Developing Classroom Teachers' Understanding of Multiliteracies: The Role of Reflection

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The complex nature of multiliteracies and its relationship with Information and Communication Technology (ICT) has implications for the development of a classroom teacher's understanding and pedagogical practices to achieve multiliterate student outcomes. This paper explores key reflective practices that support classroom teachers' conceptualization of multiliteracies and associated pedagogical practices. The paper reports on one aspect of a research project that is concerned with models of teacher ICT professional development that result in multiliterate classroom outcomes. The paper focuses on reflective actions as crucial elements of an ICT professional development model. The data in this paper are drawn from reflective writing and illustrate how reflective actions support the development of understanding complex concepts. The paper finds that reflection is an important action in sense-making and potentially enhances the transformative capacities of professional development.

Introduction
The complex nature of multiliteracies (The New London Group, 1996; Unsworth, 2002), and its relationship with Information and Communication Technology (ICT), has implications for the development of a classroom teachers' understandings and pedagogical practices to achieve multiliterate student outcomes (Lankshear, Snyder & Green, 2000; Luke, 2000; Ramsey, 2000). Watson and Wilcox (2000) observed that "making sense or constructing meaning of one's professional world complements and enhances the body of objective and technical information", although they warn that this sense–making "may emerge as chaotic, subjective, and tentative" (p. 58). One technique that is considered to contribute to sense-making, particularly in complex situations such as developing pedagogy to support multiliterate student outcomes, is reflective action as it has potential to organise and make real these subjective/tentative thoughts.

Dewey (1933) defined reflective action as: "active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further consequences to which it leads" (p. 9). Arising from Dewey's germinal work, and Schön's (1983, 1987) application of this work to the reflective practitioner, reflective action has become an inherent part of teacher practice (Fitzclarence, 2003, Watson & Wilcox, 2000, Yost, Senter, & Forlenza-Bailey, 2000). With respect to reflective action in teacher practice, Ross and Hannay (1986) went so far as to say: "if change is to occur, reflective thinking must become a taken-for-granted lens
through which teachers conceptualize their practice” (p. 14). However, there has been criticism of the notion that reflection on practice will automatically result in improvements in teaching (Gore, 1987; Korthagen, 1993; Zeichner, 1987) and Fisher (2003) suggested that, "despite detailed discussion and analysis of critical reflection in the literature …there appears to be a paucity of reflection upon reflection" (p. 315).

Among the concerns with reflecting on reflection, are identifying what makes reflection meaningful, and how reflective activities can be analysed. York-Barr, Sommers, Ghere, and Montie (2001) claimed there are "at least four major influences on meaningful reflection: topic or content, depth or level of application, opportunity to strengthen relationships, and opportunity to learn" (p. 33). Hatton and Smith (1995) note that descriptive writing is not reflective unless there is "some attempt to provide reason justification for events or actions" (p. 48). Bain, Ballantyne, Mills, and Lester (2002, p. 13) identified five levels in their framework for reflective writing: reporting, responding, relating, reasoning, and reconstructing and noted that "reflection can enhance professional practice, but only if there is sufficient experience and understanding in place upon which reflection can be based" (p. 9) to bring about a "consequent reformulation of practice" (p. 10). Clarke (1995) identified "precipitants, frames, reframes, and plans for future action" as the "individual components of reflections" (p. 247) and suggested that "precipitants" (those things that precipitate or initiation reflection) for reflective themes include dissonance, dismay, frustration, surprise, curiosity, and conflict (p. 255). Van Manen (1977) proposed three levels of reflection that represent increasing sophistication of reflection: technical, practical and critical, where technical refers to efficiency and effectiveness for achieving desired ends, practical supports examination of goals and assumptions and the negotiation of meaning through language, and critical provides an ethical and moral frame and locates the reflection in a wider context.

This paper will consider reflective stages within a teacher's reflective journal to develop an understanding of the role played by reflective practice within professional development intended to change the teacher's understanding and practices associated with multiliteracies. The levels proposed by Van Manen (1977) are used as an analytical tool in developing this understanding.

**Methodological context**

This paper reports on one aspect of a research project that is concerned with developing understandings of what is required of teachers and students by the concept of multiliteracies, and then designing and implementing an effective and well-researched model of ICT professional development that will result in transformative multiliterate classroom practices. The project has been funded under an ARC Linkage Grant in conjunction with the Suncoast Cyberschools as industry partner. This is a mixed method research project with two stages. Stage one involved baseline data collection using interview, survey and classroom observation tools, and stage two employed action research methodology (Kemmis & McTaggart, 1988) to support the design, implementation and evaluation of a professional development model. Other aspects of this project are reported in Prestridge and Watson (2002), Watson and Prestridge (2003), and Watson, Prestridge and Dempster (2002).
Stage two of the research required participants to implement an enquiry project (Burnaford, Fischer, & Hobson, 2001) that would involve the use of ICT to support multiliterate outcomes for students. As an inherent part of the action research methodology that underwrote this stage of the research, the participants were asked to maintain a reflective journal. Reflection is generally seen as a fundamental process within action research methodology (Bell, 1993; Elliot, 1991; Hopkins, 2002) although the form of this reflection can vary including reflective writing (Kennison & Misselwitz, 2002),
reflective visual narratives (Johnson, 2002), reflective journals (Hyatt & Beigy, 1999), and reflective portfolios (Barton & Collins, 1993; Jones, 1998). The schools that constituted the industry partner, and provided the participants, in this research project were trial schools in the New Basics project (Education Queensland, 2000). As part of this new direction in curriculum and pedagogy, the schools were required to develop an understanding of the concept of multiliteracies and appropriate pedagogies to enable multiliterate student outcomes. The complex nature of the concept of multiliteracies, the timing of the data collection at the early stage of the New Basics educational reform process, and the challenge of integrating ICT into the curriculum for teachers with limited ICT capability created a particularly powerful set of precipitants (Clarke, 1995) for reflective action. Clarke (1995) identified "precipitants", that is "those things that precipitate or initiation reflection" (p. 255), as an essential component of reflection.

The data in this paper are drawn from the reflections of one participant in the enquiry project aspect of the research. This participant (Leanne) was a mature age first year teacher whose reflections provided a particularly rich source of data. Leanne's enquiry project was Envirosmart (see Figures 1 and 2) using the Comalco Green and Healthy Awards as impetus. This project required the students in her year four class to investigate and develop a school environment management plan and then use multimodal presentations to demonstrate the value of the plan to the school and its wider communities. These presentations took place in front of the Green and Healthy judges. The process thus represented a rich task as required under the assessment aspect of the New Basics process.

Figure 2.
The Envirosmart project in action.
The role of reflection
As an analytical tool in this section of the paper, Van Manen’s (1977) levels of reflection – technical, practical and critical – will be employed. This is not to suggest that Leanne’s reflections fall easily into these categories but rather to explore the respective power of these aspects of reflection as contribution to Leanne’s willingness to be involved in the project and to sustainability. Ultimately this discussion is seen as contributing to the research project goal of identifying models of effective teacher ICT professional development that result in multiliterate student outcomes.

Technical
Reflection that is concerned with efficiency and effectiveness for achieving desired ends is classified by Van Manen as technical. Perhaps not surprisingly, the initial entries in Leanne’s journal have predominantly technical concerns:

I sat there dumfounded listening to the language hoping no one would ask me anything. I had no clue as to what was going on. Had I been in a vat for the last 100 years or was this a new language? What were they talking about? What is multiliteracies? Why do I need a question? What had I agreed to? Please let the two people beside me have some idea? I’ve got none! Don’t look at them – don’t let them know that you’re clueless. Great. What do I do now?

In this excerpt Leanne expresses her anxiety and confusion, couched particularly in terms of not wanting to appear to her colleagues as "clueless". As a new teacher, this concern is probably a concomitant part of her general anxiety as a new professional but has been exacerbated by this additional demand and the complexity of the multiliteracies concept. However it does not take Leanne long to turn her initial anxiety into enthusiasm and start her "journey":

Enthusiasm creeps into my thoughts. When you throw the jargon out the door and just think about the 'what' and the 'how' this sounds quite exciting. Oh no, she's using that jargon again - productive pedagogies, strategies – my head hurts. It's too late there is no turning back. I've been committed!!!

Thus armed with a head full of unanswered questions, a bucket load of enthusiasm, a black book to log my thoughts and a question, which my team members think is totally awesome I set off on a learning journey of self discovery.

The participants were provided with a blank journal to record their reflections. In this excerpt Leanne refers to hers as the "black book to log my thoughts" and notes that her team members think this is "totally awesome". This again suggests that Leanne is influenced by her colleagues and emphasises the importance of community for the success of the professional development model.

Practical
Practical levels of reflection support examination of goals and assumptions and the negotiation of meaning through language. For Leanne her goals primarily relate to her students’ learning. Leanne used the New Basics dimensions of Productive Pedagogies (recognition of difference, connectedness, supportive classroom environment, and intellectual quality) to structured her reflections:
one of my goals for this project was to improve the behaviour of the students within my group – specifically their cohesion as a group. I knew that in order to do that each child would need to feel valued and that their contribution was valued.

This excerpt provides insight into Leanne’s assumptions with regard to recognising difference as incentive for her participation in the enquiry project. Under the Productive Pedagogy dimension of connectedness, she wrote:

It was crucial to provide an environment that allowed all students to take responsibility for their own learning. I did this by setting explicit expectations, allowing choices and supporting risk taking. I introduced them to ‘free range students’ who could be ‘infotectives’...the children loved the terminology as well as the concept. I explicitly stated the roles and responsibilities of being a free range student and believe that within my class I now have 29 free range students who are in control of their own learning.

However it was the dimension of intellectual quality that Leanne identified as her “main focus”:

In order for the children to operate at a higher order level I set a challenge to conduct an environmental audit of the school ...[that] required them to predict (would we be energy efficient, how much waste do we produce, do we recycle?) then observe (how many lights are on, how many pieces of litter can you count, are taps left on) collate by completing an audit table and prioritise (what can we do).

In this excerpt Leanne not only explicates her major goal in participating in the enquiry project but also negotiates the meaning of this goal in terms of how it be enacted within the project. She explained this further by referring to the students’ “backward mind maps” (See Appendix 1) which she had meaning for her as a "reflective tool":

For me the best examples are these backward mind maps. These are reflection tool that I have developed to help me gain insight into the children's understandings. They are completed at the end of the unit. They help me to see whether the children have made the connections between the deep understandings I wanted them to discover and the significant questions that I posed. I find them highly insightful. The samples that you see represent a broad range of abilities within my classroom. I find even those children with poor literacy skills can complete these maps conveying a deep understanding.

The structure Leanne provided for her practical reflections took the language of the policy document, that is the dimensions of productive pedagogy, and through her reflections negotiated her own meaning and articulated her practical enactment of it.

Critical
Van Manen identified critical reflection as providing an ethical and moral frame and locating the reflection in a wider context. In the closing stages of her journal, Leanne critically reflected on the impact of the enquiry project both on herself and her students:

For me the primary benefit of reflective practice was a deeper understanding of my own teaching style and ultimately, a greater effectiveness as a teacher. Specifically I felt validated as a teacher and learnt to respect the diversity within my classroom. The opportunity for exploration through my reflective portfolio work enabled me to acknowledge and validate what I was learning.
This excerpt shows how Leanne has developed confidence in her ability as a teacher and it is obvious that now she is defining this much more in terms of her students' learning rather than her perception of her peer's recognition. In the process she has negotiated a new meaning of what it means to be a teacher to having a shared role with her students as that of learner:

Since conducting this epic, my relations with the students have been enriched. Once upon a time I dreaded heading towards the classroom but now we actually have fun learning in there. I am not frightened of failing in front of these students and neither are they. We have all grown in confidence and we have all matured as learners. Behavioural problems have diminished as students are engaged and enthusiastic to try new things. Students with learning difficulties are discovering paths around the obstacles.

While Leanne's reflections are now more intrinsically driven, extrinsic recognition still held some sway. In her journal Leanne provided a photo of the Award achieved by Envirosmart in the Comalco Green and Healthy competition and entered (and decorated) the school principal's evaluation of her and the project (See Appendix 2) which clearly provided validation for her and her perceptions as recorded in her reflective journal.

Conclusion
In the introduction to this paper the chaotic, subjective and tentative nature of sense making within one's professional world (Watson & Wilcox, 2000) was noted and it was suggested that reflective action might provide a technique that contributes to sense-making. This paper has explored some of the sense-making within a teacher's reflective journal with a view to understanding how reflective action might contribute to the effectiveness of a professional development model.

Van Manen's (1977) technical, practical, and critical levels of reflection have been used in this paper as analytical tools but there was no intention to suggest that these levels were discrete. In the excerpts of Leanne's reflection provided it would be difficult to identify any particular aspect as being more or less instrumental in supporting Leanne's willingness to take on the project or sustaining her involvement with it. However it is clear that each level made its own contribution to Leanne's sense-making and hence her sustained involvement with the project. The data illustrated how reflective actions supported the participant's development of understanding of the complex concepts that comprise the research project (multiliteracies, its relationship with ICT and its pedagogical implications in her classroom).

This paper contributes to reflection on reflection and while it would be rash to suggest that the reflective process itself automatically resulted in improvements in teaching, the reflective excerpts provided here show a clear progression for the participant. The paper finds that reflection is an important action in sense-making and potentially enhances the transformative capacities of professional development.
References


Flaxton, Qld.: Post Pressed.


Appendix 1: Backward mind maps as reflective tools

![Mind Map 1]

![Mind Map 2]
Appendix 2: Extrinsic validation of reflection

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**LEARNER**
- Effective use of groups in order to successfully manage the project
- Tracking of individual students' interests and abilities as well as their learning styles and habits
- Breaking the task or project into 'digestible chunks' – thinking, reflecting, and modifying as the task progressed
- Looking at growth of every student through the task, discovering things about students that Learne hadn't known or noticed before
- Developing a flexible, spontaneous approach to teaching and learning when needed
- Transdisciplinary approach – integrating all curriculum areas as appropriate

**THE GROWTH – THE JOURNEY**
- I have seen growth and increased confidence in Learne in all areas of her teaching practice.
- Particular areas are:
  - Catering for every student in her class through her daily curriculum – blending of individual interests, abilities, needs, likes etc.
  - Developing more empathy and rapport with her students so she gets to know them more, co-constraining the curriculum with them
  - Taking a more reflective approach with the students, reflecting on her own practice, but also reflecting with the students – discussing the issues and behaviours, sharing the learning, celebrating the successes.
  - Trailering different teaching and learning strategies to suit students and contexts – if something doesn’t work, reflect on it, modify and try again
  - Problem solving and finding his own creative solutions to problems and hitches incurred on the way
  - Looking at what the children are doing and can do rather than the task and project and what is planned to achieve

**STUDENTS**
- Engaged and enthused in the learning
- Excellent understanding of knowledge, concepts and skills because it is set in a meaningful context – how to protect and enhance the environment of our school
- Confident approach when talking to others about their learning and understandings
- When prompted or asked further questions – the knowledge and understanding is there
- Feel proud of achievements – the learning has been child centered
- Learning is enhanced and consolidated by the fact that the students in Group 4 are now teaching the rest of the school

**Jackson, Jake, Anish, Megan**
- These students spoke with myself and the Green and Healthy Judge. All were committed to Glenview being a Green and Healthy school.
  - Jackson was very articulate, outlining the project, the findings, the actions.
  - Anish showed great depth of understanding and knowledge
  - Jake was not confident at first, but after others started talking and when he was given more time, Jake was able to recount some actions, talking about the worm farm and how it would work and be used
  - Megan spoke about the need to separate the rubbish and change our bin system. She was an eager participant in the discussion.

**Chris Curtani, Principal for 2003**