongly promoted in environmental education circles in the past fifteen years or so. Nevertheless, scientific models and approaches to environmental education research continue to have considerable influence, and these origins continue to influence 'the look and the feel' of research and research reports. In this paper I discuss how I dealt with the paradigmatic tensions by modifying the architecture of my thesis report. In so doing I believe I better represented the action research process as it had evolved and that I have told a better research story. I also argue that current trends in 'freeing up' what constitutes a thesis – brought on, especially, by new technologies - provides opportunities for all action researchers to rethink how they represent their work to create a more satisfying synergy between the actual 'lived' research process and the final report.

The writing binary

In 2000, Richardson wrote that the standard approach to writing in social science research has been a linear, static writing model that "coheres with mechanistic scientism and quantitative research" (p. 924). This, she comments, grew from the 17th century binary between literature and science that, until very recently, has maintained its dominance in doctoral reportage, regardless of the field of research. In this approach writers are discouraged from writing until they know what they want to say, that is, until key points are well organised and outlined. Richardson continues:

> The model has serious problems: it ignores the role of writing as a dynamic, creative process; it undermines the confidence of beginning qualitative researchers because their experience of research is inconsistent with the writing model; and it contributes to the flotilla of qualitative writing that is simply not interesting to read because adherence to the model requires writers to silence their own voices and to view themselves as contaminants. (p. 925)

In 2005, Richardson & St. Pierre (2005) suggest that, fortunately, post-modern literary theory has engendered vigourous discussions about the 'right' ways to represent knowledge

which have liberated researcher-writers from the 'sancrosanctity' of social science writing conventions. Furthermore, the advent of enhanced digital publishing tools and techniques and associated research into technological practice, as well as the rapid growth in arts-based inquiry (Bamford, 2005) have speeded up this process. Thesis reviewers – even in education - are beginning to see the inclusion of visual content, and even audio, video, and animation materials. Stapleton and Taylor (2003/4) for example, report the development of Stapleton's dissertation about a multimedia science education program that he had developed. He utilised a screen play metaphor that, combined with electronic hyperlinking, provided a non-linear structure allowing for multiple reading pathways, the exploration of a range of text and non-textual documentation, and the viewing of multimedia prototype designs. Edminster (2003) also reports on the opportunities ushered in by the digital age where students have begun to experiment with hypertext, sound, animation and video in their electronic dissertations. She outlines the situation of readers, as reader/viewers, moving through a web or network of texts, continually shifting the centre, where individuals choose their own centre of investigation. For researcher/publishers (that is, thesis writer/makers) they are enabled to navigate their own paths through the document, and organise information according to their own research needs. This process of scholarly research, as Macmillan in Edminster (2003) notes is not necessarily linear, highly structured or logical, but is often "cyclical organic and intuitive", closely corresponding to what is already well understood by action researchers.

As Winter (1996) suggests, the traditional approach to research reporting which results in a very large, wordy tome based on the structure of a scientific report is just "one *possible* format, *one* way of structuring and transforming experience to bring out its significance" (p. 25-26). Writers of reports based on action research projects, in particular, he claims, should not be overawed by the cultural authority of the scientific expert and should resist the scientific format and rhetoric of reporting research. This is what I was challenged to do – to rethink the architecture of my thesis to better reflect the evolving, more 'messy' research process that emerged as the action research evolved.

Backgrounding the study
In brief, what my study sought to do was to develop a whole school curriculum based on the 'learnscaping', a concept whereby the school's grounds and gardens become a vehicle for environmental education, as well as providing a springboard for a wide range of

integrated curriculum activities and inquiries. The specific intention of the study was to involve as many teachers as possible in collaboratively developing and writing the 'learnscaping' curriculum. The tangible outcome for the school was to be a set of teaching and learning materials, focused on the utilization of the 'outdoor classroom' for active, integrated learning and teaching, while also embedding concepts and actions to support environmental stewardship of the schoolgrounds in particular, and the environment more generally. While this practical goal was eventually achieved, what emerged as a result of the action research was a much stronger focus on professional development in environmental education than was initially anticipated, and especially the development of a process that supported teachers to work in teams.

All in all, I was involved in the school for almost five years, an invited academic researcher in teacher education with interest in 'whole settings' approaches to environmental education. My research project arose from a professional encounter with a teacher from this school who, knowing of my interest in learnscaping, asked whether I would consider assisting with the curriculum development phase of a learnscaping project that the school was about to embark upon. This request coincided with my initial explorations of a doctoral topic on whole school planning in environmental education. I agreed, therefore, to talk with the school's principal to ascertain whether our two sets of goals – their curriculum project and my doctoral research project – could both be developed in complementary ways. The principal and I agreed that this was possible, with action research adopted as the research method because of its potential for generating a collaborative, needs-based process for curriculum development and for generating sufficient data for a doctoral thesis. After some concerns about how I would manage these two significant research processes simultaneously - I also held a fulltime lecturing position in a university and had two school-aged children attending school on the other side of the city - I committed to the school's project as a researcher-facilitator. (The school wasn't interested in waiting for me to get fully proficient in research!). This meant that I was working in the school, building relationships, collecting and analysing data, devising research actions – at the same time as I was trying to get up to speed with what it meant to be a doctoral student and researcher - learning about methodology, reading the literature, and trying to find some structure to the overall research process.

In the early days, I kept regular contact with the principal and the key teachers, mainly thorough phone calls and visits - sometimes weekly, but generally fortnightly. Once email became more widely used, visits were more easily arranged and supported by the use of email exchanges. While I never actually calculated how many visits I undertook over the life of the project, I estimate that it was in excess of thirty visits. These involved liaison visits with the key teachers about the development of the project; workshop sessions with staff – both the whole group as well as those with smaller teams; specific data collection sessions ie conducting interviews and collecting documents; and attendance (and observation) at school events such as environmental awards presentations. Therefore, while I was technically an 'outsider', as time passed I became more comfortable in my role and was treated more as a critical friend than as an outsider to the school. This was exemplified by a comment from the principal who introduced me to another school visitor as a 'friend of the school'.

Consequently, all these visits and interactions over the five year period generated a huge volume of data which kept growing – the study was not 'contained' in the sense that there was a set period of time for data collection, followed by data analysis and interpretation. Each return visit to the school was potentially – and in actuality – an additional opportunity for data collection - some planned for, many serendipitous – adding new insights and ideas associated with the project goals of developing the new school curriculum and the research goals of developing, understanding and critiquing the processes by which this evolved. This is not to say that this prolonged and detailed process led to a spectacularly successful project. Indeed, there were times when I thought the project would 'fall over' – when disputation within the school, other school priorities, my own personal, work and family priorities - took precedence. These, of course, also became data for further constructing and reconstructing the project. In fact, it was at a time when I was most pessimistic about the continuation of the learnscaping project (at this stage it had been going for three years and seemed to have rolled to a stop as a result of strong internal pressures on one of the key informants). It was also the lengthy summer holiday break when contact with the school was in limbo - that I had the opportunity to read in an area of literature that I had not had the opportunity to explore previously. This literature – new to the study and new to the educational field, based initially on the then new (1999) publication *Change Forces the Sequel* by Michael Fullan an educational change theorist with an international refutation in this field – which transformed my thinking about the project – reshaping it from a near

failure into a reasonably successful 'small win'. This text then took me into a whole new area of literature based on complexity theory, evolutionary cultural change within organizations and the concept of 'the small win'. The impact of this literature discovered 'late in the day' transformed the project, transformed the way I thought about its outcomes and, ultimately, transformed the way I presented the thesis and wrote about the study. (Needs some part of thesis in here)

When eventually I came to the more personal research work of structuring the thesis and writing about the study to meet the more formal requirements of my doctoral enrolment, I initially anticipated that I would follow the academic norm of a preparing a report with the standard sequence of separate chapters for introduction, literature review, methodology, research design, findings and conclusions. Accordingly, I drafted an overview chapter, a first draft of my literature review chapter, and a draft methodology chapter. This lock-step format and process, however, proved unsatisfactory when I attempted to write directly about the learnscaping project itself. At this point I knew I had a problem with the conventional thesis architecture. This was because the research design – along with the data analysis and interpretation - was still in a process of continuous unfolding. The research wasn't 'over'. Data were still being collected, transcribed and analysed; new literature was still being sourced and examined; and interpretations were continuing to be crystallized in the light of the co-dependent field experiences and the literature. I was discovering what Richardson articulates; that writing is also a 'way of knowing' (Richardson, 2000, p. 923), a method of discovery and analysis that helps create knowledge and understanding; it doesn't just report it. As I wrote, my thinking about the project that was continuing to unfold provided further data for analysis and reporting. The structure and content of the thesis had become inseparable.

The linear report and action research
To explain why conventional reportage poses problems for action research report writing, it is necessary to link this to a discussion about action research itself. For many, the image of a spiral consisting of continuous and overlapping cycles of self-reflection (planning, acting, observing, reflecting and critical analysis) represents the key characteristic of action research (Kemmis, 2001; Wadsworth, 1998). It is ongoing and constituted by a flow of interrelated events over time. It starts with reflection on current actions, including inactions, and proceeds to new actions which are, themselves, researched. The result is a continuous

spiral with each cycle leading through to the next (Wadsworth, 1998). The process is not as neat as suggested, however, as stages overlap and plans can become obsolete or altered in the light of learning from experience. As Kemmis (2001) writes:

> In reality, the process is likely to be more fluid, open, and responsive. The criterion of success is not whether participants have followed the steps faithfully, but whether they have a strong and authentic sense of development and evolution in their practices, their understandings of their practices, and the situations in which they practice. (p. 595)

Action research is clearly not a linear research methodology nor can it be tightly 'designed' in advance. Furthermore, as Wadsworth (1998) notes, because action research "is not just research which we hope will be followed by action! It is action which is researched, changed and re-researched, within the research process by participants" (p. 9), change does not just happen at "the end". It is embedded in the research process, happening throughout. A hallmark of the process is that it may change shape over time, even unexpectedly, as participants focus and refocus their understandings about what is happening and what is important. Action researchers know, more or less, where the research is coming from and where it is going to, but do not know precisely where it is going to end up or what the new situation will be like. However, it "does not consider this to be an embarrassment" (Wadsworth, 1998, p. 6). Hence, while some researchers may view action research as an imprecise form of inquiry, it can be argued that these qualities are precisely what are needed in order to more fully understand the realities of working with people in complex situations such as busy schools. This is a position affirmed also by Winter (1998). He emphasises that the generation of knowledge, defined and determined by the participants and context of an inquiry, inevitably "entails an assumption that once the inquiry is underway and once one begins to learn from the first phases of the work, [that] the focus and the scope of the inquiry are likely to change (p. 63). For a conventional inquiry this would be highly regrettable, because it equates with "starting again", however, this is not the case in action research. As Winter stresses:

> The progress of one's inquiry over time – noting what happens as different things occur, as the situation develops: all this is essential to the learning process….For the focus of an action research project to shift is by no means… a defect of the original plan: it can be a positive indication of innovative, creative thinking. (p. 63-64)

The action research report as collage or quilt

As action researchers know, action research – when compared with the dominant research models emanating from science - is an untidy, evolutionary research process emerging from a particular set of relationships, which are mainly collaborative and action-oriented - well suited to environments in transition or where there is a desire to bring about change. Hence, Dick (1993) and Winter (1996) suggest that action research reports demand alternative ways of writing to account for the fact that action research is a continuously changing inquiry, with the understandings that are generated and the actions that are created always being provisional. Indeed, both the context and the research really have no end-state at all, and hence the thesis or report can only ever be a provisional and incomplete account of the research project (James, 1999). Accordingly, this calls into question the "academic norm" of presenting reports with the accepted 'scientific report' sequence of separate chapters for literature review, methodology, research design, findings and conclusions. Winter prefers to think of the text of an action research report in pluralistic terms, suggesting it be more like a collage than a description.

This is a view supported by Denzin and Lincoln (2000), with reference to contemporary research more broadly, who describe the "new" paradigm researcher as "bricoleur" - a maker of quilts or montage, a "Jack of all trades", a kind of professional do-it-yourself person – who is much more likely to deployment a wider range of interpretative/qualitative practices, aimed at understanding and "interrogating" the subject matter at hand, than presenting a highly structured and apparently methodical account of a research situation. As noted earlier, examples of montage or "quilt-making" are beginning to appear in research texts, further enhanced by the advent of digital technologies. While the use of multiple voices, different textual formats and various typefaces[1], at first glance, may appear as "messy text", this should not be regarded as a typographical nightmare. Instead, Lincoln and Guba (2000) state, these texts:

> …seek to break the binary between science and literature, to portray the contradiction and truth of human experience, to break the rules [to show] how real humans cope with both the eternal verities of human existence and the daily irritations and tragedies of living that existence. Postmodern representations search out and experiment with narratives that expand the range of understanding, voice, and the storied variations in human experience. (p. 184)

They also comment that the combination of multiple methodological practices, empirical materials, perspectives and observers in a single study can add rigour, breadth, complexity,

richness and depth to an inquiry. The *bricoleur* becomes adept at performing a large number of diverse tasks, ranging from interviewing to intensive self-reflection and introspection. As Denzin and Lincoln (2000) note, "the researcher-as-*bricoleur*-theorist works within and between competing and overlapping perspectives" (p. 6).

As I was looking for ways to overcome the difficulties encountered in reporting my own research, such perspectives encouraged me to become more flexible and adventurous in relation to my own research writing practices. The "patchwork" that finally emerged in my thesis report is an acknowledgement that "no specific method or practice can be privileged over any other" (Denzin & Lincoln, 2000, p. 6); and shows the influence of a range of "emerging confluences" in contemporary research practice, particularly those, as emphasised by Lincoln and Guba (2000) and Winter (1996) have an 'action' underpinning.

In fact, Lincoln (1997) proposes "portrayal" as a better term than "reportage" for describing the presentation of research emanating from the transformative "action" paradigms. She states that 'portrayal' is "the ability to craft compelling narratives which give outsiders a vicarious experience of the community and which give insiders both a deeper understanding of themselves, and the power to act" (p. 23). Another suggestion is for action research reports to consist of various narrative accounts (e.g. Ramsey (2005), and their critiques, ending with questions and further possibilities, not conclusions, that are intended to be "convincing" (Elliott, 1994). As Richardson (2000) writes, "There is no single way – much less one "right" way – of staging a text" (p. 936).

Narrative writing: an alternative to the scientific report
Having become dissatisfied with my own attempts to force my study into a scientific structure and with a growing awareness of the critiques about scientific writing for dissertations more generally (Conle, 2000; Richardson, 2000) – as well as taking account of emerging perspectives and experiments with alternative ways of reporting action-oriented research specifically - I eventually arrived at an alternative format for writing about the action cycles of this action research report. This was strongly influenced by my reading in the area of critical narrative, as I had begun to see my report as having story-like qualities. According to Bruner (1986), cited in Hart (2002), narrative can help us understand reasons

for our actions which are motivated by beliefs, desires, theories and values. Used particularly in critical ethnography, narrative suggests that research participants reassess their current understandings, relationships and practices through reading and writing that is insightful and engaging. This seemed to match my own research purposes.

Brodkey (1987) states that there are two parts to a critical narrative – description and critique. The description is essentially a narrative, whereas the critique is an interruption of the narrative to provide a "systematic, verbal protest against cultural hegemony" (p. 67). The "critiquing" aspects of critical narrative can provide valuable transformative tools that allow understanding of the world in new ways and help in the communication of new ideas (Gudmundsdottir, 1995). By contrast, she suggests, narrative refers to the structure, knowledge and skill required to construct a story. She also maintains that narrative and storytelling have become significant themes in educational research, and that it is through the telling of stories that one gets to know "pedagogical content knowledge". Storytelling also helps in problem definition, report Goodson and Walker (1995) and offers "a kind of intermediate technology of research adapted to the study of practical problems in realistic timescales" (p. 187), a key characteristic of action research. In discussing the use of stories in action research specifically, Burchell and Dyson (2000) comment that narratives can provide insights for writers and readers by aiding reflection and assisting in the recognition and addressing of emerging issues and dilemmas. After taking these perspectives into account, narrative emerged as an important tool in this study, providing a powerful way of aiding reflection, understanding and communication of its processes and outcomes. The combination, then, of narrative and reportage as collage or quilting, led me to develop a new structure for my thesis that diverged from the more conventional format with which I had started.

Instead of separate, sequential chapters – literature review, followed by a report of research "findings", and then interpretations detached from accounts of the research process, I chose instead to highlight the interdependence of events, processes and outcomes of the research, through the intermingling of narrative, literature review, analysis, and critical reflection in each of the three central 'cycle' chapters. In my head – I did not have the time, knowledge and skills during this period to enact this – I conceived of these elements as being 'hyperlinked' to each other – that is, that the writer and reader could jump, for example,

from the narrative, telling of the events in a cycle, to accounts of the related literature or to aspects of data analysis and interpretation. My technological and time limitations meant that I still worked in a text-based structure; however, my intention was to create a less-linear format. This new architecture is indicated in Figure 1, replicating the Table of Contents for Chapter 4 which related to the first action research cycle of the project.

CHAPTER 4: LEARNING IN THE FIRST CYCLE *LAYING THE GROUNDWORK*

INTRODUCTION

CYCLE 1: LAYING THE GROUNDWORK
    PHASE 1: Initial impetus and entry into the project
    PHASE 2: Finding starting points and purposes
    PHASE 3: Negotiating the partnership
    PHASE 4: Searching for purpose and identifying first tasks
    PHASE 5: Initial plans and actions
    PHASE 6: Redefining the project

LITERATURE REVIEW: ENVIRONMENTAL EDUCATION
    Environmental education: its nature and principles
    Key principles and features of critical environmental education
    Education for sustainability
    Concluding comments about environmental education

OVERVIEW OF FIRST CYCLE
    Description and critique of curriculum outcomes of Cycle 1
    Lessons learned about the processes of change
    Creating my personal living educational theory
    New questions and challenges

Figure 1: Example of the Non-Linear Chapter Structure

The role of literature review in action research

At this point, it is necessary to articulate the special relationship that review of literature has in action research, because this had a fundamental impact on the final configuration of my thesis. Literature review is not a separate process from data analysis and interpretation. Like (Conle, 2000), I did not commence this research process with a review of literature to scan the field. Instead, I began with field work 'action' around the school's collaborative curriculum project. Literature was accessed more or less continuously throughout the whole of the research process, and was often not identified until data collection and interpretation were under way. Such processes provoke the researcher to pursue particular lines of literature inquiry in response to the queries and questions thrown up during analysis, or the

desire to search for confirming or disconfirming views about what the data is suggesting (Dick, 1993). Indeed, Dick suggests that the search for disconfirming evidence and argument in the literature, at the time that the researcher is making tentative interpretations, actually helps the researcher to reach conclusions with more confidence, which results in actions being better informed. Winter (1998) refers to this process as "dialectical analysis" and of "being theoretical" (p. 67) about the data, contemplating it, speculating about it and placing it in a wider context. This is much like the process of 'crystallization' described by Richardson (2000) which challenges traditional notions of validity and truth in research, instead providing "a deepened, complex, thoroughly partial, understanding of the topic" [where] paradoxically, we know more and doubt what we know (p. 934)". This process of generating interpretations, ideas and actions derived from both the evidence and from the literature was a major research strategy used throughout the life of this study.

I sought to express this 'weaving back and forth' between literature review, data analysis and interpretation, by placing multiple literature reviews throughout the thesis, rather than presenting – as is common practice - a complete literature review towards the beginning of the dissertation. This was done to try to mirror the reflexive nature of action research in which understandings developed from both literature and practice help generate actions, and vice versa. Therefore, as well as an initial literature review in chapter 2 of the thesis - outlining my concerns about environmental sustainability issues and the role of education for sustainability, each of the three chapters based on the three action research cycles also contains its own review of literature. Each cycle chapter, then, is a mix of narrative, critical commentary, literature review, data analysis and interpretation. Furthermore, rather than presenting research conclusions that are intended to be "convincing", I sought instead to explore issues and dilemmas, raise questions and present possibilities, thus acknowledging the tentative and emergent nature of my research 'findings'. As Winter (1996) suggests, these outcomes are more compatible with the role of the author as collaborator and participant, rather than observer and judge.

To guide this alternative report writing process and structure, I found the criteria for reporting action research proposed by Elliott (1994, p. 58) to be helpful. In modifying his criteria to suit this study's specific purposes and context, I determined that my action research report should:

- provide a narrative account of the change process as it unfolds from a variety of perspectives: researcher, teachers, parents. This should tell a story in non-technical language and give the reader a sense of what it was like to be involved;

- portray the change process in context, highlighting those aspects which illuminate the experience of those involved;

- focus on problematic aspects of the change process;

- reflect upon these problematic aspects from different angles or points of view;

- reveal how understanding of the situation and the problems and issues evolved, in the light of new evidence;

- describe the curriculum and pedagogical strategies generated during the course of developing understanding of the situation;

- assess the consequences of curriculum and pedagogical strategies, both intended and unintended, for the quality of the change process; and

- describe, justify and critique the methods and procedures used to gather and analyse data.

Elliott observed that the construction of a report that satisfies such criteria is not an easy task. However, I felt that challenging traditional reporting norms with such a structure in a thesis presented a more authentic picture of non-linear research practice and was truer to the spirit of action research.

Examiners' comments

While it was an interesting and challenging exercise to create an alternative way of reporting this action research study, in the end, though, the thesis has to be acceptable to its readers. First and foremost, these were the thesis examiners. Examiner 1, a researcher with a long-standing interest and reputation in action research, was generally supportive of the approach taken, and indicated that he understood and appreciated my desire for a better fit between the processes and intentions of action research and the form in which it is presented. However, as a reader, he also indicated that he had some difficulties with what was devised, commenting that, in particular, the literature reviews embedded in the 'cycle'

chapters "seemed to interrupt the cyclical flow of the project so that one wants to set them aside to follow the course of the story" (personal comm., 2003). His suggestion was to advise readers just prior to these chapters to skim the literature reviews first in order to maintain flow and continuity of the story. This suggestion was taken up during the thesis revision process. Of course, had I had the capabilities to 'hyperlink' – as I had mentally conceived the new structure – such a criticism would have been overcome.

Examiner 2, however, was less sympathetic to my divergence from the traditional thesis format. Indeed, his examination comments suggest to me that he did not really understand the nature and complexities of action research, and hence what I was trying to achieve with the new structure. He wrote, for example, that he would have liked to have had earlier mention of the literature that appeared in the cycle chapters, rather than having it unfold. In other words, he preferred a traditional format with a comprehensive literature review appearing early in the thesis. He also indicated that I should have engaged in more preparatory reading in relation to a particular aspect of research 'content' – again, I believe he 'missed the point' about action research, in that the literature and the research process were intertwined rather than sequential. He also commented that the sections of overview about each cycle did not "build out" of the literature. However, these sections were never intended to do this; rather, their purpose was to synthesise both the field work and the literature. Overall, though, he did comment positively upon the rigour and complexity of the research processes with which I was engaged, and commended my level of scholarship.

Conclusion

As I have further reflected on the processes I undertook in order to represent my account of this action research, I recognize that perhaps I might have paid more attention to the 'readerliness' of my thesis, as well as to its 'writerliness'. Perhaps this would have led to a stronger sense of cohesion and continuity for these examiners. On the other hand, the research processes with which I were engaged were not always clear and coherent during my active engagement, though I contend that I developed a rigorous research study with meaningful, if tentative, conclusions. To some extent, therefore, I am quite comfortable with having written a text – still a 'doorstopper', though - that is somewhat disjointed and discontinuous, and more like the research itself. Action research is a dynamic, circular, and evolving research process. It does not fit easily into a format or writing process that is mechanistic and linear. In my thesis I attempted to 'mess up' the structure and writing

process to better represent the research methodology, and what I experimented with was hardly a radical shift from the norm. Nevertheless, I feel my attempt went some way towards liberating action research (and myself!) from the strictures of conventional research reporting. My hope is that other action researchers – especially those with greater skills and opportunities in the use of digital technological innovations than I had at the time - will also seek to free themselves from the constraints of conventional, scientific, print-based research reportage. Now, as a potential examiner of action research theses, I look forward to reading (and viewing) dissertations produced in innovative and creative ways that better match form with process. There is no reason why action researchers cannot be leaders in the creation of new forms of practice about how research theses and dissertations are representations. As Bauman (2005) states, "To create (and so to discover) always means breaking a rule; following a rule is mere routine, more of the same - -not an act of creation" (p. 1092).

[1]*Troubling the Angels: Women Living with HIV/AIDS* is an example of such a text (Lather et al., 1997).

References

Bamford, A. (2005). *The art of research: digital theses in the arts.* Paper presented at the ETD2005: Evolution Through Discovery: 8th International Symposium, Sydney.

Bauman, Z. (2005). Afterthought: On writing, on writing social science. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 1089-1098). Thousand Oaks: Sage Publications.

Brodkey, L. (1987). *Academic writing as social practice*. Philadelphia: Temple University Press.

Burchell, H., & Dyson, J. (2000). Just a little story: The use of stories to aid reflection on teaching in higher education. *Educational Action Research, 8*(3), 435-450.

Conle, C. (2000). Thesis as narrative or "What is the inquiry in narrative inquiry?" *Curriculum Inquiry, 30*(2), 189-214.

Denzin, N., & Lincoln, Y. (2000). Introduction: The discipline and practice of qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 1-28). London: Sage.

Dick, B. (1993). You want to do an action research thesis? How to conduct and report action research. *2000*(20 March).

Edminster, J. (2003). *Resistance to ETDs in academe: diffusion of innovation.* Paper presented at the ETD 2003: Next Steps: Electronic Theses and Dissertations Worldwide, Berlin.

Eisner, E. W. (1988). The primacy of experience and the politics of method. *Educational Researcher, 17*(5), 15-20.

Eisner, E. W. (1997). The promise and perils of alternative forms of data representation. *Educational Researcher, 26*(6), 4-10.

Elliott, J. (1994). Developing community-focused environmental education through action-research. In B. Somekh & M. Pettigrew (Eds.), *Evaluating innovation in environmental education* (pp. 31-60). Paris: OECD.

Fien, J. (1993). *Education for the environment: Critical curriculum theorising and environmental education*. Geelong: Deakin University and Griffith University.

Goodson, I., & Walker, R. (1995). Telling tales. In H. McEwan & K. Egan (Eds.), *Narrative in teaching, and research* (pp. 184-194). New York: Teachers College Press.

Gudmundsdottir, S. (1995). The narrative nature of pedagogical content knowledge. In H. McEwan & K. Egan (Eds.), *Narrative in teaching, learning, and research* (pp. 24-38). New York: Teachers College Press.

Hart, P. (2002). Narrative, knowing, and emerging methodologies in environmental education research: Issues of quality. *Canadian Journal of Environmental Education, 7*(2), 140-165.

James, P. (1999). Rewriting narratives of self: Reflections from an action research study. *Educational Action Research, 7*(1), 85-103.

Kemmis, S. (2001). Exploring the relevance of critical theory for action research: Emancipatory action research in the footsteps of Jurgen Habermas. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. 91-102). London: Sage.

Lincoln, Y. (1997). *From understanding to action: New imperatives, new criteria, new methods for interpretative researchers*.Unpublished manuscript, University of California, Los Angeles.

Lincoln, Y., & Guba, E. (2000). Paradigmatic controversies, contradictions, and emerging confluences. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 163-188). London: Sage.

Lincoln, Y. S., & Denzin, N. K. (2005). Epilogue: the eighth and ninth moments - qualitative research in /and the fractured future. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 1115-1126). Thousand Oaks: Sage Publications.

Ramsey, C. (2005). Narrating development: Professional practice emerging within stories. *Action Research, 3*(3), 279-295.

Richardson, L. (2000). Writing: A method of inquiry. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 923-948). London: Sage.

Richardson, L., & St. Pierre, E. (2005). Writing: a method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 959-975). Thousand Oaks: Sage Publications.

Robottom, I., & Hart, P. (1993). *Research in environmental education: Engaging the debate*. Geelong: Deakin University and Griffith University.

Stapleton, A., & Taylor, P. (2004). *Representing the flow of r and d in a thesis: Diachronic structure and hyperlinking.* Paper presented at the Australian Association for Researchers in Education, Melbourne.

Wadsworth, Y. (1998). *What is participatory action research?* Retrieved 8 March, 1998, from http://www.scu.edu.au/schools/gcm/ar/ari/p-ywadsworth98.html

Winter, R. (1996). Some principles and procedures for the conduct of action research. In O. Zuber-Skerritt (Ed.), *New directions in action research* (pp. 13-27). Bristol, UK: Falmer Press.

Winter, R. (1998). Finding a voice - thinking with others: A conception of action research. *Educational Action Research, 6*(1), 53-68.