Curriculum Leadership in Remote Indigenous Communities

Author

Jorgensen, Robyn, Niesche, Richard

Published

2011

Journal Title

Leading & Managing

Rights statement

Downloaded from

Link to published version

http://www.acel.org.au/index.php?id=993

Griffith Research Online

https://research-repository.griffith.edu.au

Curriculum Leadership in Remote Indigenous Communities

ROBYN JORGENSEN
Griffith Institute for Educational Research, Griffith University

Email: r.jorgensen@griffith.edu.au

RICHARD NIESCHE
University of Queensland

Email: r.niesche@uq.edu.au

ABSTRACT: In remote Indigenous communities, there are many challenges that confront educators, the most important being leadership that challenges the status quo and moves Indigenous communities forward in their access to, and engagement with a high quality school curriculum. This article draws on data from an Australian Research Council funded project where the complexities around reforming mathematics were investigated through leadership models. It was considered that the complexities faced by principals in their day-to-day management of schools inhibited their capacity for curriculum leadership. A new model of distributing curriculum leadership was adopted for numeracy reform. While still in its early stages, this model, its genesis, and its implementation are discussed along with the mitigating context that shapes the need for models of leadership that focus on curriculum reform for remote Indigenous contexts. The implications of this model are discussed in conjunction with the field of educational leadership research.

Introduction

The underperformance of Indigenous Australians is a recognised concern in education. Educators, policy makers, governments and Indigenous communities are vocal in the need for reforms that will enable greater access of Indigenous students to school knowledge. This is particularly the case for remote Indigenous communities as they are consistently recognised as being most at risk of poor performance in national and international tests such as NAPLAN (MCEETYA, 2008) and PISA (De Bortoli & Thomson, 2009, 2010). Remote Indigenous students have been shown to be considerably lower in their scores in literacy and numeracy than students (Indigenous and non-Indigenous) in urban settings. This trend is even more concerning the longer they stay at school, since the gap in performance increases with the time in school (MCEECDYA, 2009). The high levels of disadvantage faced by Indigenous groups throughout Australia have received significant attention for a number of years. Issues such as poor health (Steering Committee for the Review of Government Service Provision, 2007), housing (Myers, 2007), high levels of incarceration (Australian Clearing House for Youth Studies, 2008; Ogilvie & van Zyl, 2001), income

(Appleyard, 2002) and educational achievement (MCEECDYA, 2009; MCEETYA, 2008), have been well documented. Remote Indigenous schools face the added issues of absenteeism and transience, a high turnover of teaching staff, and the difficulty of remote educational service provision in terms of access to resources and reliable technology. These difficulties faced by principals of remote Indigenous schools are particularly poignant when one considers the high turnover of the principalship expected in Australian schools over the next 5 years (Anderson et al., 2007).

It has been acknowledged that context plays a key role in school leadership (Christie & Lingard, 2001; Clarke & Wildy, 2004; Ewington et al., 2008; Gronn & Ribbins, 1996). Therefore in order to better understand the complexities of leadership and issues that confront school principals, there need to be varied and diverse examples of the day-to-day work of principals in a variety of contexts. With a few notable exceptions (D'Arbon et al., 2009; Fitzgerald 2003; Kamara, 2007; Nolen, 1998; White, 2007) there has been very little attention given to the work of principals in remote, Indigenous settings. What work has been undertaken largely examines the work of principals of small rural and remote schools who have, to varying degrees, some part of their workload as teaching based. In this article, we use case studies of the principals of three remote Indigenous community schools in Western Australia to show how the demands of these particular workplaces are significantly different due to a range of contextual and cultural factors. We argue that the role is such a different one from that of principals in urban areas and even many rural areas of Australia that current models of leadership bear little resemblance to the work undertaken by these principals. Further compounding the experiences of many remote community schools is that they are independent schools with particular links to their communities rather than forming a part of a large organisational structure such as a state or religious affiliation. To this end, the article contributes to a much neglected aspect of school leadership but one which requires greater examination and support due to the complexities faced by leaders in remote schools, who are frequently early career leaders.

The aim of this article is to outline some of the unique challenges faced by the principals of these schools and to argue that new ways of distributing curriculum leadership are required to effectively implement both curricular and pedagogical reforms in these schools. The situation in the schools involved in this article is one where school principals have a significant role in their remote communities. This, coupled with the day-to-day managerial issues, means that discussions of curriculum tend to be left behind, not through lack of desire or interest rather through no layers of leadership and heavy workloads. Therefore proposing the distribution of curriculum leadership to consultants as a form of teacher leadership may be one option for ensuring that not only do curriculum and pedagogy remain central to the purposes of schooling but also to work towards the highest quality curriculum for these students who are in areas of significant disadvantage.

The article begins with introducing the concepts of distributed leadership and teacher leadership that are central to the analysis in the article. We then situate the research context by outlining issues of leadership in remote, Indigenous schools and the methodology of the research project. The data analysis is divided into two sections: first to specifically identify themes that create complexities for school leadership in these communities; and second, to propose a model of the distribution of curriculum leadership that may work to overcome some of the difficulties of education provision in these remote indigenous community schools.

Distributed and Teacher Leadership

The concept of distributed leadership is one that has been increasingly used in discourses of school leadership in recent years (for example, Gronn, 2000; Harris, 2008; Spillane, 2006)[1]. There have also been significant discrepancies in the term's usage (Woods et al., 2004), so much so that there is even little agreement in the meaning of the term (Mayrowetz, 2008). In this article, we use the term distributed leadership to designate 'an emergent property of a group or network of individuals in which group members pool their expertise' (Bennett et al., 2003, p. 3). Therefore in the case of the schools in this article, the collective agency of the principals has resulted in the formation of a group of individuals (primarily but not exclusively the numeracy consultants) who work to instruct and guide teachers in reforming their teaching and mathematics curriculum in their respective schools. As a result, leadership is removed from being the sole responsibility of one person, i.e., the principal, and distributed leadership is understood as involving the creation of an environment where people can work together to construct a shared purpose or goals (Harris & Muijs, 2005). This is where the notion of teacher leadership becomes important, as the consultants discussed in this article have all been teachers in the schools previously so that they are able to draw upon their knowledge and experiences in working with the current teachers in reforming pedagogy and delivering a high quality curriculum. Harris and Muijs (2005) conceptualise teacher leadership as collective behaviours and practices amongst individuals within a school. However, for the purposes of this article we broaden this notion of teacher leadership to encompass the practices across a cluster of schools.

Small School Leadership

The paucity of research into leadership of small schools, and particularly remote, small schools is surprising given the large numbers of small schools throughout Australia (Clarke & Wildy, 2004). We use the term 'small school' to designate schools with less than 100 students although there are different definitions used throughout Australia (Ewington et al., 2008). Common characteristics of leadership in small schools identified in the literature include the difficulties of school-community relations (Clarke, 2002; Nolan, 1998), inadequate release time and professional development and preparation for principals (Ewington et al., 2008), and additional testing along with multi-age teaching and learning (Clarke & Wildy, 2004). The schools in this study experience all of these challenges. Coming to understand how such factors impact on curriculum leadership in these settings becomes increasingly important when it is also recognised that most of the leaders in these schools are very early in their careers and are often first-time principals or leaders.

The complexities and challenges of leadership in these contexts are vastly different from those in other settings. We concur with the work of Christie and Lingard (2001) who argue that 'leadership needs to be understood in terms of the complex interplay of individual, organisational and broader social, political and economic contexts' (p. 19). In this article we examine the

---

[1] There has been an enormous amount of research into distributed leadership. Rather than attempt to cover this terrain here we have referred to the work of some of the key scholars who use the concept.

distribution of curriculum leadership practices across three schools that acknowledge leadership can be practised by many others such as teachers, parents and students in both formal and informal positions (Blackmore, 1999). We do note, however, that the principal is in a unique position of being constructed as the centre of control by being placed as the 'head' of the school (Lingard et al., 2003). As is discussed later, the schools on which this article is based have few hierarchical layers of leadership, as is typically found in many rural and large urban schools. This means that the principal in these settings often takes on a multifarious role that includes most duties not incorporated under the practice of teaching per se. This complexity impacts on the capacity of the principal to undertake many of the duties and leadership roles of his/her urban counterparts.

Research Context

This article draws on data from a larger research project funded through the Australian Research Council through its Linkage Grant scheme. The industry partner was the Association of Independent Schools of Western Australia. The 'Maths in the Kimberley Project' (MiTK) was a four-year research project designed to trial an innovative pedagogical approach in the teaching of mathematics in six remote Aboriginal schools in the Kimberley region of Western Australia. Drawing on the work of Boaler (2008), Boaler and Staples (2008), and the Productive Pedagogies model developed in Queensland (Hayes et al., 2006; Lingard et al., 2001), this project sought to improve the achievements of Aboriginal students in learning mathematics. While other articles have been written outlining these aspects of the project (for example, see Zevenbergen & Niesche, 2008; Jorgensen et al., 2009; Jorgensen et al., 2010), the focus of this article is to draw attention to the challenges of curriculum leadership in remote communities.

A mixed method approach was employed across the overall research project, using five modes of data collection: (1) a questionnaire; (2) video-tapes of classroom lessons; (3) interviews with teachers, principals and consultants; (4) field notes; and (5) student testing and interviews. Members of the research team have visited the Kimberley region regularly to provide support and professional development sessions, and to collect data. However, the distance of the research site from the researchers meant that support and data collection was also undertaken remotely. While there is an extensive array of data gathered for this project, this article draws specifically upon the interviews with teachers, principals and numeracy consultants of three of the six schools. Specifically, three interviews were conducted with each of the three principals; the first one being in a face to face setting, and the second and third interviews over the phone. Examples of issues addressed in questions included day to day work practices, constraints and possibilities for reform, reflection on their leadership practices and relationships with teachers and community. Both numeracy consultants were interviewed once and all teachers in the schools (a total of 26) were interviewed twice over the course of the research project. Questions to the teachers and consultants focused on issues of curriculum and pedagogy, cultural issues, relationships with community, constraints in their teaching and self reflection on beliefs and practices and challenges of teaching in remote Indigenous communities. These interviews were conducted to get a sense of what it is like working in these schools and an insight into the day-to-day practices of being a teacher in this context. The majority of interview material drawn on for this article comes from the

principals and consultants as these questions' responses were more pertinent to the subject matter of this article.

Remote Indigenous Education: Complexities for school principals

As stated earlier, the principals of remote Indigenous schools face a very different prospect than their peers in the city and even many rural areas. Particular difficulties come in the form of remoteness and access to resources, the large numbers of early career teachers, a high turnover of staff, complex relationships with the local communities, and significant cultural issues to deal with on a day-to-day basis. All these factors impact upon the capacity of leaders in remote areas to deliver quality curriculum, and in this case mathematics curriculum. With increasing calls from certain sectors of government and the leadership field that principals need to be 'curriculum leaders', the models of leadership that are premised on urban or mainstream education are grossly inadequate for the significant reformation needed in these communities. In the following sections we seek to illustrate the complex demands faced by remote leaders and to provide an illustration of dispersed leadership that goes some way to addressing the challenges of curriculum leadership in remote education.

Challenges of remote education

First, most of the teaching staff in remote contexts are often in their first or second year of teaching (Heslop, 2003). This is not to suggest that these teachers are necessarily 'inferior' to more experienced teachers, but rather, that these teachers have different needs from those of experienced teachers. Teacher turnover is high, with some not coping with the challenging contexts and often not even completing their contracts. In this study, we have had reports of some teachers only lasting a few weeks, while others have survived a term and not returned after the break with no notice given about their non-return. These examples are not unique to this context but endemic across the field of remote education. In this study, a few teachers may stay on but the usual contract in these schools is two years as most teachers find that two years is sufficient for their professional contribution and satisfaction. Thus retention of staff is low and with that comes the on-going demand of professional learning, inductions and sustainability of reforms. As with mathematics education in general, we have found that many of the early career teachers in this study have also expressed particular anxieties about their limited mathematical understandings and difficulties in teaching school mathematics. This is not uncommon in mathematics education where it is well documented that primary school graduates often feel most threatened and least prepared for the teaching of school mathematics. Within this context, curriculum leadership in school mathematics is most challenging.

Second, remoteness and access to professional learning opportunities creates challenges for teachers to be able to learn and/or develop new and more appropriate ways of teaching mathematics. In the MiTK project, the distance between the two furthest schools is over 1000kms. This distance is a feature of remote education and is not unique to this project. This distance creates unique challenges for many aspects of school leadership. Principals have to close the

schools in order for the teachers to attend professional learning sessions. This is due to the fact that many of the schools are small and only have one or two teachers. Access to replacement teachers is not possible as the communities are so remote and it is impossible to fly replacement teachers in at short notice. Furthermore, there are no floating teachers in the regions as any teacher who lives remote is offered work as attracting staff to these areas is very difficult. The closure of the school impacts on student learning and attendance data. When students are already lagging behind in their learning, attendance is a key issue. Furthermore, from an administrative point of view, as the schools are funded on attendance and enrolments, closure of the school has a considerable risk for financial management. In our context, teachers have negotiated closing school for one day and the second day of professional learning is undertaken on the weekend. For example, the first day of the workshop is on a Friday for which the school is closed, and day two is on Saturday. Teachers then usually return to their communities on Sunday.

In providing some context in which this study is based, we draw on the views of principals to highlight the complexities experienced by those in the field. This gives a sense of the demands of the job but also the ways in which such demands close down potentialities for other aspects of leadership, in this case, curriculum leadership.

Challenges for principals

Within this context, the demands on the principal as community leader are enormous. Independent Indigenous schools and colleges work on a model where the principal is the head and must report to, and work with, the local community council. This council works in a similar fashion to a board of directors and the principal reports to that council and enacts the wishes of the council. At the same time, the principal is regulated by the statutory authorities – such as federal and state governments. These agencies provide funding for the schools for which the principal is accountable. The funding arrangements demand compliance with regulatory practices such as curriculum and assessment as well as reporting on student performance and attendance. The administrative demands for independent Indigenous schools are high, especially for which the principal is solely responsible. There are considerable demands on the role in terms of funding, enrolments, buildings, grounds, safety, compliance, governance and so forth. In the modern age, these responsibilities make up a full-time role without the support of a system behind the school. Schools must also tender for external funds, such as for buildings and grounds works, extra curriculum innovations that go beyond the recurrent expenditure. These are further work for the principals if they are to secure enhanced funding. For instance, as one principal remarked:

> An unfair proportion of my time is spent dealing with the financial aspect, I suppose the business side of things, the sourcing of funding, acquitting funding. So yeah I would say that if you look at the way that government schools are funded, there is a lot more expectation for the independent principal to source and acquit things. (Interview with Principal 1)

Similarly when asked about the amount of time spent on funding, budget applications and other compliance procedures, another principal responded:

> Oh, yeah that takes up most of my time. That's a good point. Things that take up my time as principal percentage wise is an issue because I would rather dedicate it towards curriculum and in classroom kind of stuff where. Being in these kinds of communities it's still probably 40% community work, 60% school, and 50% of the school is probably actual day-to-day school stuff whereas the rest is just all stuff that would probably be done externally at other schools. (Interview with Principal 2)

As can be seen from these comments, these principals felt the demands imposed on them in relation to compliance accounts for a considerable amount of their workload.

Aside from the educational operations required of the principal, in these remote communities, the school is often the first port of call for the community members in terms of providing advice or reading/translation of letters, reports, requests etc. Many community members have very low levels of literacy so need someone to read correspondence, particularly those from government agencies as these can impact on their welfare benefits or pending court cases. Often the principal is the key non-indigenous person in community so assumes a diverse set of responsibilities in relation to the on-going maintenance issues in community. For example, the principal also assumes responsibility for the maintenance of water pumps, power supply and so on.

The principal may also take on roles to create enterprise activities within a community. For example, in one community the principal has opened an art gallery at the school and is trying to create a bakery in the local store. These enterprises create employment opportunities in the small communities and help to secure some funding and employment for the communities. Increasingly, governments want communities to become self sufficient as the costs of providing basic support to operate communities is considerably higher than if they were based in a larger regional centre. Furthermore, many of the communities have no source of employment other than the store or school, making employment options very limited for communities. Developing sustainable enterprises is a further pressure in many communities. The principal may be heavily involved in the development of enterprise activities that are well beyond the expectation of regional or urban principals. Principals entering these new roles may be aware that these extra demands may be part of the workload but often have little idea of how demanding they may be on their time:

> I knew that the role here would be quite removed from the standard metropolitan principal. The roles and duties and expectations are more of a community leader as well as principal and in this particular setting I also run the community art gallery which is owned and operated by the school. (Interview with Principal 1)

Considering these extra demands, principals have little opportunity for curriculum leadership despite a recognised need and well-intended efforts in this area. The high administrative and community demands of remote Indigenous schools dramatically inhibits principals a role in curriculum leadership. Many of these schools fall outside systems so there is no systemic support for principals and much of the administrative load falls on their shoulders. These extra demands leave little time for what is typically seen as the core role of leadership in schools. Discussions with teachers and other external agents revealed that the principals spent little time working with their teachers, or not supporting curriculum innovation or modelling teaching to their new teachers. Such comments fail to grasp the complexities faced by principals in remote settings. The demands are far more intense and complex than those for regional or urban settings or for those which are part of a larger system. Principals voiced their frustration with not being able to do what is the core business of schooling – curriculum development and implementation. As such, models

of curriculum leadership are needed that create spaces for curriculum innovation in mathematics that allows teachers to develop appropriate forms of curriculum, pedagogy and assessment within the confines identified above. In such a context, clearly the need to improve mathematics learning must be shifted from the role of the principal to another level. Principals not only have to contend with curriculum leadership per se but also the extraneous factors impacting on the development of teachers and curriculum in such schools:

> I guess there's no real [curriculum] leadership in it, you know we could be totally off the planet, you know deciphering these WA curriculums in possibly the most bizarre ways, you know, no one from WA is working here at the moment [laughs]. Yeah, I guess having being able to get that leadership in that regard as well, you know it disappoints me that I can't get to that as well. (Interview with Principal 2)

The limited capacity to provide curriculum leadership is a source of identified frustration for the principals in their interview responses. These are principals who are often young and not far removed from their own teaching experience and highly cognisant of the need to provide support and leadership to new teachers. Therefore, along with adopting different models of leadership, it is imperative that these schools and principals are provided appropriate systemic support in terms of professional development and administrative support to enable time and resources to implement new approaches rather than a closing down of the capacity of these principals. To this end, we illustrate how these schools have initiated a model of distributed leadership to support curriculum innovation and reform.

A Model for Distributed Curriculum Leadership

The MiTK schools have already been involved in a model of distributed leadership through their adoption of a particular literacy program, the Accelerated Literacy (Cowey, 2005) approach to teaching literacy. This approach has considerable hands-on support for teachers in the form of a literacy consultant who works across the schools to effectively provide two schools with a full-time consultant. The consultant is typically a teacher with experience in both the curriculum program and teaching in remote Indigenous schools. The consultant provides teachers with curriculum documents, model lessons, modelling teaching practice, and providing feedback to teachers on their teaching. Accelerated Literacy is an intensive program and has acquired significant funding from the federal government for its implementation. There have been many pushes for curriculum reform to incorporate or rely fully on digital media for their roll-out. This is a cost-effective process for systems to undertake innovation or change. Teachers working in remote areas have argued for the importance of face-to-face interactions rather than electronic forms (Niesche & Jorgensen, 2010). The extensive funding available for the Accelerated Literacy approach has been provided by the federal government and is one which is highly valued by teachers in remote areas, but is also contingent upon the quality of the consultant.

The principals in the six schools strongly endorsed the Accelerated Literacy model for teacher support and felt that such a model was needed for numeracy support. To this end, the MiTK schools combined their professional learning funds to secure support in 2009 for one numeracy consultant to work across the six communities. Without the multi-million dollar budget allocated

for Accelerated Literacy, the numeracy consultant developed from scratch (with the help of the research team) an intensive support program similar to that used in the Accelerated Literacy model. Within this model, the numeracy consultant spent at least one full week per term in each school. The other time was spent in larger schools or in a regional area developing resources to support teaching. While the model was valued by staff in the schools, the actual time spent with teachers was seen to be less than needed. Towards the end of 2009, further funds were sought to extend the project in 2010 with a further consultant being added to the Kimberley region in which the project is located, as well as being extended into the Pilbara region. The principals saw the value in such a model and were keen to support it. Both numeracy consultants have taught in the region before, one also having been principal, so their familiarity with the particularities of the schools and contexts are crucial. They are familiar with the contexts and communities and are highly aware of the demands on teachers, as well as the needs of new teachers. This skill set is most valuable in this context. The model of curriculum leadership adopted is discussed further in the next section with reference to three significant principles for leadership action in which the consultants have been engaged.

Mentoring and supporting new teachers

Unlike schools in urban settings where new teachers are usually provided with mentor teachers in their first years of teaching, such a partnership is highly improbable in remote areas due to the fact that the staff are almost all neophyte teachers, so there are few, if any, senior teachers in the schools. Without mentoring, neophyte teachers are at risk of feeling unable to work effectively in these challenging environments. One of the roles of the consultant is to take on a mentoring model for the teachers. Models that disperse curriculum leadership away from over-loaded principals are essential to enable the development of the teachers. In the MiTK schools, the model of dispersing curriculum leadership is one of high interaction with the teachers and students whereby the consultant teacher works closely with the teacher. It is very grounded in the classroom. Teachers and the consultants see this type of role as critical to changing the practices of teachers. They see the role as important in terms of supporting new teachers. For instance, one of the numeracy consultants commented:

> It is important that teachers have support. Many of them are new to teaching and don't know what to do other than what they learnt at uni. Unless we work with them, they don't get any new ideas. So this role is important to scaffold the new teachers. (Interview with Consultant)

Supporting teachers to develop a strong repertoire of skills and knowledge is seen as invaluable for beginning teachers, particularly in these contexts. The mentoring role is highly supportive of the new graduate. It also means that the consultant is a mentor without being a supervisor as would be the case if the principal were to provide curriculum leadership. Such a model is more friendly for the beginning teacher as it does not impose a supervisory discourse on the relationship, thus making it easier for the teachers to be open to frank conversation about their teaching. In order to enable mentoring and teacher development to happen, consultants see their role as one of identifying the needs of the teachers and then to support them to develop appropriate curriculum resources relevant to their needs and contexts:

> What I have to do is after being with the teachers, I find that they don't know where to go next and they don't have the time or the resources to do that. My role is really to support them in moving forward. So when I go back to Broome, I prepare resources for them. These are usually the planning documents, and in some cases, even lesson plans along with the resources they need. We have built up a good bank of teacher resource books so then I can look at these to get ideas of how to build some better lessons and unit plans. (Interview with Consultant)

Through a process of support, a strong data base of resources becomes available for other teachers – both current and future – which helps to build sustainability into both the teachers as well as into the future. Developing resources is a key issue in remote areas due to the shortage of resources in schools. These shortages are often due to predecessors leaving few, if any, resources but also the difficulties in obtaining resources.

Creating spaces for professional learning

A further issue in curriculum leadership is the limited capacity to provide time out for teachers for mentoring or curriculum development. In many urban schools teachers are able to access resource teachers who will take classes while teachers are able to prepare curriculum plans or resources, or to undertake further professional learning to support their classroom work. However, human resources are scarce in remote areas, making it very difficult for replacement teachers to enable teacher relief time. The staff numbers at schools are often very small so teachers are limited in their ability to take time out for mentoring:

> There are not many chances for teachers to be able to get out to their class to go into another one to support another teacher. The schools are small and teachers have to take responsibility for their students. It is not possible for time release for teachers to move into other classes. Principals are too busy to even get into classes so that is not really possible either. (Interview with Consultant)

Paucity of resources

Issues of release time for teachers are compounded by the limitations due to technology and therefore resources. Providing small schools with the resources needed for curriculum is almost impossible due to the costs but also maintaining and updating resources. A common reaction to this issue is to assume that information can be more readily accessed from the internet. However, internet access is severely hampered in remote settings. In many of the schools, access to the internet is limited – both in terms of the physical capacity of satellites to download materials and in terms of costs for downloading. Also, issues of breakdowns and fallouts compound internet access as there is no-one in community who has the digital know-how on how to fix many of the problems with internet. Again, this is a role that often fell to the principal. As such, small schools have only limited curriculum resources from which to draw, whether hard copy or digital. This meant that access to information to support teachers in the development of materials and learning opportunities was limited. The issues around resources were evident in the teachers' comments:

> We are pretty limited here with resources. I would like to be able to do more planning but there is just not the stuff we need. (Interview with Teacher 1)

> We've got some pretty good resource books here but I find I don't have the time or energy or often the inclination to do planning after school. I just want to get home and away from the place. I would do downloading from home but it is just so slow and always falls out. It is a pain. There are some great things available but it is just too hard to get them off the internet. (Interview with Teacher 2)

> We can't download much from the internet. The bandwidth is pretty low so it might take forever to get something downloaded. We only have a small plan with the school so it does not take much to get through that. It is very expensive to download because of the expense of the phone lines. (Interview with Teacher 3)

The principals are also aware of the issue of technology:

> A difficulty has definitely been technology which has been a major issue in most of these schools, especially here. Especially now that pretty much all curriculum is headed towards using these new technologies. I feel we're still behind the eight-ball and slowly catching up but yeah, that's a bit of an issue. (Interview with Principal 3)

Scaffolding teachers to develop planned learning that goes beyond the 'activity' approach to teaching mathematics was evident in the approach being taken. The consultants saw the role as one which strong learning trajectories were to be developed so that teachers could plan better for long term learning. However, it was also recognised that part of this role was also to get over the problems of teachers' fear of mathematics:

> Teachers are often scared of teaching maths so they don't do a good job of it. If anything, this role is one to help get new teachers of this and become confident in how to teach maths, but also what to teach in maths. They often don't have a good knowledge of curriculum so don't know where to go next or what to do so this role is to help them with that. (Interview with Consultant)

Conclusion: Innovation in Remote Indigenous Education

What we have learned from this project is that leadership in remote communities is very different from that of urban or regional settings. Principals face many challenges that are not part of the role for urban or regional principals. As such, they are not able to undertake many of the expected duties, particularly in relation to curriculum leadership. We have highlighted many of the different demands of remote education provision which are often tied to the unique constraints of remote living and being outside the usual systemic support systems. Furthermore, these extra demands must be seen in the context that the principals are most frequently young professionals who are also in need of support, much like their early career teachers. For many, their teaching lives and experiences have been short as they rapidly progress into leadership roles. Most of the principals would be less than 30 years of age so that their teaching experience is limited, as is their leadership and administrative experience. Within this context, models of curriculum leadership are needed so that some of the responsibilities can be distributed to other key staff. Using a distributed model of curriculum leadership where the principals pooled resources to enable two consultants to be employed to provide mentoring and curriculum leadership offered new potentials to leadership in these schools and made workloads more balanced across a range of staff.

Using a distributed model of leadership, the principals were able to collaborate to develop a submission for further funding to enable the support staff to lead curriculum reform and

innovation. In this instance, leadership was shown in collaboration with other principals to co-sponsor the funding submission, to reallocate school resources for curriculum into a common pool to support the application process and the wages of the consultants, and to be able to utilise these consultants for the innovation and support around curriculum, most notably around mathematics curriculum. It has been well documented that mathematics is a particularly difficult area to reform. The complexities of remote education provision therefore impacts on how reforming a high quality curriculum is possible. When principals have many competing demands, reforming mathematics education requires new innovations in terms of leadership and roll out of reforms.

The need for changed practices in teaching and learning in remote, Indigenous schools is never more urgent. The practices of the past have not been successful so the need for change is paramount. What that change may be is beyond the scope of this article. However, what is recognised is that practice needs to change in order to create pathways for Indigenous learners, and curriculum leadership is essential in this process. The challenges of remote education and reforming education mean that there is a strong need for more distributive models of curriculum leadership, particularly when it relates to mathematics education.

Our goal in this article was to highlight the complexities faced by principals in remote Aboriginal communities. In so doing, it becomes apparent that the life-world of the remote principal is significantly different from his/her urban/regional peers. Compounding the contextual issues, remote principals are often early career or first time principals and have not had, nor currently do have appropriate levels of systemic support that is available to non-independent schools. Collectively, these issues curtail a principal's capacity to undertake curriculum leadership. While principals recognise this limitation in their roles, they were also proactive in developing an alternative model for curriculum leadership. For us, this reinforced the value of a distributed leadership approach. In this study, the principals sought to develop a model of curriculum leadership that empowered a different level of teacher leadership involving consultants who would work with staff and provide strong support for new teachers who were often reluctant mathematics teachers. This model is valuable in terms of not only ensuring a strong model of curriculum development but also useful in stemming some of the other issues faced in remote education, including high turnover of staff, staff dissatisfaction, lack of resources, low morale, mentoring, time release, capacity for professional development and so on. The next step requires research and analysis into how the model is working over time and whether there are identifiable improvements in student achievements in mathematics as the sustainability of reforms in these contexts is a huge challenge for all working in remote, Indigenous schools.

References

ANDERSON, M., GRONN, P., INGVARSON, L., JACKSON, P., KLEINHENZ, E., MCKENZIE, P., MULFORD, B. & THORNTON, N. (2007) *OECD Improving School Leadership Activity: Australia country background report* (Canberra, Australia: DEST).

APPLEYARD, S. (2002) Educational issues facing Aboriginal families in rural Australia: A case study, *The Australian Journal of Indigenous Education*, 30(1), pp. 25-42.

AUSTRALIAN CLEARING HOUSE FOR YOUTH STUDIES. (2008) *Incarceration*, retrieved from: http://www.acys. info/youth_facts_and_stats/crime__and__justice/crime__and__justice_topics,_2007_and_earlier/incarceration Last modified: 11 September, 2008.

BENNETT, N., HARVEY, J.A., WISE, C. & WOODS, P.A. (2003) *Desk Study Review of Distributed leadership* (Nottingham: National College for School Leadership/Centre for Educational Policy & Management).

BLACKMORE, J. (1999) *Troubling Women: Feminism, leadership and educational change* (Buckingham, UK: Open University Press).

BOALER, J. (2008) Promoting 'relational equity' and high mathematics achievement through an innovative mixed ability approach, *British Educational Research Journal*, 34(2), pp. 167-194.

BOALER, J. & STAPLES, M. (2008) Creating mathematical futures through an equitable teaching approach: The case of Railside School, *Teachers College Record*, 110(3), pp. 608-645.

CHRISTIE, P. & LINGARD, R. (2001) *Capturing Complexity in Educational Leadership*, paper presented to the American Educational Research Association Conference, Seattle (10-14 April).

CLARKE, S. (2002) The teaching principal: From the shadowlands to a place in the sun, *Queensland Journal of Educational Research*, 18(1), pp. 23-37.

CLARKE, S. & WILDY, H. (2004) Context counts: Viewing small school leadership from the inside out, *Journal of Educational Administration*, 42(5), pp. 555-572.

COWEY, W. (2005) *A Brief Description of the National Accelerated Literacy Program*. Last Accessed on 7/8/2010 from: http://nalp.edu.au/documents/Cowey_BriefDescriptionNALP.pdf

D'ARBON, T., FASOLI, L., FRAWLEY, J. & OBER, R. (2009) *Linking Worlds: Strengthening the leadership capacity of Indigenous educational leaders in remote education settings* (Darwin, NT, Batchelor Press).

DE BORTOLI, L. & THOMSON, S. (2009) *The Achievement of Australia's Indigenous Students in PISA 2000-2006* (Camberwell, VIC, ACER Press).

DE BORTOLI, L. & THOMSON, S. (2010) *Contextual factors that influence the Achievement of Australia's Indigenous Students 2000-2006* (Camberwell, VIC, ACER Press).

EWINGTON, J., MULFORD, B., KENDALL, D., EDMUNDS, B., KENDALL, L. & SILINS, H. (2008) Successful school principalship in small schools, *Journal of Educational Administration,* 46(5), pp. 545-561.

FITZGERALD, T. (2003) Changing the deafening silence of Indigenous women's voices in educational leadership, *Journal of Educational Administration*, 41(1), pp. 9-23.

GRONN, P. (2000) Distributed properties: A new architecture for leadership, *Educational Management and Administration*, 28(3), pp. 317-383.

GRONN, P. & RIBBINS, P. (1996) Leaders in context: Postpositivist approaches to understanding educational leadership, *Educational Administration Quarterly*, 32(3), pp. 452-473.

HARRIS, A. (2008) Distributed leadership: What we know? *Journal of Educational Administration,* 46(2), pp. 172-188.

HARRIS, A. & MUIJS, D. (2005) *Improving Schools through Teacher Leadership* (London, UK: Open University Press).

HAYES, D., MILLS, M., CHRISTIE, P. & LINGARD, R. (2006) *Teachers and Schooling Making a Difference: Productive pedagogies, assessment and performance* (Crows Nest, NSW: Allen & Unwin).

HESLOP, J. (2003) Living and teaching in Aboriginal communities, in Q. BERESFORD & G. PARTINGTON (Eds), *Reform and Resistance in Aboriginal Education* (Crawley, WA: University of Western Australia Press), pp. 208-237.

JORGENSEN, R., GROOTENBOER, P., NIESCHE, R. & LERMAN, S. (2010) Challenges for teacher education: The mismatch between beliefs and practices in remote Indigenous contexts, *Asia Pacific Journal of Teacher Education*, 38(2), pp. 161-175.

JORGENSEN, R., SULLIVAN, P., GROOTENBOER, P. & NIESCHE, R. (2009) Reforming mathematical pedagogy in remote Indigenous contexts, Symposium 4.0, in R. HUNTER, B BICKNELL & T. BURGESS (Eds), *Crossing divides*: *Proceedings of the 32nd annual conference of the Mathematics Education Research Group of Australasia*, Volume 1 (Palmerston North, NZ: MERGA), pp. 695-711.

KAMARA, M.S. (2007) The changing leadership culture in Northern territory Indigenous remote community schools: Implications for Indigenous female principals and school community partnerships, in P*roceedings of the Australian Association for Research in Education (AARE) Annual Conference*, Fremantle, WA (November 25-29).

LINGARD, R., HAYES, D., MILLS, M. & CHRISTIE, P. (2003) *Leading Learning* (Maidenhead, UK: Open University Press).

LINGARD, R., LADWIG, J., MILLS, M., BAHR, M., CHANT, D., WARRY, M. et al. (2001) *The Queensland School Reform Longitudinal Study* (Brisbane, QLD: Education Queensland).

MAYROWETZ, D. (2008) Making sense of distributed leadership: Exploring the multiple usages of the concept in the field, *Educational Administration Quarterly*, 44(3), pp. 424-435.

MCEECDYA. (2009) *National Report: Achievement in reading, writing, language conventions and numeracy 2009* (Canberra, ACT: Australian Government).

MINISTERIAL COUNCIL ON EDUCATION, EMPLOYMENT, TRAINING AND YOUTH AFFAIRS. (2008) *National Assessment Program-Literacy and Numeracy (NAPLAN) Summary Report* (Canberra, ACT: MCEETYA).

MYERS, T. (2007) Between a rock and a hard place: Indigenous education in a remote community, *Professional Learning*, 6(1), pp. 15-20.

NIESCHE, R. & JORGENSEN, R. (2010) Curriculum reform in remote areas: The need for productive leadership, *Journal of Educational Administration*, 48(1), pp. 102-117.

NOLAN, B. (1998) Implementing departmental policy changes in one-teacher schools, *Journal of Educational Administration,* 36(3-4), pp. 262-285.

NOLEN, H. (1998) *Emerging models of leadership in remote Aboriginal schools in the Northern Territory*, unpublished Master of Education thesis (Darwin, NT: Charles Darwin University).

OGILVIE, E. & VAN ZYL, A. (2001) Young Indigenous Males, Custody and the Rites of Passage, *Australian Institute of Criminology: Trends and issues in criminal justice*, No. 204.

SPILLANE, J.P. (2006) *Distributed Leadership* (San Francisco, CA: Jossey-Bass).

STEERING COMMITTEE FOR THE REVIEW OF GOVERNMENT SERVICE PROVISION. (2007) *Overcoming Indigenous Disadvantage: Key indicators 2007* (Canberra, ACT: Commonwealth Government).

WHITE, N. (2007) *Indigenous women's career development: A challenge for educational leaders*, unpublished PhD Thesis. (Brisbane, QLD: Australian Catholic University).

WOODS, P.A., BENNETT, N., HARVEY, J.A. & WISE, C. (2004) Variabilities and dualities in distributed leadership: Findings from a systematic literature review, *Educational Management Administration and Leadership*, 32(4), pp. 439-457.

ZEVENBERGEN, R. & NIESCHE, R. (2008) *Reforming Mathematics Classrooms: A case of remote Indigenous education*. Working Paper No. 2 (Brisbane, QLD: Griffith Institute for Educational Research, Griffith University).