



Factors contributing to educational outcomes for First Nations students from remote communities: A systematic review

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Abstract

Education for Australian First Nations students living in remote communities has long been seen as an intractable problem. Ten years of concerted effort under Closing the Gap and related policy initiatives has done little to change outcomes beyond small, incremental improvements. Programmes and strategies promising much have come and gone, and most have died a quiet death. This apparent failure leaves the context of remote education ripe for the picking. If we can demonstrate what works and why, it may provide an answer to the problem. This systematic review aims to uncover what research reveals about what does make a difference to outcomes for students. The review found 45 papers that provide considerable evidence to show what is and is not effective. The review also found several issues that have little or no evidence and which could be the subject of more research.

Keywords Remote education · First Nations · Systematic review · Educational outcomes · Success factors

Introduction

The outcomes of education for Aboriginal and Torres Strait Islander (from here on ‘First Nations’) students from remote communities have been cause for some concern. Over the past few decades, multiple reports have highlighted the gap in

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achievement results for remote students (Harris 1990; Northern Territory Department of Education 1999; Human Rights and Equal Opportunity Commission 2000; Wilson 2014; Northern Territory Department of Education 1986; Watts and Gallacher 1964). Each year in Australia, the Prime Minister's Closing the Gap Report (e.g. Turnbull 2018) highlights failures, deficits and statistics that show little or no change in the results.

Against a bleak picture of limited evidence and a history of apparent failures, this systematic review sought to find out, based on credible research and evaluation evidence, what contributes to better outcomes for remote First Nations students.

Methodology

Review question

The question used for this systematic review of literature was “What factors contribute to educational outcomes for First Nations students from remote communities?”

Factors were conceptualised as influencers of positive or negative outcomes, for example, leadership, pedagogy, engagement, and parent participation. *Educational outcomes* were conceptualised as any positive or negative personal, academic, social product of schooling—the intention was not to constrain the definition to a narrow set of measurable impacts, but rather to let the papers' authors make that definition. They included educational attainment, citizenship, success or failure, identity, equity and empowerment. *Students* were conceptualised as young people from pre-school (excluding child care) through primary and secondary years of education. Their 'schooling' was also understood in terms of participation in boarding schools, hostels, elementary, residential or independent schools. The focus of this review was on remote *Australian First Nations students*. The paper uses the term 'First Nations' rather than 'Indigenous' or Aboriginal and Torres Strait Islander peoples, except where cited articles use alternative descriptors. 'Remote' students were understood in terms of geographical isolation and relative access (see Australian Bureau of Statistics 2018), from homelands, or from what is sometimes referred to as a 'red dirt' context (Guenther et al. 2015a). The review did not consider aspects of rural or regional education.

Databases and publication sources

The following electronic databases were searched using available library search tools: EBSCO Education Complete, A+ Education, Eric, Proquest, Psychinfo, Scopus and Web Of Science. The Remote Australia Online database was also searched along with the author's own Endnote library.

Inclusion and exclusion criteria

The procedure for identifying articles and their critical appraisal follows the methods documented by Lowe et al., in this volume of the journal.

Database searches supplemented by the author's own reference library yielded 763 articles (after duplicates were removed). Of these, 52 came from the author's own library and 711 came from database searches. A total of 277 papers were excluded based on the inclusion/exclusion criteria listed above, leaving 486 included papers for analysis.

If the paper's abstract or other bibliographical fields did not describe research, evaluation or empirical evidence, it was excluded. Similarly, if they did not mention or describe a methodology, papers were filtered out of the included studies. In this paper, we have taken the view, consistent with the guidance on mixed methods systematic reviews that argue for a mixed synthesis rather than a separation based on methods (Joanna Briggs Institute 2014; Pace et al. 2012; Harden and Thomas 2005). The approach taken here is to recognise the different methods, apply differentiated appraisal criteria for the quality of evidence (see, e.g. Pace et al. 2012) and then bring the analysis together in a collective synthesis (as another example, see Harden and Thomas 2005). If papers were not peer reviewed or did not respond to the review question, they were excluded. Application of filtering processes reduced the number of included articles from 486 to 56 (see Fig. 1).

Critical appraisal

For each paper, six criteria were selected. Criteria were chosen to reflect aspects of quality in qualitative, quantitative and mixed methods studies. In the review of each paper, a score of 1 was given if the criterion was fully met, 0.5 if the criterion was partially met and 0 if it was not met satisfactorily. Scores were calculated for each paper reviewed. Those that did not achieve a score of at least 3 out of a possible 6 were rejected. From the 56 papers, 11 were excluded, leaving 15 quantitative, 25 qualitative and five mixed methods papers. A summary of critical appraisals for each paper is provided in Tables 1, 2 and 3.

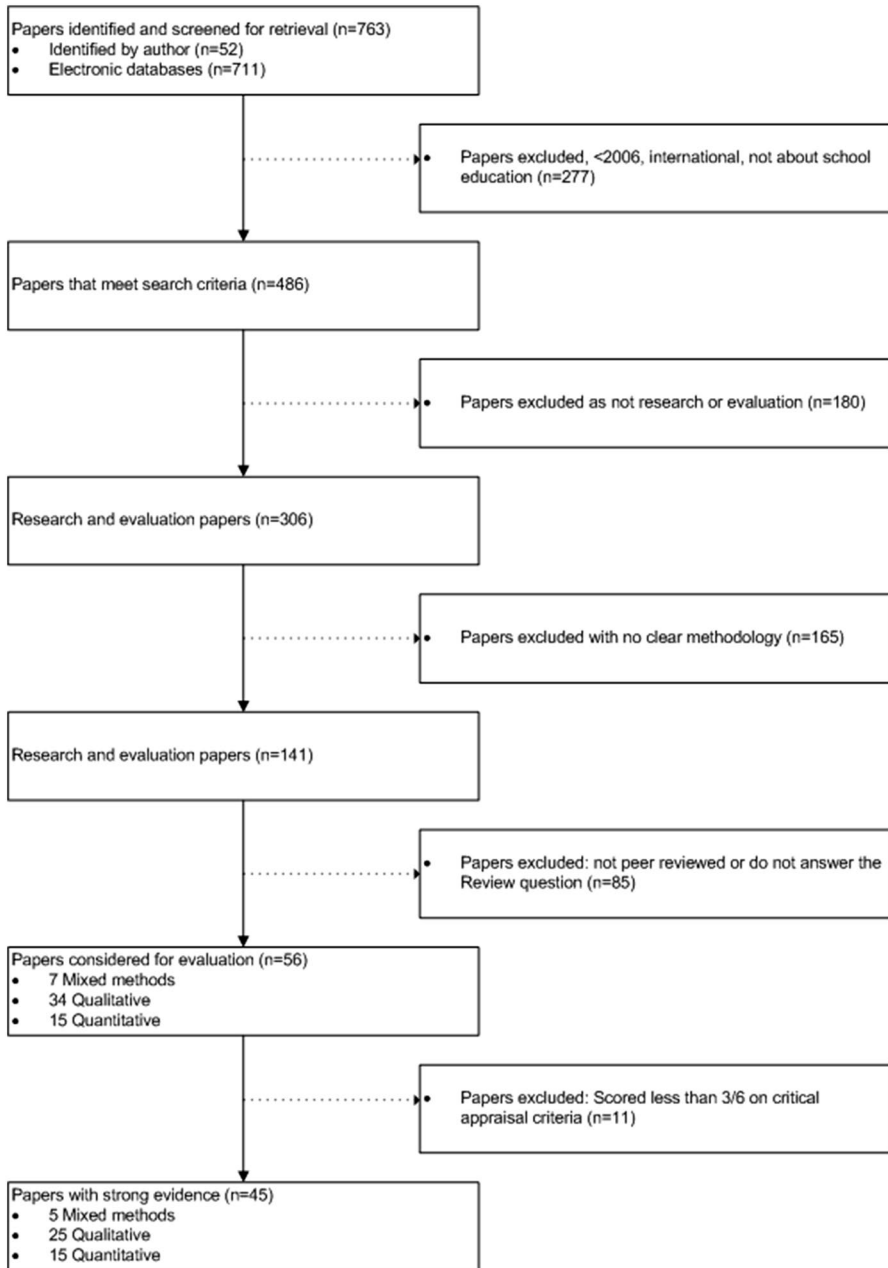


Fig. 1 Selection, inclusion and exclusion decisions

Critical appraisal assessment: quantitative studies

See Table 1.

Table 1 Quantitative studies: appraisal assessment

Citation	Clear research design	Data sources described	Findings generalisable to an identifiable population	Limitations acknowledged	Responds to articulated research questions/ hypotheses	Replicability	Unweighted score (6)
Wolgemuth et al. (2011)	Yes	Yes	Yes, Regular school attenders who maintain enrolment	Yes	Yes	Yes	6
Tyler et al. (2009)	Yes	Yes	Yes, NT school students	No	Yes	Yes	5
McLeod et al. (2014)	Yes	Yes	Yes, selected First Nations parents and children aged 3-7	Yes	No	Yes	5
Hewitt and Walter (2014)	Yes	Yes	Yes, 4 year old First Nations preschool children	Yes	No	Yes	5
Guenther et al. (2014a)	Yes	Yes	Yes, Very remote schools and communities	Yes	No	Yes	5
Biddle et al. (2012)	Yes	Yes	Yes, First Nations youth	No (though refers to a separate attachment)	Yes	Yes	5
Silburn et al. (2014)	Yes	Yes	Yes, remote communities and schools	No	No	Yes	4
McInerney et al. (2012)	No	Yes	Yes, remote schools and communities	No	Yes	Yes	4
McInerney (2012)	No	Yes	Yes, NT First Nations students	Yes	No	Yes	4
Lietz et al. (2014)	Yes	Yes	Yes, Country Area Program schools	No	No	Yes	4

Table 1 (continued)

Citation	Clear research design	Data sources described	Findings generalisable to an identifiable population	Limitations acknowledged	Responds to articulated research questions/ hypotheses	Replicability	Unweighted score (/6)
Guenther (2013)	No	Yes	Yes, Very remote schools	Yes	No	Yes	4
Cooper et al. (2012)	No	Yes	No, Pilot cohort $n=21$ only	Yes	No	Yes	4
Beattie et al. (2008)	Yes	Yes	Yes, Remote and isolated schools and communities	Yes	No	No	4
Redman-MacLaren et al. (2017)	No	Yes	No, Pilot cohort, $n=94$	Yes	Partially	Yes	3.5
Klieve and Fluckiger (2015)	No	Yes	No, small sample, $n=20$	Yes	No	Yes	3

Critical appraisal assessment: qualitative Studies

See Table 2.

Table 2 Qualitative studies: appraisal assessment

Citation	Research design, appropriate methodology described	Sources/sample recruitment strategy	Study connects to theoretical or philosophical constructs	Discusses ethical considerations, researcher positionality	Responds to articulated research questions	Research utility/implications discussed	Unweighted score (6)
Benveniste et al. (2015a)	Yes	Yes	Yes	Partially	No	Yes	4.5
Benveniste et al. (2015bb)	Yes	Yes	No	Yes	Partially	Yes	4.5
Mander et al. (2015b)	Yes	Yes	No	Yes	Partially	Yes	4.5
Mander (2015)	Yes	Yes	No	No	Partially	Yes	3.5
Mander et al. (2015a)	Yes	Yes	Partially	Partially	Partially	Yes	4.5
Etherington (2006)	Yes	Yes	Yes	Yes	Yes	Yes	6
Fluckiger et al. (2012)	Yes	Yes	No	No	No	Yes	3
Fogarty (2010)	Yes	Yes	Yes	Yes	Partially	Yes	5.5
Gaffney (2013)	Yes	Yes	Yes	Yes	Yes	Yes	6
Guenther et al. (2014b)	Yes	Yes	Yes	No	Yes	Yes	5
Guenther et al. (2015a)	Yes	Yes	No	Partially	Yes	Yes	4.5
Hardy (2013)	Yes	Yes	No	No	No	Yes	3
Herbert et al. (2014)	Yes	Yes	No	No	Partially	Yes	3.5

Table 2 (continued)

Citation	Research design, appropriate methodology described	Sources/sample recruitment strategy	Study connects to theoretical or philosophical constructs	Discusses ethical considerations, researcher positionality	Responds to articulated research questions	Research utility/implications discussed	Unweighted score (/6)
Kral and Schwab (2012)	Yes	Yes	Yes	No	Yes	Yes	5
Mander (2012a)	Yes	Yes	Yes	Yes	Yes	Yes	6
O'Bryan (2016)	Yes	Yes	Yes	Yes	Yes	Yes	6
(Oliver et al. 2013a)	Partially	Yes	No	No	Partially	Yes	3
Oliver et al. (2013b)	Yes	Yes	No	Partially	Partially	Partially	3.5
Osborne (2015)	Partially	No	Yes	Partially	No	Yes	3
Osborne (2017)	Yes	Partially	Yes	Yes	Yes	Yes	5.5
Parkes et al. (2015)	Yes	Yes	Yes	Yes	Partially	Yes	5.5
Parkes (2013)	Yes	Yes	Yes	Yes	Yes	Yes	6
Senior and Chenhall (2012)	Yes	Partially	No	Partially	No	Yes	3
Whatman and Singh (2015)	Yes	Yes	Yes	No	No	Partially	3.5
Yunkaporta (2009)	Yes	Yes	Yes	Yes	Yes	Yes	6

Critical appraisal assessment: mixed methods studies

See Table 3.

Table 3 Mixed methods studies: appraisal assessment

Citation	Research design, appropriate methodology discussed	Sources/sample recruitment strategy described	Study connects to theoretical or philosophical constructs	Ethical considerations, researcher positionality discussed	Responds to articulated research questions/triangulation of results	Research utility/implications discussed	Unweighted score (/6)
Hunter (2015)	Yes	Yes	Yes	Yes	Yes	Yes	6
Nurton (2013)	Yes	Yes	Yes	Partially	Yes	Yes	5.5
Helmer et al. (2011)	Yes	Yes	Yes	No	Yes	Yes	5
Guenther et al. (2016)	Yes	Yes	No	Partially	Yes	Yes	4.5
Guenther (2015)	Yes	Yes	Yes	No	Partially	Yes	4.5

Findings

In this section, we unpack the findings as they relate to clusters of outcomes and issues. Some papers report on outcomes that are elsewhere described as factors. For example, participation can be a factor contributing to academic outcomes or it can be an outcome itself.

Aspirations and motivation

Six papers from three separate research projects reported on issues related to aspirations or motivations as outcomes.

McInerney (2012), McInerney et al. (2012) and Herbert et al. (2014) report on a Northern Territory study which compared the aspirations or motivations of secondary aged students in remote and non-remote locations. McInerney (2012), and McInerney et al. (2012), in their quantitative analyses, reported that geographical remoteness made no difference to motivation to participate. They also found that there was no significant difference between the aspirations of Aboriginal and non-Indigenous students, though the study's scope prevented further explorations of actual achievements. In their qualitative analysis of the same study, Herbert et al. (2014) drew similar conclusions: location made no difference to aspiration or motivation. They found that remote students tended to look forward to local jobs (instead of moving away) beyond school and that school was a place to learn English.

Two other qualitative studies focus on the aspirations of young women from remote communities. Senior and Chenhall (2012) uncover expectations of school-aged teenage girls in a remote Northern Territory community and report that aspirations of these young women are linked to work, education and becoming pregnant. They concluded that the latter eventuated because of their own agentic decisions. Parkes' (Parkes 2013; Parkes et al. 2015) study of young women's aspirations in South Australia found that their identities (belonging to and connected to family) supported desires for happiness, wellbeing and resilience.

Boarding schools

Ten papers from six studies discuss aspects of boarding as an issue with various outcomes. One study (Hunter 2015) discussed factors contributing to academic success at boarding schools. In Hunter's thesis, understanding of 'success' is presented uncritically and is described as literacy and numeracy outcomes for individuals. She identifies parent and community support, personal motivation, staff support, and staff professional development as factors contributing to success. Benveniste (Benveniste et al. 2015b) as part of her PhD study identifies similar factors, but the outcomes of these are related to wellbeing and care needs of students. Another of Benveniste's papers (Benveniste et al. 2015a) considers boarding residence participation more generally contributing to self-determination and 'walking in two worlds'.

Redman-MacLaren et al. (2017) examine the transition experiences of students to and from boarding schools, with high levels of stress and relatively lower levels of resilience reported as outcomes for those who were excluded from boarding schools. They also reported that 'some secondary students reported feeling they were unfairly treated at school' (p. 8). O'Bryan's (2016) PhD thesis, based on narrative accounts of boarding school alumni, parents, community members and school staff, raises similar concerns. While she does find that some students reported increased levels of individual agency, she concludes that 'for many, the dissonance between their individual habitus and the social field of either home or school resulted in the pain of a habitus divided against itself' (p. 335).

Mander's work on transition experiences is the most extensive in the field, and his work contributes four papers to this review. His qualitative PhD thesis (Mander 2012a) is the basis for subsequent papers which explore the perceptions of parents, students and staff. From parent perspectives, Mander (2015) concludes that they perceive, on the one hand, an increase in opportunity for their children, but on the other, compromised cultural connections. Part of parents' experiences are related to feelings of loss of agency, caused by their decisions to send their children away. The students in his study (Mander et al. 2015b) also saw opportunities, but consistent with their parents' fears, also experienced homesickness, relational challenges and struggles with their identities. School staff (Mander et al. 2015a) paint a somewhat different picture in their feedback, suggesting that apparent disadvantage, and a range of social and academic factors create difficulties for the student in transition. Mander also identifies covert racism as a factor that contributes to disenfranchisement of students. O'Bryan's (2016) study also explicitly identifies racism as an experience of boarding students.

Guenther et al. (2016) offer a different analysis based on a mixed methods study that considers quantitative evidence in the light of qualitative interviews with school staff in the Northern Territory. Their study found that facilitating access to boarding, as a secondary education provision strategy, does not satisfy the needs for equitable education or access for remote secondary students. They found that in the Northern Territory, up to 1500 secondary aged students were not attending educational institutions and that there were insufficient boarding places in the Territory or elsewhere to cater for them. Even if there were, they would mostly be ineligible because they had not attended school regularly in their early secondary years. They suggest that boarding transitions remain problematic and under-researched.

In summary, the 10 papers that examine boarding provide a disturbing picture compared to the optimistic and positive images presented in the media, for example, Burin (2017) who offers romanticised views of a student 'walking in two worlds' and Pearson (2014), who describes boarding programme as 'nation changing'. However, there is still insufficient evidence on which to base boarding school policies or strategies.

School-community engagement

Only one study examined the issue of school–community engagement in some detail (Fluckiger et al. 2012). This qualitative study using ‘yarning’ concluded that participation in a play-and-learn (PaL) activity, a parent engagement intervention, empowers parents to support their children’s early learning. Other studies included here support this finding. Nutton’s (2013) mixed methods PhD thesis examines participation in mobile preschool interventions in the Northern Territory and suggests that an important element of participation is engagement of parents in the activities with their children. Guenther et al. (2015a) in their qualitative study report that from the perspective of community members, family and community involvement is a key measure of success for remote education.

Pedagogical issues

Eleven of the included papers (nine projects) report on aspects of pedagogy. There are seven qualitative, one mixed methods and three quantitative papers represented in this group.

Two of the quantitative studies analyse literacy interventions. The first, *Accelerated Literacy*, was found by Tyler et al. (2009), not to work to improve literacy outcomes in remote community schools. The authors attributed ‘poor rates of progress’ (p. 13) to ‘a combination of “Language other than English spoken at home” and “reading age at first assessment”’ (p. 13). The second, *ABRACADABRA*, did work (Wolgemuth et al. 2013), but only in terms of phonological awareness, with the caveat that ‘generalisability of our findings is somewhat limited to students who are more likely to attend regularly and remain enrolled in one school for a semester’. The third quantitative study is based on *Footprints in Time: The Longitudinal Study of Indigenous Children* (LSIC), which differs from the first two mentioned in that LSIC is not an intervention and makes no claims about programmes and their impact. This study (McLeod et al. 2014) considered EAL/D learning environments of First Nations children and was unable to draw conclusions about aspects of teaching and in relation to remote students. It made two findings; 1) that students’ ability to read in their home language was limited by access to resources; and 2) that spoken language was influenced by remoteness, with the caveat that ‘it may have been the case that vocabulary items tested may not have been within the life experiences of children in more remote areas in the study’ (McLeod et al. 2014).

A cluster of qualitative studies deal with the issue of pedagogy and traditional knowledge. Etherington’s (2006) PhD thesis, drawing on a grounded ethnographical methodology concludes that participation in school threatens or interrupts Kunwinjku (West Arnhem region) pedagogy, although the employment of Kunwinjku in schools mediates a form of relational pedagogy. Etherington concludes that the ‘Kunwinjku emphasis on relational locus of pedagogy means in fact a familial locus in thinking, only extending to ceremonial or school venues through direct interpersonal authorisation by parents and families’ (p. 451). This then, is one reason why for many remote communities (as discussed earlier) parent involvement in schools

is so important. Also in West Arnhem Land, Fogarty's (2010) PhD thesis using anthropological ethnographical methods concludes that place based pedagogies and knowledge systems highlight the disconnect between schools, community and work. This concurs with others' assessments of the disconnect between schools, community and work (see also Guenther et al. 2015a discussed later in the context of measuring success).

Gaffney (2013) in his comparative study (PhD thesis) of Papua New Guinea and a remote Australian community, considers the issue of teachers' roles in teaching 'English as a Distant Language'. He argues that teachers should recognise that students can (and do) bring local resources to their learning.

Helmer et al.'s (2011) study of early childhood teachers also focuses on teachers, particularly their adoption of professional learning. Their study, based on ABRA (see also earlier discussion on this: Wolgemuth et al. 2011) suggests that teacher resistance to the literacy tools of ABRA resulted in lower literacy gains for students.

Kral and Schwab's (2012) study of remote Western Australian communities focuses on young people's use of technology in created 'learning spaces'. They argue that these spaces—mostly outside of school—offer young people greater access to learning opportunities. Another study focused on 'out of school' learning (Oliver et al. 2013a, b) applies 'task based needs analysis' to engage young people from remote Western Australian communities in workplace tasks.

Health and wellbeing

Wellbeing is a cross cutting issue that can be either a factor or an outcome. Of the 45 studies included in the review 25 describe wellbeing issues. Four studies address aspects of health and wellbeing directly. The study by Redman-MacLaren et al. (2017) described earlier under the heading of boarding schools, has already been discussed. For the purposes of this section, the importance of their study is that it sees wellbeing and resilience as an outcome potentially negatively affected by boarding transition experiences.

Beattie et al. (2008) treat water safety as an outcome and though the study is largely uncritical in its discussion, it points to factors such as flexible delivery and local champions that support this outcome.

Cooper et al. (2012) examine sleep as a factor contributing to academic performance, particularly reading and numerical skills. Their quantitative analysis shows no association between sleep duration and academic performance but finds an association between sleep fragmentation and reduced reading and numerical performance.

Participation and achievement

Seven papers report on aspects of participation and achievement. Given that achievement (e.g. as NAPLAN scores) and participation (e.g. as attendance) can be

easily measured, as noted in the Measurement Framework for schooling in Australia (ACARA 2015), it is not surprising that six of the seven are quantitative studies. The seventh paper is a mixed methods analysis. Most of these papers examine quantitative factors that are associated with academic and attendance indicators. Participation and achievement are of course not limited to NAPLAN and attendance. However, the papers reviewed largely rely on these indicators in their discussion about outcomes.

Biddle et al. (2012) use statistical analysis and modelling of various datasets to determine if First Nations education participation is different from non-Indigenous participation, after taking into account remoteness and other variables. They found that geography, socio-economic status and remoteness explain less than half the difference in educational participation. This is consistent with Guenther (2013), who compared NAPLAN data with attendance data in very remote schools (using My School) along with measures of socio-economic advantage included with the Index for Socio Educational Advantage (ICSEA). One of the issues with ICSEA is that it double counts indigeneity as 'disadvantage' (see Guenther et al. 2015b) and this may distort the measure of actual socio educational disadvantage and any subsequent correlations with attendance and performance indicators. In a related study drawing on My School and Census data, Guenther et al. (2014a) found that what makes a difference for academic outcomes are community indicators of labour force participation, rates of English language spoken at home and higher proportions of training qualifications in the community. They found that schools which showed improving attendance rates did not have improving rates of academic performance. Silburn et al. (2014) found an array of community-based factors such as overcrowded housing, limited access to support services, and young mothers with low education levels that adversely affected academic performance. These factors are more likely to be found in remote communities and not in urban contexts. They also noted the relatively weak correlation of ICSEA to attendance rates. In a mixed methods analysis also conducted by Guenther (2015), remoteness was shown not to be related to performance. Hewitt and Walter (2014), in their quantitative study of early childhood participation, found that household income and remoteness were not associated with preschool attendance. Lietz et al. (2014) in another quantitative study built around the South Australian Country Area Program, found that increased remoteness and Indigenous status are associated with lower literacy and numeracy achievement. They found that the intervention did make a difference, but it had a much smaller effect than Indigenous status.

Measuring and defining success

The question of what success looks like or how it is measured is seldom considered in the literature. In this review, three papers address this issue directly.

Hardy's (2013) qualitative study on NAPLAN testing challenges the extent to which a standardised test takes account of learning in rural and remote contexts of far north Queensland. He argues that the test fails to recognise what students

can achieve: 'high-stakes testing practices do not reflect the necessarily situated, engaged, systematic, ongoing, authentic, connected, broad-ranging (individual, small group and whole-class) literacy teaching practices which characterise more productive/quality literacy practices, particularly for English language/ESL students' (p. 76). This in turn may suggest that NAPLAN provides an apparent measure of success that may suppress actual measurement of success. Hardy tells us to some extent what success does NOT look like. Guenther et al. (2015a) tell us what success does look like from the perspective of remote community members. They point to two main outcomes: community and family involvement in schools, and academic achievement, with the latter referring to basic literacy and numeracy outcomes. Their analysis of factors that can contribute to those definitions of success include the importance of local language teachers, a focus on health and wellbeing, relationships and multilingual learning. They see devolution of power from the centralised system to the community itself, coupled with workforce development strategies as key factors contributing to success. In a related study, Guenther et al. (2014b) examined the views of students, parents, teachers, Aboriginal Teacher Assistants and school leaders in 31 very remote schools to determine what aspiration and success look like. The study points to alternative measures of success as jobs, careers, community and cultural roles, and students staying in or leaving community. Contributing to these are factors such as behaviour (management), attendance, culture and language.

History

Only one of the included studies focused specifically on history as a frame for a discussion about contemporary educational outcomes. Osborne (2015), based on his qualitative PhD thesis (Osborne 2017), describes Anangu histories as a foundation for a discussion about contemporary education in central Australia. Osborne argues that history matters because: 'History constitutes a foundation for the present and a view to the future' (Osborne 2017). He suggests that an understanding of history will help shape non-Indigenous educators' pedagogy, and for Anangu an articulation of their own history will help them establish the strategic aims and directions of Anangu schools.

Discussion

Limitations of papers versus theses

One feature of this review is the number of papers that are based on postgraduate studies or theses. Sixteen of the 45 papers were based on 12 separate postgraduate studies. Nine papers were completed theses. None of the postgraduate studies were quantitative, though two of them employed mixed methods. In most cases, these studies ranked highly in the critical appraisal assessments. One reason for

the higher scores is the greater opportunity to fully explain methods, findings and implications, together with ethical considerations and theory. Some of the journal articles scored lower because of the length constraints of journals or book chapters.

What is not discussed

There are several important issues that are not discussed in the papers. None of the papers discussed *policy issues* in any depth. Funding, somewhat related to policy, is discussed more as a contextual factor than a causal issue for outcomes. Research on the *impact of funding* for educational outcomes does not appear in the included papers. Systemic issues are seldom discussed in any detail in the papers. For example, no papers focus specifically on *workforce development*. Nor is there a paper that focuses on the impact of *leadership* or *pre-service teacher preparation*. These are all important issues that can have an impact on outcomes for students. No papers discussed remote schooling outcomes as *employment or economic participation*. Herbert et al. (2014) discuss aspirations for work, but not actual outcomes.

None of the papers discussed schooling outcomes in terms of *language and culture*. Etherington (2006) argues that school works against culture. Kral and Schwab (2012) point to language and culture outcomes *outside* of schooling, but no studies investigated how remote schools could support language maintenance.

Methodological issues: quantitative studies

One of the major concerns with some quantitative studies that use standardised instruments is that they often fail to consider the philosophical standpoints of minority groups they are measuring. This, to a large extent, is the premise of Hardy's (2013) argument on NAPLAN testing. The other point to note, which arises from qualitative analysis in another study (Herbert et al. 2014) is that questions were asked of those who were still engaged in education. They ask the question: "What do the Indigenous youth who have withdrawn from school (and were therefore not accessed in this research) say about the schooling experience and their goals and aspirations for the future?" (p. 93). Given the high secondary attrition rates, this is indeed an important question.

Methodological issues: qualitative studies

Qualitative methodologies are generally built on paradigms of subjective reality. In the case of the studies reviewed here, many of the studies explored peoples' perceptions. It is noteworthy that in many cases, the perceptions (e.g. about what education is for or what makes it effective) of local people differ from those of non-locals (Guenther et al. 2015a; Guenther et al. 2014b). Therefore, success can mean one thing to one group of people and another thing to others.

Beyond the limitations of the different methodologies, there are limitations with the systematic review process which are acknowledged. For example, a distillation of the available evidence into 45 papers with different methods, limited focus and limited findings may suggest that conclusions will be weak. There are other concerns with systematic reviews that are dealt with by Lowe and Tennent in their paper (this volume).

What factors contribute to educational outcomes for First Nations students from remote communities?

The systematic review process provides a structured process (e.g. in the criteria for assessment of paper quality) that ensures that the answers to the question posed are deduced in a logical and defensible manner. The summary that follows emerges from this process.

The outcomes of schooling are defined by the included papers in several ways. We found seven clusters of outcomes. Several papers describe outcomes in academic terms, often as *literacy and numeracy*. A second cluster relates to *wellbeing*, often discussed in terms of vulnerability, happiness or resilience. A third cluster describes *aspirations* emerging from education, particularly related to motivations and choices. A fourth cluster, described outcomes in terms of *equity*, including aspects of access, opportunity and justice. A fifth cluster points to *participation* as an outcome, with elements of attendance, engagement and retention. A sixth cluster relates to *identities*, related to confidence and alignment (or misalignment) to ontological positions. Finally, a small cluster of outcomes are described as *relational*; particularly in terms of social networks. Outcomes then, are many and varied. When referring to 'success' few papers specifically defined what this was, but implied was a combination of the above outcomes.

Moving now to factors that do not contribute substantially to positive outcomes, the papers raise questions about the following approaches. Firstly, *remoteness* is mostly not considered to influence outcomes. Several studies challenge this (e.g. Guenther 2013, 2015) and while some studies did find correlations between remoteness and outcomes, the likely reason for this is not about geographical isolation but cultural distance instead. Secondly, *programmatic solutions* to remote teaching or pedagogy are highly dependent on other factors. Even the ABRACADABRA program (Harper et al. 2012), which was found to be effective in raising phonological awareness, was dependent on teacher attitudes and acceptance of professional learning. Beyond this, and *Accelerated Literacy*, which was found to have resulted in positive outcomes (Tyler et al. 2009), only one other study reported on a programme that was evaluated: the water safety programme reported by Beattie et al. (2008). Thirdly, of concern is the number of studies that report problems with *boarding schools* and programmes (Guenther et al. 2016; Benveniste et al. 2016; Benveniste et al. 2015a, b; Mander 2015, 2012b; O'Bryan 2016). The evidence presented here should raise concerns for policy advisors and funders, who invest significant resources

into boarding. Fourthly, we can also be confident from this review that *standardised testing* in the form of NAPLAN will not demonstrate what works well for remote students. Standardised testing at best masks the positive outcomes of students and at worst, supports racist or assimilationist expectations of education (Hardy 2013; Guenther 2015). Fifthly, we can be confident that poverty or so-called *socio-economic disadvantage* is not in itself a barrier to outcomes (Guenther 2013; Silburn et al. 2014). The studies that do show a link between low socio-economic status and academic performance reflect a range of complementary factors, such as access to resources or the products of other social challenges in communities such as violence, substance abuse and the malaise associated with lost identities leading to mental illness. Finally, we can be confident that *attendance strategies* do not work (Guenther 2013). There is no evidence to demonstrate that they work to improve attendance and there is no evidence to show that they work to improve academic performance.

What then can we be confident about in determining the factors that do contribute positively to better outcomes for remote First Nations students?

Parent and community involvement emerged as a theme in many of the studies as a predictor of and indicator of success in remote schools. The evidence suggests that parents who can support their children at school will be more likely to see their children succeed at school (Fluckiger et al. 2012; Klieve and Fluckiger 2015; Guenther et al. 2014a). Community involvement in schooling implies a degree of ownership and suggests an alignment of values, identities and knowledge systems (Etherington 2006). Coupled with this, the evidence points to the importance of *local employment* as local teachers, assistants and other staff. These local staff act as a bridge between the community, its families and the school (Guenther et al. 2015a). I noted earlier that attendance strategies do not work. However, when students are *engaged in learning* they learn, whether in or out of school (Kral and Schwab 2012). The attendance ‘problem’ in remote schools points to disengagement and agency. If we accept that local understandings of success are important then we must accept that local appropriate *curriculum and pedagogies*, fit for the context, are also important. Pedagogies that work with students and support their views of the world are fundamentally important to success (Etherington 2006; Fogarty 2010; Gaffney 2013). Finally, students’ *safety, health and wellbeing* are important priorities for learning. Without paying attention to these important factors, the mistakes of schooling reported earlier—particularly in the boarding school literature—will be repeated.

Conclusion

This systematic review has explored the factors contributing to outcomes for remote First Nations students. Across the many issues addressed in 45 included papers, the complexity of the context becomes apparent. Many of the papers examined, reported on what fails to produce outcomes—or what produces negative outcomes. Of note are the studies that expose myths, for example, that remoteness itself is a problem to be overcome.

The review raises questions about whose outcomes matter. ‘Outcomes’ to many commentators within the hegemonic power structures that define education policy are configured around literacy, numeracy, retention, transition to higher education and transition to jobs. There are many other outcomes that this review uncovers. These are clustered under headings of equity, health and wellbeing, aspirations, participation, identities and relationships.

The factors that contribute to improved outcomes—particularly those defined from a community perspective—are focussed on parent and community involvement, attention to health, safety and wellbeing, local employment, appropriate curriculum and pedagogies and strategies that build engagement in learning.

While the review has uncovered much evidence, there remain important gaps in the literature. The contributions of leadership, funding, policy, workforce development and pre-service teacher preparation, are largely ignored. The economic outcomes of remote education are also largely ignored, as are the outcomes of language and culture. These gaps could be a reflection of research priorities, but it may also reflect the strong preference for qualitative methodologies among researchers. The gaps also point to the need for different methodological approaches to find answers. For example, studies that use statistical modelling to assess the causal impacts of education on economic outcomes could be useful.

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