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A differentiated approach to Indigenous pedagogies: addressing gaps in teachers' knowledge

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Abstract

Acknowledging Australian Indigenous cultural diversity involves respecting local Indigenous knowledge and perspectives. This can be difficult for teachers who do not know about Indigenous people and their knowledge. The Differentiated Indigenous Pedagogies project evaluated digitally available information describing Indigenous in this paper, 'Indigenous' will be used when referring to First Nations and Aboriginal and Torres Strait Islander peoples, pedagogies, policies, and institutional contexts in Australia apart from references used which use other terminology. The authors acknowledge the contested nature of terminology and use the term 'Indigenous' as it is consistent with the title of the research project on which this article is based pedagogies in the Northern Territory. The purpose was to consolidate findings to increase positive intercultural actions in the wider education community. An important aspect of the project is addressing gaps in western, non-Indigenous teacher knowledge pertinent to the diversity within Indigenous language groups and regions. Through searching for available Indigenous pedagogies as a teacher might, we found information differs in description and levels of relationality. Pedagogies are presented in numerous ways which complicates teachers' cultural understandings. Common themes from search results and Indigenist educational research are used to define ways teachers can actively engage in more respectful, relational, and reconciliatory ways to develop a differentiated approach for themselves to use when working with Indigenous pedagogies.

Keywords Indigenous pedagogies · Indigenous students · Teacher capability · Australian Indigenous diversity

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Introduction

Western education has long been a tool of oppression in colonised countries (Archibald, 2006). Auld, Dyer, and Charles (2016) also note ongoing colonial legacies in teachers' pedagogical choices in Indigenous contexts. A 2017 review of preservice teachers' experiences in placements showed they felt underprepared to work with Indigenous students in Indigenous contexts (Ure, et al., 2017). This paper reports on our evaluation of how teachers might engage with available resources once in the field, and the extent to which their lack of confidence can be addressed by understanding teacher responsibility for adapting pedagogical practice. This is relevant to the common scenario of a teacher feeling underprepared and underconfident in addressing the perceived needs of Indigenous students. A teacher's interpretation of Indigenous students' needs may also be strongly impacted by lack of experience, exposure, subsequent cultural bias, and deficit models of Indigenous knowledge practices (McCallum & Waller, 2022; Stacey, 2022). For that reason, the 2021 Differentiated Indigenous Pedagogies project aimed to develop an approach teachers could use to self-scaffold a more functional engagement with and use of digitally available Indigenous-authored resources, within Indigenous contexts.

This research is situated in the NT, with the largest proportionate Indigenous population at 26.3%, whereas Australia wide is 3.2% (ABS, 2021). This research, therefore, provides a good basis for Australian teachers to be active in meeting national calls for recognition of Indigenous diversity. In addition to major legacies of colonialism, ongoing influences include the NT Emergency response or 'intervention', and the mandating of English-only instruction hour quotas (Bat & Shore, 2013). In 2016, the NT teacher attrition rates were also the worst in Australia (Aisthorpe, 2016). This set of issues can understandably exacerbate tensions felt in Indigenous contexts regarding schooling and reinforce low confidence felt by non-Indigenous teachers. To start alleviating these and other pressures, the new NT Education Strategy (2021) makes a strong statement of education as a partnership and includes other initiatives to qualify more local Indigenous teachers. It emphasises remote and urban community relationships and culturally responsive teachers who 'understand(s) the importance of drawing upon the cultural identity, knowledge and skills of each child and student' (NT Gov, 2021). However, the NT is still currently suffering teacher shortages, pay freezes, and concerns about teacher safety and wellbeing (Gordon, 2022).

Despite over 40 years of work promoting locally relevant models, teachers still feel underconfident in Indigenous contexts. There is also still a lack of diversity in representation of Indigenous language, knowledge systems, cultures, and pedagogies used in initial teacher education (Moreton-Robinson et al., 2012 Hogarth, 2018). Additionally, Ure et al. (2017) suggest that many non-Indigenous schools are not required to consider teaching Indigenous matters. Teachers' lack of confidence could be attributed to this underrepresentation and lack of exposure to working with Indigenous students and Indigenous people. The appeal of a 'one size fits all' resource could be high to a teacher under pressure, and unfamiliar

with local cultural contexts and expectations. Despite the possibility that a database of local pedagogies could exist for non-Indigenous teachers to access, teachers with no relational understanding might still treat available Indigenous pedagogical information in a similar content-delivery focussed way instead of adapting and differentiating *their own practice*. The development of an approach for teachers on how to relate to and with Indigenous contexts and content is the aim of this research, not just finding content to use in any Indigenous classroom.

Yunkaporta's (2009) 8 Ways pedagogy is relatively easy for teachers to embed into lesson planning and to show ways to respect Indigenous ontologies, despite being intricately linked to the Countries on which it was developed in western New South Wales. However, its simplified use as a panacea could keep levels of relationality as an 'inclusion' of Indigenous knowledges within western pedagogical and delivery paradigms. 8 Ways' widespread utility goes some way to allowing teachers to feel empowered; however, it does not necessarily challenge teachers to expand their capacity to work with locally relevant Indigenous contexts. It can further perpetuate monolithic interpretations of Indigeneity by presenting one model as useful for all Indigenous learners, distantly echoing 1980s Indigenous learning styles theory (Morrison, et al., 2019). Our research contends that a differentiated approach is required for teachers to develop for themselves. This takes the focus away from the teachers 'delivering' a pedagogy to Indigenous students and shifts responsibility for teachers to engage in reflexive practice to match the diversity of Indigenous people. We seek to support the practice of teachers working with Indigenous knowledge in Australian educational contexts so they can better respect, relate, and act in increasingly reconciliatory ways as professionals, and meet Australia's teaching standards.

Defining differentiated Indigenous pedagogies

For the purposes of this work, we define differentiation as pluralistic and diverse approaches to cater for learning environments with many variables to be addressed. We place emphasis on teacher attitudes towards knowledge and learning rather than delivery of specific content or classroom methods as influential to how teachers might differentiate their practice. This range of approaches is also a result of varied understandings of the definition of the term 'pedagogy'. We define pedagogy as strategies that teachers choose to employ to deliver learning in a way that best meets the needs of the learner. Teachers then might understand the needs of the learner differently, depending on the extent to which deficit discourses inform their approach to teaching Indigenous learners (McCallum & Waller, 2022). Teachers' capacity to reconcile perceived socio-cultural, creative, and relational demands of their work also determine their approaches to pedagogy (Stacey, 2022). Therefore, conceptualisation of differentiated pedagogies warrants more work to be done to support a respectful approach to engaging Indigenous pedagogical knowledge by teachers themselves, to improve relationships and outcomes with students and school communities.

The overarching research question for us then, is: What Indigenous pedagogies will teachers be able to find and how could they adjust their own practices for using available information?

Respect, relationships, and reconciliation

To answer this main research question, this paper aims to build on important work done by More Aboriginal and Torres Strait Islander Teachers Initiative (MATSITI, 2013) and the Australian Council of Deans of Education (ACDE 2013), mapping our further research questions to the 3R MATSITI modules:

1. **Respect:** How can teachers use pedagogical resources that support reflection on self and cultural awareness and working at the cultural interface (Nakata, 2007)?
2. **Relationships:** How do pedagogical resources support acknowledgement of situated language and Knowledge Authority in teacher-student-school-community relationships?
3. **Reconciliation**: How can teachers engage pedagogical practice to better reconcile impacts of colonialist education, and continue to create a more inclusive education system using locally relevant Indigenous knowledge?

This paper frames these three principles for teachers to scaffold their approaches to using Indigenous pedagogical knowledge in alignment with 3R modules and a background of Indigenist educational research. We present selected NT-based pedagogical resources to share how these can actively support more teachers' understanding and culturally safe confidence in the wider education community. This research aims to support teachers with knowledge, skills, and capacities to develop their own professional practice and scholarship at the cultural interface (Nakata, 2007) and the ability to work better with Indigenous learners. This aligns with Australian Professional Standards for Teachers 1.4, 2.4, & 1.3 and AIATSIS priority research theme 1: Valuing Indigenous knowledge and methods. AIATSIS state on their website that with regard to Education—"Our aim is to influence what children learn at school about Aboriginal and Torres Strait Islander Australia and support teachers and schools to teach confidently"(Institute and for Aboriginal and Torres Strait Islander Studies (AIATSIS), , 2021).

An actively increased awareness could allow teachers to differentiate their practice more functionally with Indigenous pedagogical approaches across Australia. The benefit of teachers being able to engage Indigenous pedagogies is that they will be better able to adapt teaching and learning to suit the needs of *all* their students, particularly Indigenous students.

Conceptual framework

The NADPE review noted that "…Specialist knowledge and resources are needed to address Indigenous education issues" (Ure et al., 2017, p. 18). Respect, relationships, and reconciliation in application of specialist knowledge such as threshold concepts (Moodie, 2019) could support overcoming structural barriers to improving education for Indigenous students (Ford et.al., 2013). Aligning with MATSITI's '3Rs', threshold concepts can deepen understanding of Indigenous studies in education.

We align 3R principles with threshold concepts and Indigenist educational research to form a Differentiated Indigenous Pedagogies approach.

Respect and the cultural interface

Respecting diversity of Indigenous knowledges and learning processes at the cultural interface (Nakata, 2007) is a foundational concept for this framework. In particular, respecting lived Indigenous evidence and experience of dispossession requires more respectful action at the core of teaching in Indigenous contexts. This can add to the disruption of the regimes of truth (Moodie, 2019, p. 12) that teachers can either perpetuate or block in their practice.

The cultural interface (Nakata, 2007) can frame the interactions between teacher practice and Indigenous culture and school settings. By engaging with Nakata's three standpoint principles, generating accounts of experience, creating agency for new knowledge, and respecting what can be said, known and learned, teachers can scaffold their humility and new practice rather than perpetuate a dynamic which 'includes' Indigenous knowledge within the western educational paradigm (Baynes, 2016; Ford et al., 2014a, 2014b).

Indigenous students' futures are likely just as, if not more, complex than the spaces they currently live in, so teachers need to develop their own scholarship in the cultural interface to keep discovering ways to be self-aware and effectively demonstrate respect when serving Indigenous students and relating appropriately to Indigenous knowledge systems (Nakata, 2007). Therefore, teachers need to learn ways to respect sustainably the diversities of cultural truth and lived experience of each context in which they work.

Relationship to country, place, and the truth of lived experience

Appropriately relating to placed knowledges regarding language, kinship, and community is a way to show respect for the distinction of Country from western concepts of 'land', defying simplistic categorisation (Moodie, p. 9). This primacy of place directs teachers to adapt to priorities of the local culture and community of learners whether it be inner city, regional or remote communities. Knowledge Authority (Christie & Verran, 2013; Douglas, 2015) also offers an understanding of the primacy and governance of placed knowledge. In western education, access to knowledge can be considered a right or entitlement. The concept of Knowledge Authority can help western teachers to understand a relationship to knowledge which underscores Indigenous governance structures and distinct roles therein and develop a more nuanced understanding of how knowledge is managed in different cultures. For non-Indigenous teachers, this helps understand further distinct levels of custodianship of, responsibility for, and access to knowledge.

Teachers can frame their relationship to Indigenous Knowledge Authority as not *in* community but *alongside* it. Whilst both ways of learning (Yunupingu, 1989; Ober & Bat, 2007) may present as a gracious invitation to blend western and Indigenous knowledge in a consensus or Ganma (Marika, 1998), it is also helpful

to acknowledge and respect the differences and distinction between knowledge systems. Aligning with the approaches discussed here, Guthadjaka (2010) names multiple sources of knowledge in learning and teaching that need to be acknowledged and respected. Taking the lead from senior Indigenous authorities in this way can inform an approach to being entrusted with a teacher's role, whilst not being an original member of a knowledge community.

This can offer teachers a way to develop practices that relate to learners and respect what they should be responsible for themselves. Acknowledgement of local realities, and respect for knowledge stemming from place creates an approach to teachers' own differentiation, openness, and adaptability to each community's needs. In these reflexive ways, teachers can actively respect and relate to students' cultural backgrounds and be less culturally invasive with their practice (Freire, 1970). This placed pedagogy demands allegiance to the situated language and cultural diversities across Indigenous Australia. Therefore, teachers need to actively build relationships based on respect for the knowledge and cultural backgrounds of their workplaces.

Reconciliation of racialised education

Bilingual policy reversals in the NT have reinforced the racialised history of education-based violence (Bat & Shore, 2013). Over 250 Indigenous languages (with 800 dialects) are spoken in Australia (AIATSIS. n.d.). Given this diversity, respecting language diversity informs the differentiated pedagogies process, as local pedagogies originate in local languages. The bilingual school era in the NT demonstrated the positive social, health and cultural impacts of teaching and learning in language (Marmion et al., 2014). Respect for language and cultural backgrounds also establishes more respect for languages' capacity to claim and develop learning in its own terms. Teachers' embodiment of this respect could be seen as reconciliatory action given the history of language oppression, the bilingual era in the NT and subsequent cancellation of it in the 90 s (Bat & Shore, 2013).

Ensuring that actions attempt to reconcile racist policy via language-supportive pedagogies can help teachers develop an understanding of the history of teachers' racialised privilege and Indigenous people's lived experience, especially in active recognition of ongoing violence in colonial education (Moodie, 2019; Vass, 2014). When visiting someone else's Country or Community, extending an open willingness to meet learners within their frame of reference can show respect and more relationality beyond a rote acknowledgement of Country.

Teachers can embody a deeper reconciliatory position by making more room for student's languages. In CDU's Yolŋu studies program, language literacy, philosophy and culture is taught but fluency is not necessarily gained (this would take many years). This helps participants develop *epistemic humility* when dealing with Indigenous languages and related knowledge systems. Hendy and Bow (2021) refer to positive reception of non-Indigenous people engaging learning language in Ngukurr (NT). However, a non-Indigenous teacher merely thinking a few phrases in language is a measure of respect does not acknowledge the ontological depth and significance of Indigenous languages, nor their oppression

by colonialist legacies in schools. Not understanding all about language, but still respecting their significance in school settings disrupts conventional teacher managerial dynamics. Teachers, therefore, need to learn ways to respect and share space for the languages and cultures of students' lives.

Reciprocating students' effort to work in western educational paradigms mandated by colonial education echoes Nehrez's (1991) assertion that the coloniser must undertake responsibility for addressing systemic bias and dismantle oppressive institutional structures. By encouraging teachers to participate in the decolonisation of their own practice under the leadership and direction of Indigenist research and programs like 3R, differentiated pedagogies by and for *teachers* can contribute towards reconciling racist teaching approaches which treat Indigenous students with a monolithic perception and pedagogy.

Protocols and Method

The Differentiated Indigenous Pedagogies was Indigenous led. The research team included Indigenous and non-Indigenous members. We have negotiated and shared roles for each part of the project, including publication. The team aimed to align with this paper's ethos that non-Indigenous colleagues should be taking initiative to differentiate their knowledge practices. We have worked to best embody the 3R principles in doing this research; respecting Indigenous colleagues' places and spaces, developing relationships to lived experience of education, and working to reconcile racialised dynamics in institutions. In our aim to find Indigenous authored resources and approaches we have also aligned our work with AIATSIS key principles for research (2020). We hope our work will support more Indigenous self-determination, leadership of learning and knowledge practices, and develop more value, impact, and sustained accountability in the broader teaching community.

Because we wanted to discover what teachers could find whilst in the field, our preliminary search attempted to plausibly replicate teachers' experience. Given teachers' feelings about teaching Indigenous students (Baynes, 2017, Ure et al., 2017), we began with basic Google searches they might use, such as 'how to teach aboriginal students' (see Fig. 1/ Finding 1).

We added keywords like 'NT' and regions therein, names of communities and schools, as well as language groups. Understanding that teachers' searches would use different terms for pedagogies, we used key word search terms such as 'Indigenous' and 'Aboriginal and Torres Strait Islander', 'teaching', and 'learning'.

This search yielded locally situated models and frameworks, and much research on pedagogical practices. This, in turn, led to philosophies and approaches, overlapping with analogies, and stories related to learning shared by Indigenous leaders in education. Related searches also recommended toolkits, lists of resources and example tasks for using with Indigenous students as part of special interest groups' websites. This iterative process then led to us developing a series of *types* of resources in the Finding 2 (Table 1) of types and locations.
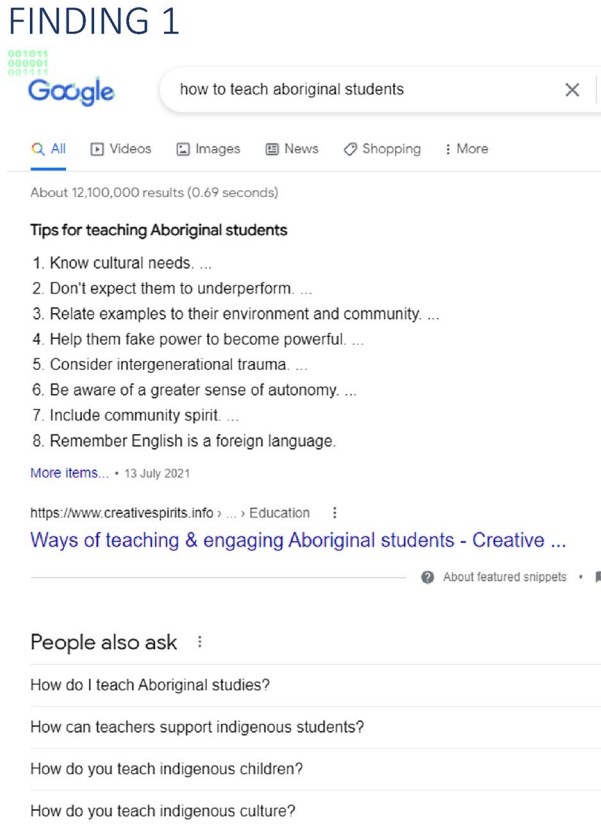
FINDING 1

Fig. 1 Google search screen capture for top findings for 'how to teach aboriginal students'

We then searched for patterns across different studies and findings (Patton, 2014; Poirier & Behnen, 2014). We mapped patterns of the 3Rs with those of the conceptual framework (see Finding 3 below).

Methodological ramifications

Given the decades of work in this field and how terms are used and interpreted, the method captured countless results of online work in the field, locally and globally. It could not capture all NT-situated practices that exist offline. Publication online comes with risks, and we acknowledge that many communities keep their practice and pedagogy offline and local (Bat & Shore, 2013).

We accept that teachers' pedagogical interpretations are also affected by a range of socio-cultural elements, including deficit modelling, monolithic perspectives of Indigeneity, and various feelings of unpreparedness and lack of confidence mentioned in this paper. We also acknowledge that teachers would not always have access or wherewithal to re-engage resources they used in their university candidature.

The research questions allowed for many variables in the space between teacher education, application of knowledge, search results and efficacies. For this reason, we collated a brief number of exemplary NT-specific *types* and analysed them for alignment to our conceptual framework. In this, we aimed to distil what the exemplars embody into actions that teachers could take. We respect that though this method is simple, it did meet our research aims in scoping and evaluating what teachers could do with the information available to them when they search under stressful circumstances.

Findings

Searching school websites on Google enabled results which included reports, websites and other references not published in academic journals, and international pieces of work. Google search, whilst impacted by many factors, would likely be a go-to method for anxious practitioners despite teacher education programs offering a range of strategies. Teachers doing remote on-call work may resort to searches that offer quick solutions to their weekly teaching assignments, to address their feeling unprepared; that is, if remote placements offer reliable internet or Wi-Fi to do such searches.

Preliminary search results included links to commercial websites and social media posts sharing bite size information as depicted in Fig. 1. One such social media account has a website linked which teachers can pay monthly fees to subscribe to content linked to the Australian Curriculum. Other initial things Google recommended were 'commonly asked questions' such as;

- *what are **the 4** elements of an Indigenous world view?*
- *What is **the** Indigenous world view?*

There are also algorithmic influences in Google that contributed to the results in Fig. 1 below, reinforcing a shallow level of relationality to Indigenous students and their learning experience. Albeit helpful reminders, these 'tips' represent more nuanced and complex dynamics.

Finding 1

As depicted in Fig. 1, the number of results in the original search was twelve million at the time we took this screen capture. The featured 'tips' list is a 'featured snippet' chosen by the engine's automated systems. The next set of 'People also ask' demonstrates the automated systems' selection of searches teachers have presumably conducted. These four examples could also demonstrate the lack of understanding of what teachers should be teaching: 'children,' 'culture,' or 'support' demonstrating the varied interpretations of pedagogical practice relating to Indigenous schooling contexts.

Resources located as originating in the NT included peer reviewed, academic research requiring subscriptions to journals, lists of tips, tricks, strategies, lesson

Table 1 Selected NT resources, by type and description

NT resource	Source, location, language, and authorities (Indigenous -led and non-indigenous led)
Models and frameworks:	Two-way learning model; in Anangu, Pitjantjatjara, and Areyonga languages and Authorities
	Explicit instruction; Alawa School (Suburban Darwin, NT Government School))
	Jinta jarrimi; Warlpiri Triangle Schools, Warlpiri pirrjirdi, Warlpiri Authorities
School-based pedagogies	Gamara Fimityatit: Saint Francis Xavier Catholic School, Nauiyu (Daly River) Ngan'gikuruggurr language, Malak Malak people
	Yipirinya (Caterpillar): Yipirinya School, Mparntwe (Alice Springs), (teaching in Central Arrernte, Warlpiri, Luritja, Western Arrernte and English) Arrernte Authorities
Approaches	Both Ways Learning; Yunupingu, M.; Ober, R. & Bat, M. Batchelor Indigenous Institute of Education, Northern Australia, multiple authorities
Knowledge analogies and philosophies	Garma, Ganma, Galtha Nathu. Marika, R. (1998) Northeast Arnhem land, Yolŋu Language and Authorities
	Leaching the Poison (Marika, R. 2009) Yolŋu Language and Authorities
Tools and resources	Gäwa Poster (seasonal calendars) Gäwa, Elcho Island, Northeast Arnhem land, Yolŋu Language and Warramirri Elder Kathy Guthadjaka
	Bininj Kunwok Regional Language Centre, West Arnhem land, Kunwinjku, Kunwinjku, Kuninjku, Kundjeyhmi, Manyallaluk Mayali, Kundedjnjenghmi, and two varieties of Kune. Bininj Authorities
	Teach in the territory Remote teacher's webpage (2018) and Guide (NT Government)
	Growing up Yolŋu (CDU, Lowitja Institute, Northeast Arnhem land, Yolŋu)
Curriculum	NT Culture and language curriculum (NT Government)

plans, and resources presenting a range of objects for teachers to use, and a wide gap in relational significance of teacher's professional choices. Given the range of functions given in each example, it was near impossible to establish that they belonged in one discrete category. From the NT-specific results which we could find, we organised general categories and examples below in Table 1 to present exemplars as per their functionality; thereby addressing our aim to scope how teachers might engage with such information. We have selected those that best align with this paper's framework.

Finding 2

We then analysed the search results for alignment to the cultural interface, 3R and threshold concepts in Table 2.

Finding 3

Table 2 selected NT resources, analysed for alignment to 3r, threshold concepts and cultural interface

| Resource	Analysis notes; alignment to conceptual framework
Jinta jarrimi	Relates to local land-based knowledge and in depth learning by teachers. Yuendumu School Values shared in language. demands contextual immersion and learning posture with cultural and epistemological humility
	Centres Primacy of place and Country, with Relationality to people, language, and culture
Families and first teachers (FAFT)	Developed by government and 3R alignment depends on delivery methods
	Respects self- determination efforts as well as kinship basis for knowledge, reconciles more invasive previous practices of economic and educational participation and validity
Explicit instruction; Alawa school	Acknowledges some content required prescriptive methods that support obtaining skills
	Respects range of skills and approaches required for each set
	Engages educational policy that enables conventional western educational success
Both ways philosophy/ both ways learning	Approach and philosophy that respects exchange, negotiation, and requires deepened and ongoing understanding of dynamics informed by cultural, historical, and ontological influences and intersections
	Requires respect for Indigenous Knowledge Authority, and implications of racialised educational policy
Gamara Fimityatit	Includes English language requirement within a Christian School
	Relates to local language, significant analogies, Country, and Place
Yipirinya (Caterpillar)	multilingual and multicultural schooling
	Relates to Country and Place via cultural references to children's knowledge
Garma, Ganma, Galtha, Nathu, Leaching the Poison	Philosophical postures or principles which inform interactions and positioning in relationships
	Respects time frames and processes borne from Country that enable knowledge relationships to be built and structured in culturally safe ways
NT Culture and language curriculum 2002	Land-based curriculum in collaboration with Indigenous Leaders that would require local adaptation and language / cultural authority input to use
	Relates to Place and Country, as well as seasonal language, dependant on regional diversity
Gäwa (seasonal calendars) Poster	Highly localised and deep ecological knowledge informing Gäwa school curriculum
	Respecting locally organised knowledge relating to Country and kinship, and reconciling knowledge legacies relating to what is and is not considered 'science'

Table 2 (continued)

Resource	Analysis notes; alignment to conceptual framework
Bininj Kunwok Regional language centre	Requires scaffolding for pedagogical use and local programming in region Relates to a specific place and Country, requiring cultural authorities as stewards
Growing up Yolŋu	Early Childhood practices in Arnhem land, Supportive examples of family-based learning interactions that could show teachers ways to interact Relates to family structures as Knowledge Authorities, reconciles dispossession from language and Country
NT Remote teacher's guide Teach in the territory remote teacher's website (2018)	Supportive booklet (2018) and website suggesting ways to adapt and shift some mindsets. Could be very powerful if revisited each time when remote and adjusted with increased local experience Reconciles educational policies in supporting teacher responsibility for adjusting their pedagogical choices and postures to knowledge practices

Discussion

What Indigenous pedagogies will teachers be able to find and how could they adjust their own practices for using available information?

Indigenous digital resources are framed by Christie and Verran (2013) as "artefacts of lively learning conversations" (p. 307). Similarly, the pedagogical resources discussed in this section embody learning processes teachers can pursue. Rather than stand-alone objects, these resources demonstrate capacity for more affective impact on teachers' learning postures and pedagogical choices. This discussion identifies specific elements in resources and pedagogies that teachers can use to improve their professional practice in Indigenous contexts.

Variables exist in the space between teacher education, application of knowledge, search results and pedagogical values. For this reason, we weave our discussion within the 3R framework, AIATSIS research principles, and related concepts discussed earlier in this paper. Developing an active approach can therefore help identify the ways teachers can engage beyond 'content delivery' in their practice. We drafted a visual depiction of this approach in Fig. 2 below. Teachers can use this cycle to scaffold and differentiate their own engagement with Indigenous pedagogies. By forming active moves out of exemplar principles handed down via Indigenist leadership, teachers can learn from Indigenist resources and pedagogies. With this approach in mind, we can answer the research questions.
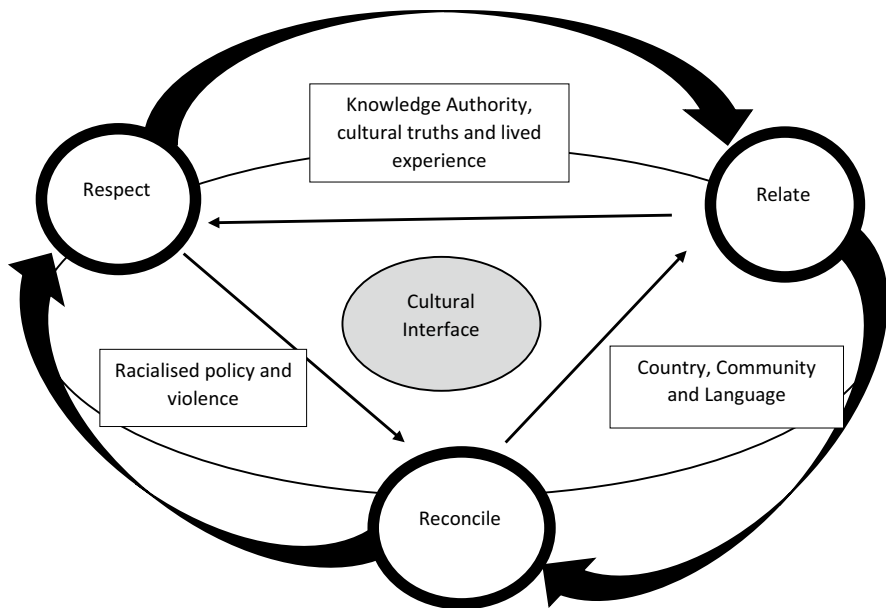
Fig. 2 An approach for teachers to differentiate Indigenous pedagogical information. This approach embraces the 3Rs and Threshold concepts at the cultural interface where teachers work in Indigenous contexts. The process is multi-dimensional and multi directional, not linear or finite

How can teachers use pedagogical resources that support reflection on self and cultural awareness and working at the cultural interface (Nakata, 2007)?

Respecting: know yourself and what you don't know

Indigenist educational philosophy articulates positions which can help teachers *continue to* widen their scope of what learning can look like. The principles described by AIATSIS (2020) for self-determination can keep growing more respectful teacher actions. Emphasis is placed on ongoing activities in this contested space, to keep growing more new knowledge in the cultural interface. Both Ways philosophy (Yunupingu, 1989, Ober & Bat, 2007) is highly beneficial to developing long-term professional scholarship in the cultural interface. Both Ways can lend itself to more sustainable collaboration with situated authority, accountability, and respect for knowledge systems that can work with each other. Marika's concepts and Leaching the Poison framework (1998, 2009) can transform dynamics with respect and relationality on multiple positions. Guthadjaka's description of learning (2010) also emphasises the pluralities of knowledge sources. Teachers learning to be aware of themselves within these dynamics can actively grow their accountability, impact and value-add to the cultural interface and develop respectful interactions in Indigenous education settings (Institute and for Aboriginal and Torres Strait Islander Studies (AIATSIS), 2021). This evolves the teacher-student relationship beyond 'delivery', and more towards respecting rich Indigenous knowledges in site specific ways.

Pedagogies and models that address the needs of students to 'work' in both worlds can also demonstrate a respect for the capacities of teachers and students to living and learning in the cultural interface. Alawa School Explicit Instruction (EI) features a methodical structure to building skills with students. Similar use of EI has been discussed by parents in remote northern Australia as inclusive of cultural learning experiences (Lewthwaite et al., 2015).

As said in the earlier parts of this paper, respect for the cultural knowledge one may and may not know encourages epistemic humility that could benefit teachers in all contexts. This can support teachers in respecting students' and a community's lived experience as informative evidence of how learning and knowledge has developed there, and add to the disruption of regimes of truth (Moodie, 2019) from which they need to abstract themselves to generate new teaching knowledge and practice in the cultural interface.

How do pedagogical resources support acknowledgement of situated language and knowledge authority in teacher-student school-community relationships?

Relating: know your students and their backgrounds

Local pedagogies are dependent on situated and connected practice and relationship building. Jinta Jarrimi programs in the Warlpiri Triangle (Browne & Napaljarri, 2021) promote community centred, localised models that are likely to be most successful, if worked on with leadership from a cultural authority in the schools (Institute and for Aboriginal and Torres Strait Islander Studies (AIATSIS), , 2021). The curriculum in Warlpiri Triangle's Jinta Jarrimi program involves teachers in a series of deep learning and listening on-Country workshops to immerse them in the epistemic ecology of the curriculum, determined by and led by Indigenous teachers on Country (Browne & Napaljarri, 2021; The Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), 2021). The Arrernte Yipirinya (caterpillar) traditional story from Yipirinya school also connects its ethos to this Arrernte story as a main flagship multilingual school started in the 1970s.

Given the internet search limitations, it is likely that teachers would need to wait until they arrive in their setting to learn more from local authorities (Bat & Shore, 2013). Being physically present to form respectful relationships with local learning models is, therefore, a main result of this analysis and conducive to building sustainable accountability (The Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), 2021). This practice could teach non-Indigenous teachers more about respect for the dispossession from Country. Country-based Programs, convened by teachers with relationships to the knowledge and community culture, can defy teachers' potential simplistic categorisation (Moodie, 2019) of the example of Yipirinya's ethos as 'just a pedagogy for the school' and ground it in regional knowledge.

The NT Indigenous Language and Culture Framework (2002) shows relationality at the cultural interface that encourages the distinction of Country from land concepts dominant in western paradigms (Moodie, 2019).

The NT Indigenous Language and culture curriculum (2002) visually and geographically connects to Country, shares accounts, and creates agency through local contacts and strands, such as the land and connections to language. Used in conjunction with ongoing application of the recommendations in NT teaching handbook, this situated practice could best work with leadership from Knowledge Authorities to support teachers. It can be argued that a common factor of successful Country-based programs is the leadership of local authorities (Wallace & Author, 2016). Locally led and designed teaching approaches are more connected to community, language, and the Knowledge Authority in place on that Country.

How can teachers engage pedagogical practice to better reconcile impacts of colonialist education, and continue to create a more inclusive education system using locally relevant Indigenous knowledge?

Reconciling: know what (and from where) you teach

Active recognition of ongoing violence in colonialist education (Moodie, 2019) can be observed in programs like Charles Darwin University's (CDU) Yolŋu Studies program and the Growing up Yolŋu (Lowell, et al., 2019) project. Through framing access to, and use of, local language and knowledges within the cultural interface, learning languages is managed via kinship organisation and protocols. In the Yolŋu Studies program, Senior Yolŋu lecturers have taught via livestream from on-Country in east Arnhem Land as an act of respect for the situated knowledge, language, and philosophy of their Clans, and out of acknowledgement that CDU's main campus is on Larrakia Country. Growing up Yolŋu demonstrates parenting, early language learning, and education practice as it exists in Yolŋu kinship structures. This example extends beyond compartmentalised western curriculum to offer a view on highly integrated social and emotional learning without western interruption.

Another good example that reconciles pedagogy in the cultural interface is the Gäwa Gurruwilyun Yolŋu Seasonal poster (Guthadjaka, 2020). Covering significant work in Yolŋu women's science and providing the basis for a successful bilingual curriculum for Gäwa school, the Yolŋu seasons Gäwa poster demonstrates situated and contextualised learning in local biodiversity and Knowledge Authority. Guthadjaka, the senior Yolŋu authority on the project, demonstrates ways to evolve past western scientific categories of knowledge and communicate from a Yolŋu standpoint that creates agency for Yolŋu accounts of knowledge in contested scientific spaces. This example advances the social justice of knowledge management on Country and in contested epistemological spaces such as education and science (Funk & Guthadjaka, 2020).

Teach in the Territory has also published a teacher handbook (2018) which speaks to new teachers to the region about cultural postures in their professional roles. If this were more interactive as a professional learning opportunity to increase

cultural knowledge of teachers, it could provide an ongoing professional development opportunity to grow important collective knowledge in this area of regionally significant skills.

Based on the analysis of each type of approach, and echoing Guenther et al. (2019), very few approaches will work systematically across all contexts. This finding suggests a focus on a continued learning and skill development rather than collecting and codifying 'Indigenous content' would be more sustainable for differentiating teachers' pedagogical approaches. This could support teachers' confidence to scaffold with respect for Indigenous self-determination of knowledge practices. Given historical educational dispossession, teachers having confidence to 'step up and step back' for Indigenous leadership of developing impact and value can lead to more sustained efforts to be accountable for reconciling racialised educational violence (Institute and for Aboriginal and Torres Strait Islander Studies (AIATSIS), , 2021).

Conclusion and recommendations

This paper's analysis has found that teacher practitioners need to apply different strategies in the field and work in the cultural interface, developing their scholarship to provide an educational experience with the greatest chance of success (Nakata, 2007; Sarra, 2005, Woodroffe, 2016; 2019). Any one of the types of 'pedagogies' we have found could be misused on their own, and lead to shallow relationality which ignores cultural interfaces, place, Knowledge Authority, language, and responsibility for dismantling oppressive structures. Used in the 'plonk it in' paradigm (Nakata, 2007, p. 8), the resources presented here could also lead to similar usage that perpetuates monolithic expressions of Indigeneity and knowledge management. It is not an extensive database of resources that can deliver better teacher choices, but differentiated ways of thinking about learning and knowledge which could make the shift for teachers to grow confidence and capability.

Although a teacher may be underconfident with Indigenous contexts, they may approach the task of increasing their cultural awareness or responsiveness in quite different ways. Hattie (2012) states that expert teachers have an intuition about how best to cater for their students. This paper presents that some of the ways teachers can build a strong foundation for growing and building on that intuition. In response to our three research areas, we recommend that teachers in Indigenous contexts (either novice or veteran) continue to take the following initiatives to make their work sustainable and accountable (Institute and for Aboriginal and Torres Strait Islander Studies (AIATSIS), 2021):

1. **Respecting**; Develop awareness and curiosity for the diversity of Indigeneity and associated culturally informed perspectives on self-determination of knowledge practices like teaching. Embody cultural and epistemic humility in the face of lived experience and evidence. Repeat.

2. **Relating**: However, familiar one may be to a region, continue to defer to Indigenous leadership in relating to Country, languages, cultures, and communities to grow suitable approaches to working with knowledges at the cultural interface. Build and maintain relationships on this trustful behaviour. Repeat.

3. **Reconciling**: Honour the impacts on language and racialised educational interactions by stepping aside to make ontological room for ways learning can look in Indigenous contexts, especially as a visitor. Adapt your practice for this action to continue to add impact and value to professional choices. Repeat.

This research highlights the fact that it is not enough to expect that teachers will know how to find information by searching for themselves through the current resources most readily available. Teachers (especially inexperienced) need scaffolded practical guidance which is best informed by Indigenous people and their shared knowledge applicable to educational contexts. The terms used to discuss learning about Indigenous pedagogies range from awareness and competence to reflexivity. The key to progress is the *taking of respectful, relational, and reconciliatory action* as opposed to teachers petrifying themselves by fear of being seen to be politically, socially, or culturally imperfect or incorrect. Not wanting to offend is not a reason to do nothing.

Data availability Not applicable

Declarations

Competing interests The authors claim no conflict of interest associated with this research.

Ethical approval This research was desk top research and did not require human ethics clearance

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