

# TEACHING IN RURAL AND REMOTE SCHOOLS: PEDAGOGIES OF PLACE AND THEIR IMPLICATIONS FOR PRE-SERVICE TEACHER PREPARATION

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## ABSTRACT

*McConaghy suggests that improving quality learning outcomes for students in NSW rural and remote schools requires 'bold pedagogical solutions ... developed in and for the specific contexts of rural NSW schooling' (2002, p.3). This paper seeks to identify elements of this pedagogical solution that could be incorporated into pre-service preparation courses as 'teacher preparation ... is of real and growing importance in the provision of rural and remote schooling' (Green, in preface to Boylan, 2003, p.1). Specifically it addresses pedagogies that are based on a multi-age philosophy and the importance of place and suggests these as elements to underpin pre-service teacher education courses.*

## INTRODUCTION

The provision of quality education in rural and remote schools is a major concern for the NSW Department of Education and Training with key issues associated with the provision of quality learning outcomes for rural students being related to preparing, attracting and retaining high quality teachers. The provision of quality learning requires high quality teachers and teaching (NSW DET, 2003; MCEETYA Taskforce, 2001; Rowe, 2003; Smith, 1998; Yates, 2001) as 'one of the most important factors affecting what students learn is the way they are taught' (Ramsay, 2000, p.13). McConaghy (2002) notes that the:

bold pedagogical ... solutions need to be developed in and for the specific contexts of rural NSW schooling. The basic premise ... is that issues of place and context are important in the identification of the conditions and criteria for quality teaching and learning for rural NSW schools' (McConaghy, 2002, p.3).

The NSW Department of Education and Training has sought to conceptualize quality pedagogy in the Quality Teaching Framework. Intellectual quality is seen as central to pedagogy as research has indicated that pedagogy that focuses on high levels of intellectual quality is beneficial to all students (NSW DET, 2003). This intellectual quality is underpinned by the dimensions of quality learning environment and significance, dimensions that I consider to be the 'enablers' of intellectual quality. A quality learning environment seeks to engage and support students in their learning whilst the dimension of significance 'refers to pedagogy that helps make learning meaningful and important to students' (NSW DET, 2003, p.9) and includes connecting learning to the students and contexts outside of the classroom. I argue that this contextualization of learning is a necessary part of establishing a quality learning environment and that it is crucial to intellectual quality. Significance of learning is therefore the foundation on which quality teaching and learning experiences are constructed and as a result pedagogy can be seen as being a situated practice (McConaghy, 2002).

Ramsay (2000) states that 'more specific strategies are required to meet the preparation and career-long professional development needs of teachers in outer metropolitan, rural and isolated communities' (Ramsay, 2000, p.51). In this literature review I seek to identify the pedagogies of rural and remote places and their schools that can be incorporated into pre-service teacher education courses to focus on the preparation of quality teachers in and for rural and remote schools in order to improve the quality of student learning outcomes.

## THE IMPORTANCE OF PLACE

The incorporation of the Significance dimension into the NSW Model of pedagogy foregrounds the importance of connecting learning experiences to the student and their background in order to make learning meaningful and important (NSW DET, 2003). It therefore suggests that place is important. The renowned educator John Dewey, noted in the late 19<sup>th</sup> century that a disconnection existed between school and the real world in which students live their lives. He wrote:

From the standpoint of the child, the great waste in the school comes from his inability to utilize the experiences he gets outside the school in any complete and free way within the school itself; while on the other hand, he is unable to apply in daily life what he is learning in school. That is the isolation of the school, its isolation from life. When the child gets into the schoolroom he has to put out of his mind a large part of the ideas, interests and activities that predominate in his home and neighbourhood. So the school, being unable to utilize this everyday experience, sets painfully to work, on another tack and by a variety of means, to arouse in the child an interest in school studies' (Dewey in Dworkin, 1965, p.76).

Knowledge is best constructed through experience rather than through the mediated experiences of others and despite the acknowledgement in the NSW model of the importance of connecting learning to the student and their background, I would suggest that learning experiences in schools are very much decontextualized and mediated through curricula based on mandated generic syllabus documents, standardized testing requirements and texts and media that focus on other people in other places (Gruenewald, 2003a). As a result, what is taught in schools has little direct bearing on the students or the environment and community in which they live.

Gruenewald (2003a) supports Dewey's viewpoint and goes further to see place as being profoundly pedagogical because 'as centers of experience, places teach us about how the world works and how our lives fit into the spaces we occupy. Further, places make us: as occupants of particular places with particular attributes, our identity and our possibilities are shaped' (Gruenewald, 2003b, p.647). These place-based pedagogies 'are needed so that the education of citizens might have some direct bearing on the well-being of the social and ecological places people actually inhabit' (Gruenewald, 2003b, p.3).

Place-based education does not dismiss the importance of content and skills that are articulated in generic syllabus documents, but seeks to place them in a relevant framework that directly relates to student experiences in a community and place (Gruenewald, 2003b; Smith, 2002). By situating the curriculum in the local area it is possible to develop teaching/learning experiences around cultural studies, environmental studies, real-world problem-solving and community involvement (Smith, 2002) and in so doing deepen knowledge through the understanding of the familiar and

the accessible (Smith, 2002). The resultant greater understanding often gives students a stronger impetus to apply their problem-solving skills to local issues and has the potential to foster a sense of responsibility and commitment to the local community and environment. From this base of familiar place-based experiences, place-based education enables students to recognize their interconnectedness with places beyond their own location and moves them to 'examine more distant and abstract knowledge from other places' (Smith, 2002, p.590).

Situating learning in the local area has positive effects on student motivation for and engagement in learning and on achievement (Powers, 2004; Smith, 2002) resulting in effective learning outcomes because students are able to connect subject matter to their lives and surroundings. This is true of learning in all schools, however, I would suggest that it is particularly important in rural and remote areas where schools have long histories and as a result are likely to be integral parts of their communities. In some areas, where declining populations have led to the withdrawal of services such as shops, banks, post-offices and rail links and a subsequent reduction in employment opportunities, the school may be the sole community focus. By grounding learning 'in the resources, issues and values of the local community and (by focusing) on using the local community as an integrating context for learning' (Powers, 2004, p.17), place-based education has the potential to move beyond quality learning in the classroom to strengthen the social fabric and improve the community's environmental quality as the community takes on roles in the classroom and students undertake authentic tasks in the community.

This transformative potential of place-based education suggests that pedagogies of place constitute an aspect of McConaghy's 'bold pedagogical solutions' (2002, p.3) that are necessary to improve the quality of teaching and learning in rural and remote schools. Pre-service teacher preparation is generic, a one-size-fits-all model that does not take into consideration the differences between schools or situate practice in particular locations. Whilst it is acknowledged that graduating teachers will teach in a broad range of contexts, and therefore it is inappropriate to situate pre-service teacher preparation in one context to the exclusion of others, I would suggest that all pre-service teachers need to examine 'how the exploration of places can become part of how curriculum is organized and conceived' (Gruenewald, 2003b, p.8) to develop an authentic, connected curriculum that links their students to the community and its location in order to enhance learning outcomes for all students and to provide them with a meaningful platform from which to explore the diversity of other places and experiences.

## **MULTI-AGE PEDAGOGIES**

Schools in rural and remote areas are characterized by multi-grade classes where one teacher is responsible for teaching two or more year levels in one classroom (Marland et al., 1994). In 1990 34% of Australian primary schools had enrolments under 100 students, necessitating the formation of multi-grade classes. This figure did not include the larger schools that needed to form multi-grade classes due to lack of teaching staff or the student numbers required to form separate grades nor did it include schools that chose to form multi-grade classes (Marland et al., 1994). An analysis of NSW Department of Education and Training primary schools in 2001 revealed 525 schools with enrolments under 100, the majority of which were located in rural areas. Despite the prevalence of multi-grade classes and the identified need to incorporate preparation to teach in multi-grade classes into the pre-service training of rural teachers (Boylan,

2003; Gibson, 1994; Lake, 1986, cited in Boylan, 2003; Surwill, 1980; Yarrow et al., 1999), the lack of preparation for multi-age classrooms is affecting the quality of education of many students in rural schools (Clarke, 1990, cited in Boylan, 2003; Yarrow et al., 1999). In this section of the review I examine the pedagogies of multi-grade teaching that have the potential to provide quality teaching and learning for students in rural and remote schools and then identify the implications for pre-service teacher preparation.

Research into the pedagogies of multi-grade teaching is beleaguered by the plethora of terms assigned to this organizational structure, terms that are frequently used interchangeably. Multi-grade, multi-age, multi-stage, un-graded, non-graded, mixed-age, mixed-grade, split-grade, combination, blended, double, composite, vertical grouping, family grouping are all terms applied to situations where students of two or more grades are taught together in the one classroom and the definitions used often appear to be contextualised to countries and education systems (Russell, et al., 1998).

The blurring of definitions makes the comparison of research difficult due to the number of variables including the reason for the formation of the class, the location, school type and size, student ability and teacher quality. However, because there is either an organizational or a philosophical basis for the formation of these classes (when there is the option), the terms multi-grade and multi-age will be used with the following definitions for the purposes of this study.

A multi-grade class is one where a teacher is responsible for two or more year levels in the one classroom and where the rationale for the class structure is based on numbers rather than any policy concerning student progress (Lloyd, 2002; Russell et al., 1998). A multi-age class is a specific type of multi-grade class that has been formed for philosophical rather than organizational reasons. 'A multi-age class is a class composed of children of different ages intentionally grouped for learning' (Politano & Davies, 1994). In NSW classes that are composites of two or more grades tend to be multi-grade classes due to school size or enrolment numbers rather than having a specific philosophical focus. Multi-grade classes are therefore found in all school types from small rural to large urban schools. It should be noted however, that regardless of the reason for class structure, all classes are in effect multi-grade as they are constituted of students whose abilities cover more than a single year range. As a result the skills of teaching a multi-grade class should be the skills of effective teaching in all class structures.

## **MULTI-GRADE CLASSES**

Many teachers view composite classes with horror believing that teaching more than a single grade is more difficult in terms of heavier teaching demands and classroom management issues (Veenman, 1996) and that better teaching occurs in single grade classes (Russell et al., 1998). Analysis of multi-grade studies shows that they tend to focus on the disadvantages rather than the advantages of this form of classroom organization, possibly due to the negative reasons for forming this type of class (Veenman, 1996). Falling enrolments or uneven class sizes often lead to the formation of a class which is an anomaly to the rest of the school and which is seen as being imposed on the school community. With the rest of the school being graded the multi-grade class is often viewed as being what the single grade classes are not, despite the

wide range of abilities and interests in single grade classrooms, and as a result teachers, school leaders and parents often have a negative view of multi-grade classes (Russell et al., 1998).

These negative perceptions held by teachers are based on the range of students and the subsequent impact of increased workload and ability to cater satisfactorily for these diverse needs (Russell et al., 1998). In addition, parents may believe that their child will be disadvantaged in this type of class and are concerned about their academic achievement (Russell et al., 1998; Veenman, 1996). The school's policy for the establishment of a multi-grade class often gives the message that this form of class is inferior. For instance, a study of multi-grade classes in Victorian primary schools revealed that 80% of the sample indicated that where possible students would be placed in a single grade class the following year (Russell et al., 1998). In addition, the NSW education system is firmly based on a grading system with primary schools staffed on a K-6 basis implying seven grades rather than the four stages around which the syllabus documents are structured. Basic Skills and other state-wide tests are designed for specific grades and with the results being compared in the public arena, graded achievement expectations are held by all sections of the school community. This focus on grades is a possible explanation for the numerous disadvantages associated with multi-grade classes.

Teachers of multi-grade classes tend to be less satisfied than their single-grade colleagues (Veenman, 1996), identifying a range of disadvantages of multi-grade teaching including:

- greater workload as a result of the challenge of teaching two or more grades (Russell et al., 1998; Veenman, 1996),
- lack of time for preparation (Muse et al., 1998) and for teaching the required content (Veenman, 1996),
- difficulty of planning for multiple grades (Muse et al., 1998),
- parental concern about the academic achievement of their children (Russell et al., 1998; Veenman, 1996) and
- difficulty with organizing the class for independent practice or learning due to the wide range of abilities (Russell et al., 1998; Veenman, 1996).

These disadvantages of multi-grade classes are largely due to perceiving the class as two or more separate grades with grade expectations to be retained and the belief that there is a smaller range of abilities in a single class. However experience and research have shown that the assumption that students of the same age are developmentally similar (the assumption underlying single grade classes) is seldom true (Ong et al., 2000).

Due to the wide range of class structures that can be grouped under the multi-grade umbrella and the lack of clear definition or commonality of variables, it is difficult to ascertain the impact of the multi-grade class on academic achievement. Veenman's (1996) meta-analysis of studies indicated that there were no significant differences in achievement between multi-grade and graded classes whilst Russell et al. (1998), in a comprehensive three year longitudinal study of school and teacher effectiveness in multi-grade classes in Victoria, found little, or a slightly negative, effect. There are, however, potentially negative impacts on student motivation due to the wide range of students and the emphasis on grades as 'competitive grading (and associated practices)

provides many more students with reason to feel bad rather than good, reducing the motivation of students' (Pressley et al., 2003, p.6).

Teachers generally feel that they are not adequately trained for multi-grade teaching (Veenman, 1996). 'We think teachers will require considerable support and will need to expend considerable effort to reap rewards from these classrooms. Lacking such support, most teachers find multi-grade classroom environments difficult to manage ...' (Mason & Burns, 1996, p.319, cited in Russell et al., 1998). Strong, experienced teachers (Russell et al., 1998) with high quality skills (Marland et al., 1994) are required for these classes and several studies have sought to identify the characteristics and skills of effective multi-grade teachers. To cater for the diversity of individuals they employ a variety of strategies. Effective teachers:

- recognize the abilities of their students and have realistic expectations of them (Marland et al., 1994),
- are skilful in the use of group work and use a variety of groupings to cater for individual needs (Marland et al., 1994; Russell et al., 1998),
- utilize cross-grade tutoring (Russell et al., 1998),
- have an excellent knowledge of the curriculum and are able to integrate content to teach the whole class but differentiate the process and/or product to meet the needs of individuals or groups (Phillips et al., 1993, cited in Marland et al., 1994; Marland et al., 1994; Russell et al., 1998) and
- have good organization and management skills that include efficient classroom routines and develop self-management skills in their students (Marland et al., 1994; Russell et al., 1998).

These characteristics of effective multi-grade teachers and teaching are also the characteristics of good teachers and teaching in any situation and have significant implications for pre-service teacher preparation and for the provision of quality learning outcomes for students in all schools.

## **MULTI-AGE CLASSES**

In contrast to multi-grade studies, multi-age studies tend to focus on the advantages of this form of classroom organization (Veenman, 1996). This is possibly due to the underlying philosophy that focuses on learners and their learning rather than meeting grade requirements (Politano & Davies, 1994) and the formation of the class by choice (Lloyd, 2002). In a multi-age class the teacher focuses on meeting the needs of individual learners rather than the group (Hoffman, 2003; Kelly-Vance et al., 2000; Politano & Davies, 1994), a philosophy that is based on child-centred learning where children progress at their own rate of development regardless of age (Bingham et al., 1995; Gutloff, 1996; Heins et al., 2000). It is a philosophy of inclusion that embraces and celebrates diversity, enabling students to work with diverse learners of a wider and more natural developmental range than those found in single-grade classes (Bingham et al., 1995; Politano & Davies 1994). This removal of the artificial barriers of single-grade classes creates a more authentic learning environment that reflects the natural neighbourhood or family interactions with children of various ages (Bingham et al., 1995; McCarthy et al., 1996) and encourages collaboration and cooperation. Teachers deliberately organize groups in the classroom to capitalize on the range of abilities to enable modelling and scaffolding which allows students to work with more able students but within their zone of proximal development (Bingham et al., 1995;

Hoffman, 2002; Kelly-Vance et al., 2000; Lloyd, 2002). In this way younger students learn from older students who have the opportunity to act as peer tutors and leaders, thus enhancing their self-esteem, and who in turn learn through teaching that reinforces their own learning (Bingham et al., 1995; Hoffman, 2002; Kelly-Vance et al., 2000; Lloyd, 2002; Ong et al., 2000; Wall, 1994). In addition to learning, younger students engage in a wider range of social experiences that enhances their development (Lloyd, 2002). Studies that focus on children aged eight years or younger indicate that the educational practices most beneficial to young children – child-centred learning, integrated curriculum, peer-tutoring and variety of groupings – are those characteristic of non-graded or multi-age classes (Cotton, 1993).

Students are not academically disadvantaged in a multi-age classroom and research generally indicates social and academic gains are better than, or at least the same as, in a single-grade classroom (Anderson & Pavan, 1993, cited in Lloyd, 2002; Bingham et al., 1995; Kelly-Vance et al., 2000; Lloyd, 2002; Ong et al., 2000; Veenman, 1996). Gifted and talented students appear to be advantaged as they are able to work on differentiated programs within the classroom rather than in separate classes (Lloyd, 2002) and students with problems can work at their own level without any obvious need for remediation or the emotional and social problems that can result from retention in grade (Cotton, 1993; Lloyd, 2002). 'The teaching practices used make it more likely that a child's needs can be catered for within the class without the problems of liaison, coordination and timetable reshuffling' (Lloyd, 2002, p.7).

The multi-age classroom is not one where single grades are taught separately. To teach more than one grade at a time teachers use curriculum knowledge and understanding of their learners and the learning process to create integrated programs around topics or concepts common to all students with open-ended tasks to cater for diverse needs. Content, process and product can all be varied within a topic common to all students. An integrated curriculum with open-ended tasks allows students to achieve at their own developmental level (Elliott, 1997a), enables more relevant learning than when skills are taught in isolation as well as providing more opportunities for collaborative and cooperative work (Bingham et al., 1995). Learning is significant when connections can be made between what is known and what is being learnt and a wider range of possible connections exists within the diversity of the multi-age situation (Politano & Davies, 1994). Although cross-grade teaching is the norm, some grade-specific material needs to be taught to meet state mandated requirements but this can be accommodated through the effective use of flexible groups – whole class, individual, pairs, small groups – which are created depending on need and purpose (Hoffman, 2002).

Lolli (1998) identifies a range of features of the multi-age classroom that foster a positive and supportive classroom environment including a sense of community and family that develops through cooperative learning and developmentally appropriate practices, the element of student choice in their learning; a wider range of friends and the continuity of teacher for more than one year. As a result, students tend to like school more, leading to better social interactions, self-motivation and independent skills, cooperation and positive attitudes towards school (Bingham et al., 1995).

Unlike teachers of multi-grade classes who listed the teaching disadvantages of the multi-grade structure, the multi-age teacher is able to see the development of each student over an extended period, take advantage of the natural opportunities for

collaborative work, benefit from having students for successive years so that the older students can model appropriate behaviours and expectations to the newer students thus reducing the set-up time at the start of the year and create a learning community in which the teacher is a co-learner and facilitator of learning (Bingham et al., 1995; Elliott, 1997b).

The characteristics of effective multi-grade teachers listed in the previous section are the same characteristics that appear to be exhibited by teachers of multi-age classes, suggesting that the use of the multi-age philosophy and strategies are required for effective multi-grade teaching. What features of multi-age teaching have the potential to raise the profile of multi-grade classes and create a multi-grade pedagogy that can provide quality learning outcomes for students in rural NSW?

## **IMPLICATIONS FOR RURAL AND REMOTE SCHOOLS**

The NSW Model of Pedagogy (NSW DET, 2003) has been designed to identify the elements of pedagogy that are characteristic of high quality teachers and teaching because 'it is the quality of the pedagogy that most directly and most powerfully affects the quality of learning outcomes that students demonstrate' (NSW DET, 2003, p.4). The model is based on three broad dimensions of intellectual quality, quality learning environment and significance and it is through this framework that elements of multi-age teaching can be evaluated in an attempt to identify those that can create a pedagogy for multi-grade classes that have the potential to deliver quality teaching and learning in small rural schools where multi-grade classes are the only option. The key aspects of multi-age teaching to be examined as a result of the literature survey are the underlying philosophy, and the use of an integrated curriculum and the effective use of a range of groupings as strategies to support individual learning within the multi-grade framework.

Small schools in rural and remote NSW are multi-grade schools or contain multi-grade classes by necessity due to small enrolments. The exact class structure depends on the school's enrolments, but P6 schools (with enrolments of 25 or less) are one-teacher schools, small P5 schools with two teachers will have a lower and upper class whilst schools of three or more teachers tend to structure classes around successive grades. Because there is no choice in the type of class formed (unless a multi-age philosophy is employed and that is seldom the case) and because of the lack of pre-service training in teaching multi-grade classes, it is possible the negativity associated with multi-grade classes can lead to the notion that small rural schools are particularly difficult due to the number of grades being taught. However, rural schools are more supportive of multi-grade classes than urban schools (Russell et al., 1998; Veenman, 1996) due to the support of the community and the history of multi-grade classes with several generations having attended the school.

With a one-size-fits-all pre-service training that prepares teachers for single-grade classes, young and inexperienced teachers often try to impose the graded structure that is implicit in the NSW system. 'Many multi-grade classes are in practice two or more single-grade classes with less direct instruction from the teacher and more individual/independent work from the students' (Lloyd, 2002, p.5). This focus on teaching individual grades within a class is an impractical method of teaching a class of up to seven different grades yet it is often the practice in small schools where students are seated and taught in separate grades and the teacher creates individual programs to



cater for individual needs. It is a method that encapsulates the negative features of multi-grade classes identified in the literature and it fails to capitalize on the sense of community and opportunities for cooperation and collaboration that naturally characterize the small school.

Effective multi-grade pedagogy for rural and remote schools needs to include:

### **1. Multi-age philosophy**

The multi-age philosophy that focuses on the learner and learning rather than grades is inclusive of all learners and teaches all students together (as opposed to single grades) in a cooperative and collaborative environment has the potential to change the negative view of the multi-grade class. It is a philosophy whose expectation is diversity (Hoffman, 2003) and that gets 'beyond the expectation that everyone needs to be doing the same thing at the same time in the same way' (Politano & Davies, 1994, p.35). Its aim is to enable students to 'make continuous progress at their own rate of development' (Heins et al., 2001, p.31). The resultant supportive classroom environment promotes individual learning through cooperation rather than competition, a situation that increases student motivation (Pressley et al., 2003) and which has the potential to embrace the elements of the NSW model's quality learning environment dimension. 'Classrooms in which there is a strong positive and supportive learning environment produce improved student outcomes' (NSW DET, 2003, p.4). Whilst Lloyd (2002) believes that there is no reason why individual teachers can't implement a multi-age philosophy, it cannot be assumed that teachers necessarily share the philosophy or have the strategies necessary to implement it. This highlights the importance of recognizing that the implementation cannot be left to chance if this changed perspective is an essential component of a quality multi-grade pedagogy for quality rural student outcomes. 'Exposure to the philosophical underpinnings of a multi-age approach to classroom structure' (Lloyd, 2002, p.8) needs to be incorporated into pre-service teacher education courses.

### **2. Curriculum integration**

An intimate knowledge of syllabus documents and the ability to integrate the curriculum have been identified as key skills of effective multi-grade and multi-age teachers (Elliott, 1997a; Marland et al., 1994; Russell et al., 1995). Curriculum integration is a strategy that enables students to work on the one topic that is based in the curriculum and to work at their own level through open-ended tasks that differentiate the process and/or product. Through this strategy the teacher is able to effectively teach across the grades whilst catering for individual needs.

The process of integration enables in-depth teaching and learning through an interdisciplinary approach to a single topic rather than attempting to teach multiple topics and subjects in a fragmented manner. This concentrated focus provides the opportunity to develop pedagogies associated with high intellectual quality (NSW DET, 2003). An integrated curriculum also provides opportunities to make learning relevant by making connections between what is known and what is learnt, between subjects and between the classroom and the outside world. The rural or remote school is in an ideal position to develop the relationship between inside and outside the classroom as the school is located in its community and is well supported by, and is often the focus of, the community especially in areas where services such as shops, post offices and banks have closed down. The opportunity exists to ground the curriculum in the experiences of

the students and in the local area (Smith, 2002) as place-based learning enables students to see the direct significance of their learning to their own lives and community. Instruction that makes connections across lessons and activities as well as relating them to the experiences of the students and the outside world promote academic achievement and student motivation (Pressley et al., 2003).

Pedagogies that promote intellectual quality and produce a supportive learning environment are developed through making connections to prior learning and to contexts outside the classroom. The use of an integrated curriculum, especially with a local focus, strongly promotes the NSW model's dimension of significance as 'to achieve high quality learning outcomes for each student, students need to see why, and to understand that their learning matters' (NSW DET, 2003, p.14). Curriculum integration sits well within multi-age philosophies, and allows teachers to make the most effective use of the range of student interests, experience and abilities in their classrooms.

### **3. Effective use of flexible groupings**

'A hallmark of multi-age classrooms is their collaborative environments' (Hoffman, 2002, p.52) and effective multi-age teachers plan their instruction to take place within the collaborative peer learning context. The very concept of the multi-age class implies the need to utilize a variety of groupings on a daily basis to meet the needs of individual students, to meet state mandated requirements such as Basic Skills testing and to capitalize on the advantages of the collaborative environment. To effectively utilize groups, teachers need to establish a classroom environment that supports the use of a variety of groupings during the course of a day. All groups allow for heterogeneous groupings to take advantage of the mix of cognitive abilities (Hoffman, 2002). According to Hoffman the use of cooperative learning strategies requires teachers to instruct and model high quality interaction skills to support group learning. Teachers must also plan collaborative tasks that allow the group to share the cognitive responsibility (Palincsar & Herrenkohl, 1999, cited in Hoffman, 2002) but which incorporate an individual component that allows individual demonstration of achievement (Hoffman, 2002; Pressley et al., 2003), and utilize authentic assessment methods based on the individual rather than the collaborative task (Bingham et al., 1995; Elliott, 1997a; Heins et al., 2000).

In summary then, the use of collaborative and cooperative learning strategies has the potential to embrace all three dimensions of the NSW model of pedagogy and to provide quality teaching and learning in rural and remote schools. The collaborative environment and the flexibility of multi-age groupings that are seen as key elements of the multi-age classroom (Hoffman, 2002; McCarthy et al., 1996) are reliant on the diversity of learners. Lloyd (2002) questions whether the limited number of students in small schools will reduce opportunities for successful groupings and peer learning. Whilst the reduced diversity limits the range of multi-age groupings that can be utilized, there will be, even in the smallest school, the opportunity for collaborative work and the differentiation of tasks so teachers need to be competent in effectively using groups.

## IMPLICATIONS FOR PRE-SERVICE TEACHER EDUCATION

Provision of quality teachers is the key to improving the quality of learning outcomes for students in rural and remote schools. Quality teachers in these settings will be teachers who have effective philosophies and skills for teaching the multi-grade class that is the norm in small schools. The philosophy that underpins multi-age classes, with its strategies of curriculum integration and effective use of groups does appear to promote quality teaching. It also has the potential to transform multi-grade teaching into pedagogy that provides quality learning outcomes for students in rural and remote schools.

It would be foolish to suggest that these practices are not currently used in rural schools as many teachers utilize multi-age strategies to effectively manage their multi-grade classes. It is ironic that although these are practices that originated in one-room schools out of necessity, they are also now being seen as practices desirable in larger schools (Smith, 1998) because the educational value of having a learning community of diverse learners that work in a collaborative and cooperative manner. However, the provision of teachers with these philosophies and skills should not be left to chance. If there is genuine concern about the provision of quality teaching and learning in rural and remote schools in NSW and if a relevant, broad pedagogical solution is to be found (McConaghy, 2002), then there are clear implications for pre-service teacher preparation.

As I argue in this section, one of the consistent themes in both multi-grade and multi-age literature is the identified need for pre-service training in multi-grade teaching. According to Herzog (1998) and Yarrow et al. (1999), it is particularly necessary for teachers in rural areas where multi-grade classes are the norm and where the lack of preparation for multi-grade classes affects the quality of education for many students in rural and remote schools (Yarrow et al., 1999). 'The professional training of rural teachers should prepare them to teach in multi-grade classes' (Surwill, 1980, p.5). Gibson and King (1998, cited in Boylan, 2003) reviewed the level of pre-service rural preparation offered by 27 universities in Australia and found that programs either omitted or were deficient in pedagogy of multi-grade classes and multi-age group strategies, in the management of lower grade students in multi-grade classes, and in the adaptation of the curriculum to the multi-grade situation. A review of the documentation of NSW primary teacher preparation programs (Boylan, 2003) suggests that only one university, Charles Sturt University, offers a rural education subject in its primary program (although this is not compulsory across all campuses) and no university has a compulsory rural practice teaching experience. NSW teacher education courses prepare teachers for single grade classes despite mandatory syllabus documents organized around Stages as the majority of schools are structured around grades and teachers tend to think of classes in terms of grades. This focus leads to lack of preparation for multi-grade teaching and perpetuates the view that multi-grade classes are undesirable, a process that further marginalizes rural areas.

## PROFESSIONAL EXPERIENCE – SITUATING PRACTICE

The importance of place and the pedagogical skills required to teach the multi-grade classes that characterize many rural and remote schools suggests that a rurally situated

professional experience, to provide practice in these pedagogies and to enable the pre-service teacher to gain a first-hand understanding of living and teaching in a rural or remote community for an extended period of time, should be an essential component of the pre-service preparation of rural teachers. This is supported by researchers (Boylan, 2003; Gibson, 1994; Sharplin, 2002; Surwill, 1980; Yarrow et al., 1999) who believe that such an experience would help overcome the problems of social dislocation that make it difficult to attract and retain teachers in rural and remote schools (Gibson, 1994). Becoming familiar with these areas during their pre-service course may encourage more graduate teachers to teach in rural and remote schools (Gibson, 1994; McConaghy & Bloomfield, 2004).

Despite the importance of a rurally situated professional experience in preparing teachers for rural and remote schools, no university includes a mandatory country placement as part of its pre-service course (Boylan, 2003; Halsey, 2005). The undertaking of such an experience is optional, dependent on student choice and the availability of placements where suitable accommodation is available. The most significant barrier to students undertaking such a placement is the cost to students who are faced with the cost of traveling long distances, of accommodation for the duration of the professional experience whilst having to maintain rental commitments, and of lost part-time earnings. This heavy cost, often compounded by family commitments and the need to maintain paid employment, means that few pre-service teachers have first-hand experiences in rural and remote areas (Halsey, 2005).

How to 'expose students to a broad representation of rural contexts' (Sharplin, 2002, p.8), and to effectively situate core subjects and professional experience in rural and remote schools is a challenge to teacher education institutions that aim to prepare rural teachers.

## CONCLUSION

With rural schools frequently staffed by young, inexperienced teachers and with the high teacher turnover leading to lack of staff continuity, the responsibility for providing quality teachers for rural and remote schools resides in pre-service teacher education so that all beginning teachers are well prepared for rural and remote settings.

Pre-service preparation for these contexts should not be left to chance. It needs to be deliberate, coordinated and compulsory. Perhaps the boldest solution to the provision of quality teachers and learning in rural and remote schools lies in the explicit incorporation of the multi-age elements of philosophy, pedagogies of place, curriculum integration and effective use of a variety of groupings into the core subjects of primary education courses and supporting this by situating practice through rurally contextualized subjects and with a multi-grade teaching experience (Boylan, 2003; King & Young, 1996; Yarrow et al., 1999). In this way quality teaching and learning would be available to all students and all beginning teachers would be prepared to teach in multi-grade classes whether in rural or urban settings.

Based upon the previous sections of this review, it is recommended that the following elements underpin primary pre-service courses:

**1. A change in focus from single-grade to multi-grade preparation.** Pre-service training that provides all beginning teachers with a multi-age philosophy that focuses on learners and learning in a collaborative, cross-grade setting rather than teaching individual grades, the knowledge and skills of curriculum integration and flexible grouping, and professional experience in multi-grade settings should ensure that rural and remote schools are staffed by well trained teachers who are able to provide quality teaching and promote quality student learning outcomes. In addition, it would help overcome the negative perceptions of multi-grade classes in any context and provide the framework for meeting the needs of learners in all school situations.

**2. A philosophy to embrace and celebrate diversity.** A focus on multi-age philosophy would involve a philosophical approach to teacher education that is based on the learner and their continuous development and which embraces diversity and teaches through collaboration and cooperation. The development of this philosophy should include an understanding of diverse learners including children with special needs and Aboriginal students (Tomlinson, 1994, cited in Boylan, 2003). These are philosophies that form the basis of a quality learning environment in which quality learning can occur.

**3. A focus on the development of an integrated curriculum.** To be able to integrate, teachers need to have a thorough knowledge of syllabus documents with an awareness of cross-grade links in addition to separate content knowledge (King & Young, 1996) and these skills need to be a focus of pre-service courses. The current NSW K-6 syllabus documents have the potential to address the multi-grade situation with their stage structure already incorporating two grades. In addition, the spiral nature of the documents and the revisiting of broad topics and concepts clearly support curriculum integration and cross-grade teaching. The inclusion of curriculum integration in pre-service teacher education would provide opportunities to develop the elements of intellectual quality and significant learning.

**4. A focus on the importance of place.** Skills in developing a place-based curriculum should be included in the pre-service course to enable teachers to prepare teaching/learning experiences that are relevant to their students. A place-based curriculum connects students directly to their community through content being studied, utilizing the community's resources and undertaking direct experiences in the community that provide authentic foci for the development of problem-solving and community participation skills. In addition to providing learning experiences that are relevant to the students and their background, foregrounding the curriculum in the local area has a direct bearing on the wellbeing of the community.

**5. Practical skills in flexible grouping.** The concept of a multi-grade class implies a range of abilities that will require group work. Beyond this, the multi-age philosophy of collaboration and cooperation implies a variety of groupings including peer tutoring and cooperative groups. 'Pre-service courses for teaching in multi-grade situations should also include grouping techniques and information on the many variables and uses of grouping' (King & Young, 1996, p.35), strategies that have the potential to embrace all three dimensions of the NSW model of pedagogy.

**6. Finally it is necessary to rethink the generic model of pre-service teacher education.** Pedagogy is situated practice (McConaghy, 2002). A course that aims to prepare teachers for rural and remote settings should provide opportunities for core

subjects and professional experiences to be situated in rural and remote schools. In this way pre-service teachers are able to gain first-hand experiences in living and teaching in rural areas, enabling them to develop their skills of teaching multi-grade classes and contextualizing their teaching to the local area as well as developing an understanding of rural communities and the issues that impact on them. This situating of subjects and professional experience has the potential to overcome pre-service teachers' concerns about rural and remote teaching and to address some of the issues of attracting and retaining teachers in these areas.

Whilst these recommendations are suggested for all primary pre-service courses, this is not to suggest that teachers would be fully prepared for rural and remote settings as they still require studies in rural sociology, familiarity with small school operations and exposure to the broad range of school structures in these areas. However, shifting the focus from single-grade to multi-grade classes begins the process of situating pre-service teacher education in a rural context (Boylan, 2003; Green, 2004; McConaghy, 2002). Teachers who are skilled and competent in multi-grade teaching have the potential to provide quality teaching and learning in all schools and as a result may also begin to address the issues of attracting and retaining teachers in rural and remote schools.

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