

CLO08506

## Changing teacher professional learning: Transitioning from train-the-trainer to participatory action research

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**Keywords: Teacher education and professional development of teachers**

### Abstract

*Diffusion-adoption professional learning models which position teachers as compliant technicians of policy and practices are limited in their long term effects on teacher professionalism. In contrast, co-researching models of professional learning hold the potential to engage teachers and researchers in explorations of mutual concern which impact on professionalism and contribute to development of both theory and practice.*

*This article describes professional learning within the context of an Australian state department of education during a period of reform. The contextual influences and design of a collaborative, film-driven participatory action research design which explored teacher learning and application of multiliteracies theory are explored. A spiral of cycles of action research incorporated engagement with multiliteracies theory and collaborative planning; filming of teacher classroom 'action' and reflective interviews; collaborative observation of and reflection on the resultant filmic artefacts.*

*The filmic artefacts offered rich multimodal examples of teaching practices, incorporating visual, audio, gestural and spatial classroom information, far beyond the purely linguistic recounts and descriptions which characterise many professional development workshops. Incorporation of collaborative filmic research techniques enabled multimodal observation of teaching practices across a number of sites, with observation unrestricted by temporal or physical parameters.*

## Introduction

Profound shifts are occurring in the communications environment in the twenty-first century. Meaning is made in ways that are increasingly multimodal—in which linguistic modes of meaning interface with visual, audio, gestural and spatial patterns of meaning (New London Group, 1996; 2000).

A profound shift is also occurring in the balance of agency as workers, citizens and learners are increasingly required to be users, players, creators and discerning consumers rather than audiences, delegates or quiescent consumers. Students increasingly spend time in their out-of-school lives using multimodal forms of communication and social networking tools in online worlds, transforming their expectations of and orientations towards texts, literacies and pedagogies.

Evidence exists that many teachers have been reticent about adopting new technologies and developing multimodal literacies in classrooms, while students have tended to be enthusiastic adopters of digital practices, particularly in out-of-school contexts (Lankshear, Snyder and Green, 2000; Prensky, 2001).

The following discussion draws on a study which explored changes in teachers' literacy pedagogies as a result of their participation in a purpose-driven teacher professional learning (Cloonan, 2005a; Cloonan, 2008b). The context was the Victorian government early years literacy sector where the author worked as a policy and project officer. Approaches to literacy were print-based. Habitual teacher professional learning practices were underpinned by a 'train-the-trainer' model.

Acknowledging the key role of the teacher in achieving changes in pedagogy and student achievement (Hattie, 2003), the study investigated characteristics of teacher professional learning which engaged teachers as active and critical participants in investigating professional learning and multiliteracies.

In the wake of ever-changing new technologies, the field of early literacy education can aptly be described as emergent as teachers and theorists alike attempting to

respond to multimodal textual forms (Kress, 2000). In such emergent contexts, participatory action research offers opportunities to develop insights into both new literacies education and theoretical perspectives on new literacies.

In a context where educational policy responses have been seen to inadequately capitalise on the affordances of changed communications environment, policy makers are seen collectively as:

...beginning to understand a bit of the challenge [but] are not yet on their way to understanding the solutions. Ironically, most public policy responses to the Internet have typically been framed in terms of older, more traditional notions of print literacy, not from within an understanding of the Internet itself. This may be due to the fact that policy makers are sometimes the last ones to 'get' the Internet or to engage systematically and intensively in its use. One obvious case involves public policies related to literacy education (Coiro et al., 2007, p. 29-30).

This paper describes the author's efforts to 'get' implications for early literacy teachers' professional learning as a result of broader shifts towards multimodality. **The implications are many, but two major implications are evident. Firstly, teacher professional learning needs to be conducted through non-hierarchical relationships (relationships that mirror the egalitarian relationships enabled by the Internet). Secondly, the incorporation of multimodal techniques (in this case filming) into the design of professional learning can have productive outcomes. Participatory action research design was the mechanism deployed to achieve these outcomes.**

## Habitual professional learning and resource development practices

The research project from which this article is drawn was an investigation into the professional learning of teachers of early years (Prep–Year 4) students, conducted in the Victorian government school sector during 2003. This was a period characterised by calls for reform of major aspects of schooling to meet the needs of rapidly changing social, economic and technological conditions. At the time the existing curriculum and approaches to teacher learning had already been shaped by earlier reforms, including a devolved model of school administration through the systemwide

introduction of the self-managing, government, ‘Schools of the Future’ (Caldwell and Haywood, 1998).

Within this devolved context teachers in Victorian schools could select what they considered to be appropriate curriculum foci and outcomes from eight key learning areas to meet the needs of their student community in the first eleven years of schooling (Prep—Year 10). The eight learning areas were The Arts, English, Health and Physical Education, Languages Other Than English, Mathematics, Science, Studies of Society and Environment and Technology (Board of Studies Victoria, 1995, 2000) and course advice (Directorate of School Education, 1995) offered government school teachers exemplars of course outlines, with implementation supported via teacher briefings and workshops conducted by government-funded and directed central and regional offices.

Within this broader curriculum context, the author’s work related to the Early Years Literacy strategy, which had been developed to support the literacy teaching and learning of students in the early years of schooling (ages approximately 5-10 years). This strategy included the Early Literacy Research Project (Hill and Crèvola, 1998a; Hill and Crèvola, 1998b; Hill and Crèvola, 1999a), the *Early Years Literacy Program* (Education Victoria, 1997f; Education Victoria, 1998b; Education Victoria, 1999b) and accompanying training, conferences, parent initiatives, and annual assessment of reading data collection.

The Early Years Literacy Strategy was designed to support a statewide focus on raising literacy levels in the Victorian government primary school sector (approximately 1200 schools). The strategy involved teachers in professional learning supported statewide by a multilayered professional development and conferences network and aided by teacher and parent advice materials. Videos to support professional learning were key teacher support materials.

A statewide early literacy training team was made up of representatives from the (then) nine metropolitan and regional state education offices. These representatives, all with expertise and experience in the area of early years literacy teaching, worked with the literacy officers from the central office of the Department of Education (including the author) to develop and conduct training in early years literacy. A train-

the-trainer model was deployed to carry out the centrally designed Early Years Literacy Training and regionally implemented professional development program. Regionally-nominated Early Years Literacy Trainers were responsible for regionally-conducted training for school based Early Years Literacy Coordinators. Early Years teachers participated in initial training and ongoing development facilitated by the Early Years Literacy Coordinator at their school. The central office and regional literacy staff met regularly to discuss issues arising from this training; to report on policy developments; and to explore ideas for future resource production. Opportunities for ongoing development were also accessed at a regional level and through statewide and regional conferences.

Since 1997, the Early Years literacy team had worked in a collaborative way with the Schools Television production team members to produce programs which could be available to teachers and trainers both through the satellite television narrowcast facility and on video for use in training programs and teacher school-based, professional learning teams. Schools Television was the Department of Education's narrowcast satellite television network. Victorian government schools and many Catholic and non-government school were connected to the technology via satellite reception infrastructure, including a satellite dish and decoder technology. (The service ceased at the end of 2005, with both low level usage and the medium's lack of support for the sorts of 'on demand' delivery, interactivity and collaboration afforded by the more recent technologies such as video conferencing, web-casting and pod-casting (Department of Education and Training, 2005), cited as the rationale behind the closure.).

In the development of films to support teacher learning, a division of roles between the Schools Television team members and the Early Years Branch members had been negotiated but this increasingly went unquestioned. Basically staff from the Early Years Branch, having a background in education, were responsible for the identification of issues and for finding the 'talent' to be filmed, including 'expert talking heads' and teachers. These issues were generally suggested by the statewide regional training representatives and included topics such as meeting the needs of students who speak English as a Second Language (Department of Education and Training, 2002d) and the teaching of handwriting in the early years (Department of Education and Training, 2002e).

The programs were highly structured and formulaic in nature, with innovation generally only in the area of special effects. The films presented ‘talking head experts’ discussing the theory and teachers showing and discussing ‘best practice’ around an issue. The interview questions and suggested responses had been prepared by the education officers and sent to the teachers before filming. Experts received the questions but not any suggested responses. Generally the experts were interviewed in the in-house studio while the teachers were interviewed in their classrooms. The act of interviewing was performed by a member of the production team with a technical, rather than an educational background.

During film editing, the selection of shots was a collaborative effort between the education officers and the film editor, a specialist rather than an educationalist. However, due to the time consuming nature of this task and the usually short timelines before scheduled screenings, the editor was often left to make final shot selections and sequencing decisions.

The Victorian early years literacy strategy, including professional learning and development of filmed resources, was situated within a broader policy context of devolution of aspects of financial, administrative and curriculum design decisions to government schools and regions. Indicative of broader shifts across Australian states (Blackmore, 1993) devolution occurred in combination with increased governmental emphasis on standards and accountability (Luke, Lingard, Green and Comber, 1999).

Together these shifts contributed to teacher professional learning and film production emphasising ‘risk management and managerialism’ (Comber, Kamler, Hood, Moreau and Painter, 2004, p. 82-3). The model of the Early Years Literacy ‘train-the-trainer’ program and the practices involved in film production showed aspects of a diffusion-adoption model (McDonald, 1988), reflecting the historical positioning of teachers as technicians, or policy implementers in hierarchical relationships with policy makers, researchers and principals (Carr and Kemmis, 1986; Cochran-Smith and Lytle, 1993).

### **Professional learning and film development practices in transition**

A curriculum review in Victorian state education (Kosky, 2003) created an opportunity context for renewed policy directions which acknowledged the changing social and communicative environment. In light of the impact of digital technologies,

prevailing models of curriculum organised around discrete key learning areas were increasingly seen as inadequate.

As Australian responses which acknowledged the changing social, historical and political context began to emerge (Education Queensland, 2002; Luke and Freebody, 2000), pressure was mounted for a broad renewal in Victorian educational policy. As an Early Years literacy policy and project officer, the author's work was to contribute to literacy education policy and program development within this transitional context. My role was development of filmic resources to be used to support teacher learning in the area of multiliteracies (New London Group, 1996; 2000).

Multiliteracies theory addresses two aspects of language use affected by the changing communications environment: the variability of meaning making in different cultural, social or professional contexts and the nature and impact of new communications technologies. Multiliteracies theory argues that contemporary literacy pedagogy needs to engage diverse, multilayered learners' identities so as to experience belonging and transformation in their capacities and subjectivities. Becoming 'multiliterate' involves students in developing proficiency in modal and multimodal meaning-making design, linguistic, visual, audio, gestural, spatial and multimodal designs, with multimodal being a combination of the other modes (New London Group, 1996; 2000). These six modes of meaning-making will be referred to as a 'multimodal schema' throughout this article. The influence of teacher engagement with the 'multimodal schema' is reported on elsewhere (Cloonan, 2005; 2008).

A pedagogy of multiliteracies, featuring teacher integration of four key pedagogical orientations—situated practice, overt instruction, critical framing and transformed practice—was developed to support the development of students' multiliterate capacities (New London Group, 1996; 2000). This four-part pedagogy has been further articulated as student-centred knowledge processes with situated practice described as experiencing; overt instruction described as student conceptualising; critical framing described as student analysing; and transformed practice described as student applying (Kalantzis and Cope, 2004; Kalantzis et al., 2005) . These four pedagogical knowledge processes will be referred to as a 'pedagogical knowledge processes' schema throughout this article. The influence of teacher engagement with the 'pedagogical knowledge processes schema' is reported on elsewhere (Cloonan, 2005; 2008).

The author secured funding for a series of films in which viewers were promised on a poster that they could ‘see the theory in practice demonstrated by Victorian teachers’ (Department of Education and Training, 2003c). Since multiliteracies theory had not been enacted in Victorian schools, in order to ‘see the theory in practice’ fresh approaches to filming were required. A film series ‘Multiliteracies in the Early Years’ was designed – a staged exploration rather than a ‘one off’ showcasing of existing policy theory and implementation. To achieve a staged approach showing development over time, teacher professional learning was required.

Four early years teachers were invited to collaborate in a series of interventions designed to develop classroom based multiliteracies pedagogical understandings and practices. The teachers, drawn from two Victorian government schools—one in inner-urban Melbourne, the other from a small regional town—agreed to participate. Both schools had a high proportion of students from low socio-economic backgrounds. The four teachers collectively had teaching responsibilities for students from Years Prep to 4 (aged 5-10 years). Professor Mary Kalantzis and Dr Bill Cope, developers of multiliteracies theory (New London Group, 1996, 2000), also agreed to share their expertise in workshops and in filmed interviews.

Thus the new communications environment pressured innovations which were a departure from the usual workplace practices. Exploratory approaches to resource filming and professional learning which engaged teachers as collaborators in the theory/practice nexus broke with habitual practices in developing formulaic film resources and train-the-trainer approaches to professional learning.

## Participatory action research and professional learning

The mechanism deployed to engage teachers in professional learning was participatory action-research (Carr and Kemmis, 1986; Kemmis and McTaggart, 2005), prompting a research project which evolved into a Doctoral study. This study sought insights into teachers’ multimodal pedagogical choices as a result of teacher learning. By actively engaging teachers as collaborators, development of the series of films also opened up questions about forms professional learning best able to develop teacher capabilities to operationalise multiliteracies theory and articulate their practice.

The research considered the kind of professional learning that would enable sustained energy by early years teachers in the changing communications environment; professional learning in which teachers could be knowledge collaborators and creators rather than technicians.

Classroom enactments and teacher descriptions of practice filmed and shared with the Victorian early years professional community through narrowcast satellite and teacher learning networks were the focus of the author's workplace requirements. The associated research explored teacher professional learning of multiliteracies theory. Designing and undertaking a research project investigating a work-based professional learning project that broke with the traditions existing within an educational bureaucracy was complex. The research design process was reflective of the view that 'methods are always more or less unruly assemblages' (Law, 2003, p. 11), as was the context in which the research was designed and conducted. The situation called for a method which acknowledged and dealt with the inherent mess of these complexities; and that acknowledged the role of method in not only describing realities but also in creating them (Law, 2004).

Characteristics of effective professional learning were considered when designing the teacher professional learning project and teachers were engaged as participatory action researchers. Critical participatory action research was an appropriate methodology in this instance since 'action research as an expression of a critical approach can, in its turn, inform and develop a critical theory of education' (Carr and Kemmis, 1986, p. 45). The research design involved a small purpose-driven educational community of learners (Wenger, 1999) expanding practices through a spiral of recursive cycles of critical planning, acting, observing and reflecting (Kemmis and McTaggart, 2005; Carr and Kemmis, 1986).

The four teachers collectively had teaching responsibilities for students from Years Prep to 4 (aged 5-10 years) and had classroom teaching experience ranging between eight and twenty-five years. Data collection was conducted over an eight month period and involved sixty-two lessons. The spiral of cycles involved planning, acting, observing and reflecting (Carr and Kemmis, 1986). The relationship between recursive aspects of the action research cycles and professional learning interventions informed by multiliteracies theory is shown in the following figure.

Table 1: Action Research Cycle and Professional Learning Interventions

Participatory action-research stages	Professional learning interventions
Planning	Expert input: multiliteracies schemas Project-focussed workshopping through distributed collegiate mentoring Reflective action planning for classroom applications
Acting	Staged filming of classroom applications Staged filming of teacher interviews including descriptive reflection on classroom applications and professional knowledge
Observing	Collaborative viewing of film artefacts (classroom applications; teacher descriptive reflection on classroom applications)
Reflecting	Collaborative reflection on observed film artefacts

Eight interventions were recursively deployed, in differing combinations, to support teacher professional learning and collection of data. These interventions are described below.

1. Expert input during which teachers engaged with multiliteracies theory. This engagement with theory sought to develop ‘pedagogical content knowledge’ which involves ‘rich and profound understanding of the subject matter one is teaching’ (Shulman, 2005, p. 20). Engaging teachers with others with expertise required consideration of whether there is ‘an expert telling you what to do’ or alternatively ‘enough direction to enable me to find my way...without being prescriptive’ (Comber et al., 2004, p. 82-3). Theoretical input was directed to teacher development as, ‘a scholar, an intellectual, and a knowledge worker oriented toward the interpretation, communication, and construction of such knowledge in the interests of student learning’ (Shulman, 1999, p. xiii). An awareness that ‘teachers may see research as unresponsive to the realities of the classroom or as couched in “user-unfriendly” terms that are difficult to apply to practice’ (Grisham, 2000), led to theory being presented, where appropriate, in the form of schemas or frameworks which had immediate application to classroom contexts.
2. Project-focussed workshopping through distributed collegiate mentoring involved the teachers, theorists and the policy and project officer/researcher as a community of learners (Wenger, 1999) engaging in ‘[f]eedback, debriefs, [and] professional conversations’ (Comber et al., 2004, p. 85), promoting accountability to the team for the quality of teaching (McLaughlin and Talbert, 1993), and enabling problem-solving of curriculum, organisation and learner-related issues. These clarifying workshopping opportunities, positioned teachers as researchers of their own

- practice (Darling-Hammond and Sykes, 1999), considering the theoretical input in relation to specific classroom contextual concerns. It also juxtaposed the theoretical input with ‘pedagogical learner knowledge’ (Grimmet and MacKinnon, 1992), as teachers considered theoretical offerings in connection with the backgrounds, needs, styles and capacities of diverse learners (Darling-Hammond, 1998).
3. Reflective action planning for classroom applications also sought to foreground teacher’s contexts for operationalising multiliteracies theory, acknowledging ‘the importance of working within the teachers’ specific local contexts in order to produce change’ (Comber et al., 2004, p. 86) and involving group problem-solving. Foregrounding classroom applications, teachers planned for enactments which synthesised pedagogical subject knowledge of multiliteracies and pedagogical learner knowledge. As the project developed, a ‘Learning by Design template’ (Kalantzis and Cope, 2004; Kalantzis et al. 2005) was deployed as both a planning and publishing tool, allowing the writing of classroom practice for public sharing, incorporating principles of teacher as knowledge producer or generator (Cochran-Smith and Lytle, 1999). This allowed the desired transparency of pedagogical practices (Elmore, 2002; Luke, 2003), opening these practices to scrutiny by placement of planning documentation in the public realm (Kemmis, 2000; Kemmis and McTaggart, 2005).
  4. Staged filming of classroom applications for public sharing also incorporated principles of teachers as knowledge producers or generators (Cochran-Smith and Lytle, 1999), transparency of pedagogical practices (Luke, 2003); opening practices to scrutiny (Elmore, 2002) by placement of filmed artefacts of classroom applications in the public realm (Kemmis, 2000; Kemmis and McTaggart, 2005). Rather than written representations of teachers’ work, filming broadened understanding of transparency and sharing (Elmore, 2002) to include filmed segments of teachers’ actual practice, an example of educational reform which takes into account ‘teachers as embodied subjects with personal histories and dynamic professional identities’ (Comber et al., 2004, p. 3).
  5. Staged filming of teacher interviews including descriptive reflection on classroom applications and professional knowledge similarly positioned teachers as professional spokespeople and experts, commenting on their classroom practice for

- the film audience. Agentive positioning of teachers shifted their role from an historically hierarchical positioning with knowledge and research to that of ‘researchers, theorizers, activists, and school leaders who generate knowledge for the profession and they also become critical users of research’ (Southwest Educational Development Laboratory, 2002, p. 1). This intervention sought to extend teachers’ influence beyond student learning to school culture and the broader community (Crowther, Kaagan, Ferguson, and Hann, 2002), creating a public discursive space for teacher description and reflection of their classroom operationalising of the multiliteracies-influenced ‘multimodal schema’ and ‘pedagogical knowledge processes schema’.
6. Collaborative viewing of film artefacts (classroom applications; teacher descriptive reflection on classroom applications) positioned teachers as researchers of their own practice (Darling-Hammond and Sykes, 1999), participating in observation and analysis of a shared bank of data of their classroom practice, the product of a knowledge producing community (Kalantzis et al., 2005). Collaborative viewing and reflection on film artefacts provided a stimulus for the learning community’s reflective comment and examination of data, which in turn prompted further planning for implementation through recursive cycles.
  7. Collaborative reflection on observed film artefacts during which the community of learners would view and provide feedback on the ‘fine cut’ of each film, engaged teachers in ongoing reflective examination of their practice. The film artefacts provided a reference point for collaborative viewing, debriefing and ongoing planning, acting and reflection involving a retrospective exploration of events, practices and thought patterns (Schön, 1983). Double loop learning (Argyris and Schön, 1978) undertaken as collaborative reflection within the staged filming process assisted differentiation of unexamined and examined practices, positioning teachers as inquirers into their own practices through examination of personally generated data (Carr and Kemmis, 1986).
  8. Collaborative reflection on data and findings during which the teachers engaged with sources data, providing feedback on film artefacts (classroom applications and teacher descriptive reflection on classroom applications), and teacher-documented ‘Learning Elements’ in which classroom practice was recorded in terms of the ‘pedagogical knowledge processes’, and progressive drafts of tentative findings.

Beginning early in the work-based professional learning project, this continued through data collection and analysis. The sharing of data and findings contributed to professional learning and the trustworthiness and authenticity of interpretations of events (Stake, 1995) through this process of ‘member checks’ (Guba, 1981).

‘Group learning meetings’ involving the team of case study teachers, two theorists from the New London Group and the author, were held away from the daily work of the participating teachers, generally off-site. Group learning meetings included theoretical input contextualising the ‘multimodal’ schema and the ‘pedagogical knowledge processes’ schema, as follows:

- Expert input session one: ‘Multiliteracies Group Introduction’. An overview and rationale for expanding notions of literacy; the ‘why’, ‘what’ and ‘how’ of multiliteracies. Emphasis in this session was the rationale for a need for expansion in perceptions of literacy, or the ‘why’ of multiliteracies.
- Expert input session two: ‘Multiliteracies Group Intensive’. This focussed on the ‘what’ of multiliteracies, that is the ‘multimodal schema’ and the notion of ‘design’.
- Expert input session three: ‘Multiliteracies Group Intensive’. Expert input session three focused on the ‘how’ of multiliteracies, with an emphasis on the Multiliteracies four-part pedagogical schema, ‘Learning by Design’, and the ‘pedagogical knowledge processes schema’
- Expert input session four: ‘Multiliteracies Group Reflection. The focus was on a review of Multiliteracies theory and ‘Learning by Design’ with an emphasis on engagement and transformation of diverse learners engaged and transformed.

Each expert input session was followed by ‘planning’ (Carr and Kemmis, 1986; Kemmis and McTaggart, 2005), through the ‘project-focussed workshopping’ and ‘action planning for classroom applications’ in which possible enactments of theory were considered by the team in the light of the distinctive contexts of individual practitioners and their pedagogical learner knowledge (Darling-Hammond, 1998). The action planning for classroom applications was refracted through the use of the ‘Learning by Design’ ‘pedagogical knowledge processes’ schema which was

introduced during the 'Multiliteracies Group Intensive'. Collaborative viewing and reflection on filmed artefacts involved self and peer 'observation' (Carr and Kemmis, 1986; Kemmis and McTaggart, 2005) of classroom application and of developing teacher knowledge.

'School-based collaborations' involved the researcher engaging with teachers individually and in planning meetings, 'observing' (Carr and Kemmis, 1986; Kemmis and McTaggart, 2005) and collecting data in the school and classrooms contexts. 'Reflective action planning' was undertaken through development of teacher documentation using the 'pedagogical knowledge processes' schema, staged filming and researcher observations captured classroom application 'acts' and teacher understandings as a result of engagement with Multiliteracies theory.

Procedures were established for use in interactions with case study teachers to ensure that processes for data collection were as consistent as possible. Data collection was achieved via the following methods.

Semi-structured interviews, filmed and audio-taped, were conducted between the researcher and individual teachers (Burns, 2000; Taylor and Bogdan, 1998). Filmed interviews were conducted three or four times with each of the case study teachers and occurred in the teachers' classrooms. These interviews focused on the teachers' staged implementation of the 'multimodal schema' and 'pedagogical knowledge processes schema' and included general reflections on developing teacher understandings of multiliteracies theory; outlines of classroom applications at strategic points within the participatory action-research cycle; and descriptions of student responses to these implementations. The interview questions were structured around the analytical categories, however they were emergent in nature and strongly contextualised in teachers' classroom issues and practices. The limitations of filming, including the potential for self-consciousness by participants and their subsequent altered behaviour (Taylor and Bogdan, 1998), were countered by assuring participants prior to filming that they could stop at any time and that any film material they did not want utilised would be discarded.

Film footage of the teachers' deployment of the 'multimodal schema' and 'pedagogical knowledge processes schema' was gathered. Staged classroom filming was utilised at strategic points in the participatory action-research cycle to gain

evidence of classroom enactment of theory, with each classroom filmed on three or four occasions over one or two days. Filmed footage enables detailed descriptions since it preserves classroom practice and can be viewed repeatedly, providing a source of data for focussed practitioner reflection and analysis of teacher enactments and student responses (Bodgen and Bilken, 1992; Stigler and Hiebert, 1997).

Observations were recorded in a Researcher Reflective Journal (Bodgen and Bilken, 1992; Lincoln and Guba, 1985), including participant observations and reflections (LeCompte and Schensul, 1999) relating to teacher learning within the context of the group team meetings (expert input; project-focussed workshopping through distributed collegiate mentoring; reflective action planning for classroom applications classroom; staged filming of classroom applications; collaborative reflection on observed film artefacts) and school-based collaborations (reflective action planning for classroom applications classroom; staged filming of classroom applications).

Film artefacts, resulting from the filming of both classroom applications and semi-structured teacher interviews reflecting on classroom applications and teacher professional learning, fell into two categories: published filmed artefacts which appeared in the Schools Television series of programs, as well as unpublished footage which was, metaphorically-speaking, left on the cutting room floor.

Teacher planning artefacts were also collected in the form of the teacher created 'Learning Elements' using the 'Learning by Design' Learning Element template (Kalantzis and Cope, 2004; Kalantzis et al., 2005). Teachers used the 'Learning Element template' as a reflective and prospective documentation and planning tool to consider teaching already enacted and to plan further enactments.

Collaborative reflection on data and finding was undertaken progressively throughout the work-based professional learning project during which the teachers engaged with data sources through playback of film artefacts (classroom applications and teacher descriptive reflection on classroom applications); analysis of the 'Learning Elements'; and progressive drafts of tentative findings beginning early in the data collection process and continuing subsequent to the completion of the data collection process.

## Conclusion

A participatory action research design designed to engage teachers as knowledge generators accounted for interaction with schemas emanating from multiliteracies theory with a view to practical application, reflection and collegiate sharing. Participation was framed by interventions featuring,

...a lack of hierarchy in mentoring relationships; an emphasis on knowledge production rather than knowledge transmission; the importance of working within the teachers' specific local contexts in order to produce change... grappling with theoretical work... having agency to read these critically and imaginatively (Comber et al., 2004, p. 86)

Resonating with the pedagogical affordances of the communications environment, this research was designed to explore professional learning opportunities for teachers, 'to create as well as consume professional knowledge through self-directed inquiry and research into their own practice' (Grisham, 2000) and avoid a 'devolution drain' experienced by teachers as a result of change management approaches to professional learning (Comber et al., 2004).

Egalitarian outcomes and application of democratic principles present strong reasons for adopting changes in traditional hierarchical flows of knowledge in teacher professional learning and research contexts. However others reasons prevail as well. There is emerging agreement that in an environment where teachers are faced daily with teaching 'digital natives' or insiders, students with lifeworld experiences in the digitised, networked environment are in the strongest position to inform and articulate challenges in teaching digitised learners. In an environment of rapidly changing textual and social practices:

...teachers themselves, exploring in their own classrooms hunches and intuitions about the implications for their teaching can provide the strongest lead as to how the future research agenda should be formulated (Unsworth, 2006, p. 156) after Locke and Andrews (2004) and Leu (2000).

This paper has described the design of a research project, implemented through a case study of participatory action research methodology. It has contextualised the study,

the habitual professional learning and resource development practices deployed in an Australian state department of education.

The researcher's role as a practitioner in developing a series of professional learning interventions has been accounted for, and processes for collaboratively reflecting on the impact of the interventions have been outlined. The inter-relationships between data collection, research design and teacher professional learning have been acknowledged; and the context, parameters and processes of data collection and analysis for insights in the addressing of the research questions, within a work-based professional learning project have been detailed.

This paper illustrates a model for teacher professional learning, resource development and teacher research which moves away from the hierarchical relationships and diffusion-adoption values of a train-the-trainer model. It also incorporates filming as a means of teacher reflection and pedagogies which incorporated multimodal literacy practices as opposed to exclusively print-based practices.

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