Teacher research is a powerful way for teachers to understand how they and their students construct and reconstruct the curriculum. Inquiry stimulates, intensifies and illuminates practice. Out of inquiry come analytic frameworks as well as questions for further inquiry (Lytle & Cochran-Smith, 1997).

Teacher research is systematic, intentional inquiry by teachers about their own school and classroom work. It is systematic in the sense that teachers use ordered ways of gathering and recording data, documenting experiences inside and outside the classroom and making some kind of written record. It is intentional to the extent that the research activity is planned rather than spontaneous so that there is a deliberate inquiry or further discovery as the questions generate the research. It reflects teachers' desires to make sense of their experiences, to adopt a learning stance or openness toward classroom life.

**Teacher Research and Change**

If teachers are to be effective and responsive to change in the characteristics, conditions and learning needs of students, they need substantial professional autonomy and discretion. They need to be flexible, innovative, critically analytical and reflective. Change is best managed by teachers developing new knowledge, skills and understandings through ongoing learning (Smylie, 1996). Darling-Hammond (1996) commented that building knowledge for powerful teaching — helping teachers to develop a wide repertoire of teaching strategies that respond to the demands of subject matter as well as to the needs of children — depends on putting more usefully framed and contextualized knowledge directly into the hands of teachers. This implies a major shift in how knowledge about teaching and learning is generated and disseminated. It poses the notion that building knowledge and capacity in schools through teacher research, makes possible constructivist relationships between school-based research, policy and practice.
Too often teachers are viewed and indeed view themselves, as consumers, not generators of knowledge. Within 'the system' there are writers of curriculum, creators of new teaching strategies, resources, policies and the teachers are expected to implement them. They sometimes work collaboratively, talk among themselves, share what they do, develop methods to respond to the expectations of the system but they do not often generate new ideas, theories or professional knowledge. However, teacher research can change this situation; it can empower the profession. While teachers have always been expected to change their ways of thinking and doing in order to become researchers, to tailor their interests and activities to concur with the current research agenda identified by others, there is an alternative: the building of an autonomous professional community of teaching 'which hosts its own questions and determines ... its own principles of discovery and verification that constitute the ground rules for creating and testing knowledge' (Freeman, 1997: 13).

This view constitutes a shift in focus from the local conversations that teachers constantly share, to a larger forum, the agenda of which is being determined by the teachers themselves. In addition, it positions teachers to select those with whom they want to collaborate in research for the purpose of generating new professional knowledge and grounded theory about learning and teaching. This will serve their interests and is a matter of power and participation.

Hall, Campbell & Miech (1997) noted the need for this shift. They argued that sometimes a single first-person reflection by a teacher on his or her own teaching is worth a hundred academic treatises on how to join educational theory and practice. After all, current teacher research aims to contribute to knowledge about teaching and to move both its practice and its lessons from the private world of good teaching to the public world of debate, discussion and learning. Teacher research can redefine and enrich a knowledge base for teaching; a knowledge base, which in the past, has privileged the work of university researchers. Teachers must be viewed as knowers and not merely as receptacles for others' knowledge. This shift in perspective is critical to altering the cultures of both school and university. Teacher research challenges the hegemony of the university in the generation of expert knowledge for the field and when its outcomes are regarded as a way of knowing, it has the potential to alter profoundly the culture of teaching. Moreover, it can be argued that teacher research and learning are associated with effective planning, problem solving and innovation. These are key factors in organizational adaptiveness, productivity and survival and are essential elements in sustaining change.
... teachers' opportunities to learn should be problem-oriented and grounded in inquiry, experimentation and reflection. They should be collaborative, involving interaction with other teachers and educational professionals as sources of new ideas and feedback. These opportunities should be coherent, intensive and ongoing (Smylie, 1996: 10).

**The Challenges for Teacher Researchers**

In the past, teacher research has been seen as problematic. Freeman (1997) noted that just the very words could suggest that two separate roles are in question — that of teacher on the one hand and researcher on the other. Indeed, historically, it would have been argued that these two roles have different aims: that researchers generate knowledge and teachers implement it. It has also been suggested that there is irreconcilable conflict between the two roles: conflict of purpose and conflict of conduct (Wong, 1995). On the one hand the researcher needs to stand back and observe with no intervention in events. On the other hand, the teacher needs to assist the students in their learning which might alter the phenomenon being investigated. However, this stance must be contested on the basis that a quantitative research approach is being taken to a situation that demands a qualitative orientation. Instead the two roles of teaching and researching should be seen as complementary, with the conscious integration of inquiry and instruction. This is not to say that there will not be an element of tension. As Baumann commented, there can be tensions associated with time and task constraints but not with the conduct of teacher research:

> There exists incredibly strong competition for a classroom teacher's attention and effort before, during and after the formal school day and I found that on occasions, the roles and duties associated with teaching conflicted with the plans that I had for gathering, analysing and reflecting on research data. Time is the eternal lament of teachers .... (Baumann, 1996: 31)

Despite the challenges to teacher research, and the challenges of teacher research, it is a most constructive, relevant, valuable and special type of research. It should be viewed as a new research paradigm, a new research genre. While it is not unlike some other systematic forms of inquiry into teaching, it has the distinctive features of teacher ownership of the research, teachers as the source of the questions,
teachers' unique theoretical frames which are brought to the inquiry and the generalizability of what is learned. If teacher research is viewed as its own genre and teacher researchers as methodologists trying to solve logistical and philosophical problems in classroom inquiry, then any tensions which may arise can be regarded as a creative evolutionary aspect of the research process. Both teaching and research are concerned with processes of knowing and learning. There lies the intersection although research needs to be redefined to make it sensibly and actively a part of teaching.

THE POSSIBILITIES OF TEACHER RESEARCH: RECONCEPTUALISING THE PROFESSION

If research is seen primarily as a process of discovery, then the day-to-day work of a teacher comes under the term. Indeed, it could be argued that what the teacher does not achieve in terms of investigation in the classroom will not be achieved by anyone else.

Educational research is nothing to teachers' purposes unless they formulate the questions and use dialogic processes to answer the questions. This means a change in the quality of teacher interaction. They must serve each other as resources and consultants, share insights, observations and speculations about their work. This will contribute to a change in their sense of professionalism and status within the teaching profession. As a result, their roles and functions in the larger community of educators will be redefined; they will no longer be the peripheral recipients of others' theories, findings and programmes but generate professional knowledge about curriculum, pedagogy and resources. They will find their voices, reject their role as purely technicians and reconceptualize professionalism (Wasser & Bressler, 1996; Freeman, 1997; Lytle & Cochran-Smith, 1997).

Educators who learn in their classrooms, who conduct research and write about their observations become the best possible teachers. In effect, teachers as learners exemplify the dynamic, social, constructivist model of learning that they would want to implement in their own classrooms. Implicit in this reconceptualization of their professional role is critical reflection in action and on action (Schon, 1987). Teacher researchers engage in both these forms of reflectivity; they reflect retrospectively in that they learn 'after the fact' what might be useful for the future. This occurs in the context of their collaborative discussions as they confront a dilemma or new challenge.
Reflection is viewed as a process of becoming aware of one's context, of the influence of societal and ideological constraint on previously taken-for-granted practices and gaining control over the direction of these influences (Calderhead, 1989: 44).

Thus, teachers gain greater professional self-determination through the heightened awareness and understandings that accompany reflection on their own situation. They are well positioned to generate grounded theories about teaching and learning and consequently to recast their roles in educational knowledge building that should ultimately inform curriculum, pedagogy and policy.

**Supporting Teacher Research and Reflectivity**

It cannot be assumed that reflective practice or reflectivity comes naturally to or sits comfortably with all teachers. Calderhead (1989) proposed that, given reflection is a form of appraisal of one's own work, it may require not only the possession of certain knowledge, critical skills and a way of reconceptualising one's own learning as a reflective process but also a basic practical competence together with some degree of self confidence. This implies that reflectivity can be constrained by an individual's professional and personal history. Therefore, to support teacher researchers to actively and effectively engage in reflective practice, reflective journals should be used along with a collaborative forum. Both of these strategies are effective in facilitating reflective practice.

Reflective journals and journal writing are:

- a comprehensive and systematic attempt at writing about ideas and experiences as near as possible to the time of their occurrence, so that over time they might be revisited and examined for the overt and covert messages they contain (Holly and Smyth, 1989: 2).

The effectiveness of journal writing in exploring and clarifying thought has been written about and applauded by language scholars. They believe that such writing is useful in enhancing learning by developing personal understandings through 'easy talk language, not the language of textbook and teacher' (Fulwiler, 1987). Writers explore what they know, what they feel, what they do (and how) and why they
do it. This writing process stimulates higher levels of thinking and an increased awareness of the personal values and implicit theories through which experiences are approached. The benefits of such thinking lie in the broadening of vision, the deepening of understanding, and the increasing of awareness. These enable the writer to ponder upon questions, patterns and themes in her work, uncover dilemmas, paradoxes and contradictions and feel empowered to begin to resolve them. Having teachers engage in such a process must surely contribute to their strengths and abilities as teacher-researchers.

Keeping reflective journals can also be a very empowering strategy. Care must be taken, however, that the journal writing does not simply become a personal introspective record of feelings and responses. If this were the case then there would be little consideration of underlying principles of practice or consequences and an ignoring of the socially and institutionally constructed conditions of teachers' work.

Collaborative discussions effectively stop this problem from arising. Indeed, collaboration to support the teachers as reflective practitioners is critical. No change to understanding or pedagogy has a realistic chance of succeeding unless teachers are able to discuss, define and address problems and challenges as they see them. Fullan (1993) has identified the creation of collaborative settings for joint productive activity as the single most important factor in producing critical reflection and change in education. He argues that there is a ceiling effect on how much we can learn from our personal reflections if we keep them to ourselves. Without collaborative relationships, it is not possible to learn and to continue to learn as much as one needs in order to be an agent for improvement. Individuals should realize that they are not alone in their need to learn. Rather, learning must be seen as a means of increasing one's ability, not as a sign of weakness. The experience of working together enables and encourages teachers to challenge one another's thinking and practice, while a climate of support, combined with a commitment to learning, generates a more rather than less questioning approach to improvement and more rather than less risk taking.

Excellence in teaching involves creativity and innovation on the part of teachers as they make connections between the curriculum and the local experiences, aspirations and contexts of the students (Lingard & Rizvi, 1995).

Collaborative partnerships with university researchers can also support teachers in their research endeavours, particularly in relation to
interpretation of data and the generation of new professional understandings. If teachers are partners in research with university collaborators, the research and its findings are more likely to be used by teachers because of its immediate relevance; there is a greater likelihood that the research will better represent the complexities of the educational situations in which teachers work and narrow the gap between doing research and implementing research findings. Moreover, collaborative university-school research encourages reflection and the taking of action by teachers to deal with the 'messiness of teaching and schooling problems'. Importantly, it legitimates teachers’ professional knowledge and contributes to the 'professionalization' of the teacher researchers. It encourages collegiality among teachers and university colleagues while providing opportunities for teachers to assume leadership roles. Fullan (1993) sees teacher leadership as critical to the change process and research as pivotal to the establishment of an intellectual basis for the teachers to be at the knowledge-building table in the profession.

**Conclusion**

Teacher research is a powerful agent for educational change because the research findings are based not only on the perspective of the practitioner but because the data can contain the rich descriptions and contextual factors that only insiders can supply (Feldman, 1993). In particular, the multiple perspectives, voices and lenses offered and taken in collaborative teacher research are major advantages to the construction of new understandings about teachers' work (Wasser & Bressler, 1996). Throughout the ongoing processes of reflection and interpretation, different issues can be constantly raised from different perspectives. Diverse interests can be represented and new ideas, understandings and professional knowledge can emerge through the resultant creative tensions. Social interaction, engagement in conversation, debate, creative tension, questions and divergent perspectives among individuals, all provoke the development of opinions, understanding and new positions. There is little doubt that people learn from each other as there is also little doubt that interaction between individuals can lead each to new positions in their thinking. Sometimes teachers feel a tension between their roles as researcher and teacher as they struggle to make their research an organic part of their teaching day, examining what they already do, collecting and interpreting data from their work site. However, the cycle of risk taking and learning that occurs within the support of collaboration and dialogue is addictive. When it works well, the tensions and painful
aspects of development are supported by relationships and conversations within the group. The ambiguities become sites for learning; the emotional ups and downs push teacher researchers to continue to be reflective (Christensen et al., 1996). As one teacher researcher commented to the writer:

I am totally committed to the benefits of collaborative teacher research for the school, teacher and students' learning. In an already crowded curriculum, it is difficult to make time for professional dialogue and yet I believe that in the long run, some of the most powerful changes can be achieved through teachers' action research (Potter, 1999).

Research by teachers about their own classrooms and school practices can function as a powerful means of producing professional development, change and knowledge that should form the base of education. Teacher research implemented within a community of professional learners can be at the forefront of educational knowledge building and contribute to the reconceptualization of the teaching profession.

Teachers must act in an imperfect world. To postpone action until the knowledge and technique makers establish the educational millennium is sheer irresponsibility based on illusions of progress. We have no choice but to risk ourselves (Huebner, 1987, cited in Cochran-Smith & Lytle, 1993).

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REFERENCES


