Group work, Language and Interaction: Challenges of Implementation in Aboriginal contexts

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While research suggests that the use of group work can enhance student learning, there are considerable challenges to implementing this practice in remote Aboriginal communities. When employed properly, group work requires students participate in deep dialogue and/or shared tasks that build collaborative interactions that help facilitate deeper mathematical understandings. However, we have found in the Maths in the Kimberley (MitK) project, that developing and implementing group work in this context is highly problematic. Practically, linguistically and culturally, teachers were confronted with considerable obstacles to implementation, and these issues are discussed in this paper.

The underperformance of Aboriginal Australians is a recognised problem in education. This concern arises from NAPLAN tests for all year levels that show alarmingly poor performances for remote Aboriginal students (MCEECDYA, 2009). This cohort of students is the most at risk group of students in the educational landscape. In the Maths in the Kimberley (MitK) project, the overarching aim was to implement reform pedagogies that would support the development of rich learning environments in mathematics teaching and learning. The express goal of the project was to enhance numeracy learning for the students in the communities. While, as has been discussed earlier in this symposium, there have been some successes with the project, there have been other aspects of the pedagogy where there have been no observable or significant changes in practice (see Table 1 in Niesche, Grootenboer, Jorgensen & Sullivan, this symposium). In this paper these pedagogical aspects are outlined, and I discuss some of the significant barriers to pedagogical reform in remote Aboriginal communities and raise ethical questions as to whether mainstream pedagogy can/should be implemented in Aboriginal communities where the cultural differences are great and may be very different from those of mainstream Australia.

Background

In the MitK project we have drawn on a particular corpus of pedagogical reform that has been proven to be very effective in other disadvantaged contexts. For example, the work of Boaler (2008) has shown how particular pedagogical practices – in her case, Complex Instruction (Cohen & Latan, 1997) – had enhanced the learning of some of the most challenging communities in California. We have drawn on this work, along with the work of Productive Pedagogies (Lingard, 2006) recognising that this is also being challenged and moved forward (Mills et al., 2009) to exemplify and create quality learning environments.

The research team developed a pedagogical model that included critical variables for enhancing educational outcomes, but not all of these have been simple or immediately successful in this context. The problematic embedding of these aspects of pedagogy have created a deep challenges for the research team – in terms of trying to embed the practices in the communities as well as ethical dilemmas for the research team. In this paper, I draw attention to the group learning aspect of the approach in the project. This draws on the

work of Boaler's complex instruction (Boaler, 2006) where group work was a strong feature, and the work of Cobb and colleagues (Yackel, Cobb, & Wood, 1991) where interactions in quality group work yielded strong mathematical learning. The assumption in these projects is that group work, when properly conducted, and where students engage in rich learning tasks, produces opportunities for rich and deep learning in mathematics. It would appear from Boaler's (2008) work that this approach also has significant other language and social learnings that are valuable for students from linguistically and culturally diverse backgrounds as they transition from their home culture into school/mainstream culture. As this research has produced significant learning for students, it has been adopted in the MitK Project.

In our project, we have sought to have teachers work with students in small groups where they can negotiate meaning in their home language (Kriol) on the premise that this will reduce cognitive load, enable deeper engagement from students both socially and cognitively, and will help them in the development of deep mathematical understandings. We also adopted Cohen and Latan's (1997) principle of reporting back on the guise that students could negotiate meaning in their home language but being proficient in English required fluency in that language but also in the social practices (in this case, reporting to peers in a full classroom context). For students whose lives are centred in remote communities but their long term career and social good requires that they are proficient in Standard Australian English, adopting practices such as reporting back helps to transition into mainstream English with its linguistic nuances of social interactions.

Dilemmas of Pedagogical Reform in Remote Aboriginal Contexts.

The research team have found that the most challenging aspects of the inclusive pedagogies relate to those areas where language is central – group work, high interactivity and reporting back. These elements have been problematic for teachers and stem mainly from differences in the culture of the students and the culture of school mathematics. The scores on these elements have remained constant in the project, suggesting no gain. We have sought the input from teachers to help us understand the difficulties around these pedagogies. Teachers have reported that the culture of the Kimberley communities is still strong and as such there are many cultural norms that are violated with the use of these pedagogies.

Group Work

Kimberley Aboriginal kinship relationships require that some students may not be able to speak or work with other students due to particular 'skin' groupings. These cultural norms are very strong. In classrooms, this means that grouping these students is not possible. Further, in those smaller communities, there are some classrooms where the numbers are so small that arranging groups where the students could be put into non-skin groups is not possible. In these small classrooms, it was also the case that the whole class may be from the one family and hence, reluctant to work with older/younger siblings. The dilemma for us is that group work has been shown to be a powerful tool to enhance learning yet in this context, the violation of cultural norms is so strong, that it may not be a useful tool for learning.

The reporting back process was also problematic due to the cultural norms around 'showing off'. In the Kimberley culture, teachers reported that showing off how much someone knew (or did not know) was a 'shame job'. The notion is 'shame' is very strong

in this region so asking students to publicly show their knowledge was not appropriate. For example, in some cases, a younger person may know something that an older student did not know. Teachers reported that this process was a 'shame job' for the older student so that younger students were reluctant to publicly put down the older student. The dilemma for the research team is that the concept of 'shame' is a very powerful one in Aboriginal cultures so there would need to be considerable renegotiation of classroom protocols if this pedagogy were to be developed more.

Related to both of these pedagogies is that of high interactivity. The teachers would pose questions to create high interactivity but the social norms of the Aboriginal students in a mainstream classroom limited this potential. The students were all very keen to answer the questions posed by the teachers but part of the role of young people in these communities is to please others. The game that was enacted during questions is that the students must guess what the teachers wanted. What appears to happen is that once a question is posed, if the teacher does not respond with a 'correct' then the students engage in a guessing game where all sorts of responses are offered. For example, in one lesson the teacher asked a question – "what happens when I add 5 and 3?" The students offered a wide range of responses – including "8" but when this (along with the other responses) were not indicated as being correct, they kept calling out numbers. This pattern of interaction was observed across all schools and all classrooms. Interviews with teachers confirmed that this was common practice in all schools. While teachers reported their frustration with the game, they were unable to change this dynamic despite concerted attempts to do so. Further interviews with Aboriginal adults indicated that this was a part of the culture where young people learn that it is always good to please elders by being compliant, and that, in this case, compliance would be engaging in the question/answer interaction. They suggested that for the students, they would see the questions are requiring a response and hence this would be the 'game' rather than replying with the mathematically correct answer.

These challenges to the inclusive pedagogy model need to be considered carefully in terms of both pedagogy and ethics. While there is a substantial literature that suggests that such practices may enhance learning, this study has been conducted in schools that are Western/modern in their approach. The contexts for remote Aboriginal communities are substantially different in terms of cultural norms.

Use of Home Language

In observing the groups working, or students seated as a whole group on the mats in front of teachers, it was clear that there was considerable use of Kriol, including instructions from the Aboriginal Education Workers (AEW). However, the interactions were either social or disciplinary (from the AEW) and were not related to the development of mathematical concepts. In discussing this with teachers (individually, in professional development forums and in focus groups), teachers raised concerns about not knowing what the students were talking about and whether they would remain on task. We have observed that there is a sense of loss of control among teachers if they wanted to encourage the use of home language. While originally, the research team felt that 'loss of control' was not a good reason for absolving the use of home language, as we have progressed further into the project, we have come to understand the complexities of working in remote communities and the quickness with which the tenor of a classroom can change. There is a volatility that is not common in mainstream settings. Hence, the teachers feel a stronger need to remain in control of lessons so that if there are community issues that flow over

into the classroom, the teachers are able to remain in control. For example, in communities there is often friction between family groups. If an incident occurs in community, then this can flow over into the classroom. Often taunting and teasing is evidence of this flow over. Where the possibility arises for students to engage in home language and this taunting may continue unbeknown to the teachers, there was a concern that the issue can escalate quickly into quite a large fight. As such, teachers felt a strong need to keep a tighter rein on interactions than they would if the communications could be understood by the teachers.

Summary

The research team now need to confront some of the original assumptions that were made at the commencement of the project around good mathematical pedagogy. We face the dilemma where research indicates that some practices have significant learning benefits but when such practices are placed in remote Aboriginal contexts, there are different challenges, circumstances, beliefs and social practices. For us, questions arise as to whether practices, such as group work, may be the domain of Western/modern education and are not culturally appropriate for these contexts. We have to consider whether the adoption of group work and other elements of the reform pedagogy are in violation of cultural norms and hence unacceptable in these contexts, or whether depriving the students of these experiences places them at further educational risk. Similarly, we must contend with issues around teacher professional learning because the turnover of teachers is very high (very few stay beyond 2 years). How then, is it possible to develop sustainable practices that require significant support when there is a continual change of teachers?

What we can conclude is that the changes needed to Indigenous education are profound and urgent. However, such changes must be considered in light of the needs and cultures of the people with whom we, as researchers and educators, work. These people are not only the teachers but also the communities. This requires further work in Indigenous education research.

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