

## Research Article

\*Current address: Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Victoria 3800, Australia

**Cite this article:** Frazer B, Yunkaporta T (2021). Wik pedagogies: adapting oral culture processes for print-based learning contexts. *The Australian Journal of Indigenous Education* 50, 88–94. <https://doi.org/10.1017/jie.2018.24>

Received: 19 March 2018

Revised: 12 September 2018

Accepted: 12 November 2018

First published online: 4 February 2019

### Key words:

Aboriginal ways of learning; indigenous literacy; Indigenous methodologies; Indigenous pedagogy

### Author for correspondence:

Tyson Yunkaporta, E-mail: [Tyson.Yunkaporta@monash.edu](mailto:Tyson.Yunkaporta@monash.edu)

# Wik pedagogies: adapting oral culture processes for print-based learning contexts

Baressa Frazer<sup>1</sup> and Tyson Yunkaporta<sup>2\*</sup>

<sup>1</sup>Aurukun Public School, Aurukun, Queensland 4892, Australia and <sup>2</sup>Faculty of Arts and Education, Deakin University, Victoria 3125, Australia

## Abstract

This paper explores the possibilities of designing a Wik pedagogy, drawing on the language and culture of the remote community of Aurukun on Cape York. The research was inspired by the emergence of Aboriginal pedagogy theory in recent decades, along with a resurgence of interest in cognitive linguistics indicating an undeniable link between language, culture and cognition. We are Aboriginal researchers, relatives with strong family ties in the Aurukun community and beyond. We are bound by community obligations and cultural protocol and so the methodology privileged the local cultural and language orientations that inform Indigenous knowledge production. It involved participating in knowledge transmission in cultural contexts and undertaking a relationally responsive analysis of local language. The methodology enfolded Indigenous standpoint theory, yarning methods and auto-ethnography, a rigorous process that informed the development of a Wik pedagogy. We found that Wik knowledge transmission is embedded across multiple disciplines and modalities, such as weaving, fishing, carving, stories and images in both male and female cultural activities. The observed patterns of these activities revealed an example of a structured learning cycle. Some elements of this proposed Wik pedagogy may be generalisable to other language groups, such as the tendency for listening to be equated with understanding and cognition. This is a feature of many Aboriginal languages and cultures along with narrative, place-based and group-oriented approaches to knowledge transmission. In terms of implications for Indigenous research, the use of Indigenised methods such as umpan and relationally responsive analysis represent potential ways forward in Indigenous standpoint theory and methodologies.

## Context

This paper explores the possibilities of designing a Wik pedagogy, drawing on the language and culture of the remote community of Aurukun on Cape York, in the context of an emotive and political interface of competing ideologies and economic tensions. The work is not commissioned, funded or sanctioned by any organisation or institution, but is autonomous research performed solely by two siblings from the community seeking to offer a decolonising theoretical framework to contribute to the advancement of an appropriate local pedagogy. It is unapologetically grounded in the customary logics and knowledge production methods of the Indigenous researchers, and so diverges significantly from mainstream research practice. The findings represent understandings gained through an intensely personal process of immersion in literature, education institutions, Wik language, family life and culture. The details of this work may offer important insights into Indigenous standpoint, knowledge and methodology in education research, as well as some intriguing theoretical considerations for Indigenous pedagogy and the problematic intersections between oral and print-based cultures in education.

This project was carried out during the demise of the highly publicised and debated programme of Direct Instruction, which had replaced most of the Aurukun school curriculum with remedial literacy and numeracy content (Dow, 2011). There was talk of reviving abandoned bi-lingual Wik literacy programmes, but these needed to be redesigned as they were originally delivered within an antiquated framework of grammar-translation pedagogy. The initial aim of the project was to develop a pedagogy framework that retained the strengths of the Direct Instruction method (such as explicit pedagogy), while providing some pedagogical diversity and situated practice grounded in local ways of knowing. A common ground approach was sought, alongside forward-thinking in a context of economic upheaval and social complexities including neo-colonial tensions between the occupiers and the occupied on Aboriginal land.

At a time when mainstream schooling was increasingly incorporating multimodal and critical literacies, the rationale for imposing restricted basic skills pedagogies on the most disadvantaged communities in the name of economic and social inclusion had become untenable,

so those pedagogies and programmes had been abandoned but not replaced with any rigorous alternative. On both sides of politics, the culture warriors retreated to lick their wounds while the rest of us started cleaning up. As long-term community members and educators we knew the pattern—the pendulum swings back the other way briefly and temporary Indigenised frameworks may be erected haphazardly by progressive outsiders during the eye of the storm, that brief respite between failed interventions. We wanted to use that space to envision something with more cultural and academic integrity than the usual ad hoc responses to politicised gaps and shortcomings. We were tired of seeing Aboriginal pedagogy used as a buzzword in policy documents and conferences, but seldom researched rigorously or empirically, and even less often researched by community members acting independently of non-Indigenous agencies, funding and agendas. Aboriginal pedagogy theory for too long has occupied a rather nebulous and contested niche in education theory and practice.

### Indigenous pedagogy and cognition

The emergence of Aboriginal pedagogy theory in recent decades, both nationally (Hughes *et al.*, 2004) and internationally (Battiste, 2002), has given rise to the development of popular but problematic initiatives in Indigenous education such as the 8ways framework (Yunkaporta, 2010). While some common features such as place-based (Marker, 2006; Whitehouse *et al.*, 2014) and narrative pedagogies (Egan, 1998) have been acknowledged, the variation between pedagogies of diverse Indigenous cultures is often overlooked as programmes designed for specific communities are watered down and generalised across different states and regions. Aboriginal pedagogy is also often confused with (and dismissed as) ‘learning styles’ theory, rather than acknowledged as being derived from customary practices of knowledge transmission and production (Battiste, 2002).

These practices are often at odds with the cognitive orientation favoured in Western schooling, which tends to be individualistic and reductionist, isolating variables from the contexts in which they are used as well as from other interconnected variables (Bender and Beller, 2016). Students are prepared to become industrial workers who focus only on the work to be done, rather than the purpose and context for which that work is important, and even in the sciences variables tend to be isolated (Denny, 1983). There is an overwhelming focus on print literacy as a method of knowledge production that allows ideas and even words themselves to exist in isolation (Havelock, 1982). Schooling fosters an independent orientation that gives rise to analytic cognition characterised by taxonomic and rule-based categorisation, a narrow focus in visual attention, dispositional bias in causal attribution and use of formal logic in reasoning (Varnum *et al.*, 2010). This field-independent reasoning is often at odds with the customary cognitive practices of Indigenous people, which have been described variously as high context (Samovar and Porter, 2004), field dependent (Murdoch, 1988) or as distributed cognition (Arnau *et al.*, 2013). These are characterised by an interdependent orientation that gives rise to holistic cognition, comprising thematic categorisation, a focus on context and relationships in visual attention, and an emphasis on situational causes in attribution (Varnum *et al.*, 2010).

An example of how this impacts perception in learning contexts is that students with an independent orientation will attend focal objects in visual scenes first, while students with an interdependent orientation will attend to the background first

(Rhode *et al.*, 2016). The former tend to sequence events and objects from left to right, while the latter sequence from east to west in alignment with solar movement, so may only exhibit a left-to-right orientation while facing south (Evans, 2009), which has implications for teaching print literacy in Indigenous communities failing to comply with, or actively resisting, industrial development and schooling.

Adaptive, complex and constantly evolving cognitive practices in oral cultures are characterised in structure and protocol by revolving feedback loops that are navigated, negotiated and understood collectively (Murdoch, 1988). The logic cycle of those loops is reflected even in the grammar of Wik Mungkan language, for example, in the frequent use of negated antonyms (Sayers, 1976). Language structure has been found to be an indicator of field-dependent cognition in many cultures, for example, in Korea, where background information precedes the subject and is usually placed at the beginning of a sentence to establish context (Rhode *et al.*, 2016).

It is misleading however to binarise Indigenous and non-Indigenous cognition arbitrarily as high or low context, considering the variance within communities as well as the fact that distributed cognition is not limited to Indigenous cultures. Indeed, it has been found in Scottish communities and other non-Aboriginal groups around the world (Murdoch, 1988), including many Russian communities in which the common variable is not biology or Indigenousness. The variable is child-rearing practice that involves multiple carers, breast-feeding on demand, constant body contact, in-arms time, presence in adult activities with high levels of sensory motor stimulation, no restrictive clothing and equipment, and no set routines for feeding, sleeping and toilet (Iliev and Ojalehto, 2015). This reflects customary child-rearing practices in Aurukun (Martin, 1993), affirmed in the auto-ethnography data for this project, which included assertions of an ‘in-utero pedagogy’ known locally as *puk iimpang wun* (Field notes, June 2017).

A resurgence of interest in cognitive linguistics in recent decades has produced extensive research indicating an undeniable link between language, culture and cognition (Hunt and Banaji, 1988; Evans, 2009; Sharifian, 2017). While previous resistance to these ideas has been necessary to defend the foundations of disciplines that initially tested only middle class European subjects based on the supposition that cognition is universal, it is now widely accepted that cognitive processes are modified by the environment in which we grow up, the languages we speak and the cultural patterns directing our attention (Bender and Beller, 2016; Cibelli *et al.*, 2016).

While the project described in this paper does not join the residual debates on whether different languages and cultures are a cause or effect of diverse forms of cognition, it draws upon established findings across the growing body of research in this area, which mostly divides different cultural forms of cognition into a binary of western and non-western paradigms (Varnum *et al.*, 2010). In this paper, the boundaries between these binaries are acknowledged as being potentially far more complex, fluid and subject to variation than these popular divisions suggest. Multiple factors are recognised both as indicators and influencers of different cognitive orientations, including historical factors like economic change. For example, social changes brought on by globalisation in places like China (Rhode *et al.*, 2016) and Chiapas in Mexico (Greenfield *et al.*, 2003) have resulted in a transition from interdependent to independent cultural orientations with a resultant shift from customary holistic cognition to analytical cognition.

It is also recognised that there is considerable variation both between and within populations, particularly in Australian Aboriginal and Torres Strait Islander communities shaped by multiple generations of policies that continue to impact our lives, from extermination to protectionism to assimilation to welfare to self-determination. In these complex, dynamic contexts of cultural continuity and discontinuity, consideration of multiple variables indicating different cognitive orientations (including language, environment, social patterns, cultural practice and economic activity) is desirable, particularly in designing pedagogies aligned with lived cultures that are neither static nor unified. It is important not to essentialise cultures or view them as stable entities in this work, but to recognise that they are fluid products of a history that is continuously unfolding (Iliev and Ojalehto, 2015).

## Method

We are Aboriginal researchers, relatives with strong family ties in the Aurukun community and beyond. At the time of writing, we occupy positions as educators—a Deputy Principal and Senior Lecturer. Our positioning within a lived reality of problematic intersections between Indigenous cultural and western academic affiliations is conducive to finding insights into the design of productive interfaces between oral and print cultures in education. For example, as we both speak Wik Mungkan as a second rather than first language, we have particular perspectives and skill sets as both insiders and outsiders that enable observation of meta-knowledge and processes in Wik knowledge systems, and the way these are positioned within local, national and global contexts.

We are both experienced in the double personality required of bilinguals in Indigenous contexts, the shift in self-schema that is activated when code-switching between Wik and English, requiring a corresponding cognitive shift from interdependent to independent cognition (Rodríguez-Arauz *et al.*, 2017). In this way we may be considered models of the desired outcomes of teaching print literacy to students from oral cultures, however this is problematic as our mastery of western print modalities and codes comes at a cost—it requires compliance with a Protestant work ethic and industrial ways of thinking that have impacted our mastery, confidence and fluency in Indigenous cultural contexts. As such, we are aware of the pitfalls of ‘walking in both worlds’ and seek to design innovative methods to navigate this process with a degree of cultural safety.

We are bound by community obligations and cultural protocol as a foundation for ethical considerations in Indigenous research (Porsanger, 2004), while simultaneously responding to professional codes of conduct and academic requirements. However, the methodology for the project privileges local cultural and language orientations that inform Indigenous knowledge production, similar to the process used to innovate Yolgnu methodologies (Murakami-Gold and Dunbar, 2005). We combine auto-ethnography (Ellis *et al.*, 2011), or perhaps more specifically a kind of duo-ethnography, incorporating ‘yarning’ (Bessarab and Ng’andu, 2010) and Indigenous standpoint methodologies (Foley, 2002; Nakata, 2007; Martin, 2008) in culturally embedded interactions with family and community, reflecting on personal, sibling pair and group experiences of the acquisition of language and traditional knowledge, as well as experiences in mainstream education.

Auto-ethnography is described by Ellis (2004) as ‘research, writing, story, and method that connect the autobiographical and personal to the cultural, social, and political’ (p. xix). So it connects subjective realities with broader social and historical contexts, which for Aboriginal researchers allows space in the academy for Indigenous voices and experience as valid and rigorous sources of knowledge. The auto-ethnographer is an insider in the field rather than an objective observer, exploring and critiquing their own cultural experiences and relationships to illuminate broader social issues from marginalised perspectives, using reflective writing, self-narrative and unstructured or semi-structured interviews (Ellis *et al.*, 2011). Indigenous modalities have gained centrality through this methodology, allowing forms like ‘yarning’ and storytelling in structured cultural contexts to become an important part of Indigenous methods in research in recent years (Laycock *et al.*, 2011). Yarning is deeply embedded in the structures and processes of Aboriginal society, a traditional process of knowledge sharing in which community and family members produce and keep knowledge through story, negotiation, disagreement and humour, with several yarning methodologies emerging in recent years for Indigenous research, including the Kapatí method (Ober, 2017).

Semi-structured yarns between the two siblings, occurring over a 2-year period with notes taken following the yarns and combined with personal narrative writing and reflection, formed a major data set. This sat alongside an emergent praxis in Indigenous methodology of deep thinking and expression of ideas and findings through structured cultural activity such as weaving (Department of Health, 2014). Research understandings and processes were therefore usually expressed through cultural activity such as carving, weaving and yarning before being translated into English print forms. This cultural methodology is framed by the Wik term *umpan*, meaning to make or craft an object, which bridges the gap between material culture practice and print literacy as this is the term that has been adopted locally to describe writing. The pedagogy design developed through this method is further informed by a relationally responsive analysis (Yunkaporta, 2010) of the Wik Mungkan language, which is spoken by most members of the community as a lingua franca, and by all the local children at the school. The focus of this holistic analysis (while situated within complex interconnections with place, clan, history, colonial entanglements land-based spirituality and culture) is on vocabulary and idioms pertaining to understanding, knowing, memory, thinking and learning.

The relationally responsive analysis avoids focusing on isolated variables, ensuring that multiple variables from different data sets and sources are considered from multiple perspectives in highly contextualised, interconnected and non-linear ways. The process is similar to Indigenous conceptions of ‘walking country’, which involves more than an individual moving directly between two points with a singular purpose, but rather takes in the needs of the group, seasonal indicators, sites, story, wind, sun, direction, recent events such as deaths and conflicts, signs from animals and weather events, ancestors and other entities. In the same way, in relationally responsive analysis every potential sign and connection must be examined to determine whether it is a ‘something’ or ‘nothing’ by examining systemic patterns within dynamic contexts. For example, while a pattern might be discerned in language that uses ‘ear’ or ‘hearing’ vocabulary in terminology about learning and memory, other perceived correlations might be simply synonyms of little significance, such as the use of the word ‘koom’ to describe both sandpaper

fig and turpentine trees. A pattern found in language would also need to be triangulated with observations of cultural practice and reflections on cultural experience, then confirmed by oral sources as well as print material such as linguistics monographs and the Wik Mungkan dictionary.

While specific findings and innovations from this research may not be transferrable to contexts beyond Wik-speaking communities, the process and method used in the design of the project may be used to create appropriate learning frameworks and pedagogies elsewhere. The strength of the approach is in using multiple methods and data sets to triangulate and confirm significant findings. Community consultation, literature review and analysis of language and culture are strong approaches, but these were given extra depth and rigor through auto-ethnography methods. Auto-ethnographic data were examined through spoken yarns, written yarns (via email), personal narrative and reflective writing, field notes, deep reflection and expression through cultural activity such as wood carving—a material culture process which is deeply embedded in oral culture knowledge production and ways of knowing. In this way, both oral culture and print-based ways of knowing were incorporated into data gathering and analysis. As a result, the written auto-ethnographic accounts yielded rich data and new directions for the pedagogy design.

I could hear my Mothers telling me in English, ‘Sing out for the old people to give you fish,’ and then repeated in Wik Mungkan, ‘Minh thee’an oo!’ And they chanted... I became brave sung out for the old people and the very next minute the line shot out of my hands... My big mother cooked the shark in the traditional way. I sat watching and listening, my big wide eyes moving from conversation to conversation... My learning occurred through listening, practice and then memorising. (Auto-ethnography notes, June 2017)

In our auto-ethnography yarns and written work, it became clear that the learning of language in Wik contexts is seldom a discrete practice, but is embedded within the learning of other disciplines and multiple fields and modalities, such as weaving, fishing, carving, stories and images. In the excerpt above, a clue can be seen of the incorporation of visual learning in the practice of deep listening—a kind of pedagogical synaesthesia that arose often in multiple data sets and came to inform the development of the pedagogy framework. Non-verbal modalities were central, including gestures and body language. ‘They taught me Wik by also adding actions to their conversations.’ (Auto-ethnography notes, July 2017).

Mastery of weaving for females in these contexts involved ‘looking, listening, learning from groups of experts who made baskets for ceremonial purposes... coupled with practice, patience and watch properly... but guided her when she was having trouble.’ (Auto-ethnography notes, August 2017). The process of master weaving is known as *ma’-kuunchang*, referring to ‘talented hands’, and involves both intensive scaffolding and learner autonomy.

If they observed her having trouble, the women would show her a different way, they would remind her of her strengths in her techniques and say, ‘You can do it this way, this way best suited for you.’ (ibid)

These patterns were present in both male and female cultural activities, revealing a learning cycle involving

- demonstration and observation (e.g. mimicking the action of crow’s eyes changing, then watching nearby crows to see how this action matches the crow as a sorcerer in a story);
- scaffolded and cooperative learning embedded in relationships with people and place (e.g. ironwood carving as father–son kinship pair activity with tools passed back and forth between novice and master, linked continuously to grandmother’s totem and story place);
- explanation and deep listening enfolding narratives (details about ironwood shown through broлга story; storyteller changes voice to a whisper to indicate a shift to higher level of knowledge and get the learner to listen more closely);
- memorisation employing place-based metaphors and visual schema (e.g. red gum extraction technique linked mnemonically to story for a place called Paiden Head, where the trees with that sap can be found, linked also to image of the red on a broлга’s face);
- demonstration of deep thinking and understanding through the production of purposeful products in real-life contexts (mastery acknowledged when I am told who my yuk puuyngk and winch carvings have been sold to and what the money was used for, and shown where the ones too good to sell have been kept).

(All examples from field notes, September 2016).

It is important to note that Wik processes of learning and inquiry are seldom abstract, always being grounded in the lived contexts and disciplines of specific but interconnected skill sets. The absence of abstract nouns in Wik Mungkan indicates that this concrete orientation to knowledge and learning is embedded in the language and worldview locally. Understandings such as these emerging from the auto-ethnography and observation data informed the relationally responsive analysis of the language, which in turn informed further directions in the auto-ethnography and pedagogy design in an interwoven series of feed-back loops taking place over a 2-year period.

### Wik Mungkan language concepts around knowledge transmission and retention

*Umpan* is the Wik word for making, doing, cutting and carving. Upon the incorporation of print-based skill sets into Wik culture last century, this also became the word for writing. In this way, writing is framed in local language as a practical cultural activity, indicating that literacy learning might most effectively be modelled on local processes of material culture knowledge transmission. This also indicates that the incorporation of new or non-local knowledge is mediated through and shaped by customary language and logic in the local worldview, validating the notion that relevant understandings of customary pedagogy and cognition may be found in the local language.

The term *ngaantam-ngeeyan* means to think, understand, realise, believe, decide and evaluate. The incorporation of *ngeeyan* (listen) indicates the cultural importance of listening and orality in knowledge transmission, and the role this plays in Wik pedagogy and cognition. This aligns with Watson’s (2003) insight that many Central Australian Indigenous people believe that hearing ‘is the medium of intelligence’ (p. 54). This is a common feature of many Indigenous Australian languages, for example, in Gamilaraay where *binna* (ear) is equated in the language with cognition and memory (Ash *et al.*, 2003).

In Wik Mungkan, there is an authority implicit in *ngeeyan* terms, an obligation for learners to show respect for knowledge

holders, as in *aak ngeeyan* and *wik ngeeyan* meaning respecting and obeying. The link between cognition and listening can also be found in idioms about memory, containing the word *kon* (ear). *Kon-ngathan* and *kon pur'* are about forgetting, while *konangam pi'-pi'an* means remembering and *kon thayanathan* means to remind. A person with a good memory is called *kon thayan* (strong ear), while a person with cognitive difficulties is called *weenth*, which is also the word for deaf.

While respect and obedience may be considered an important protocol for learning and listening, this does not mean the learner has no agency. The Wik word for learning is *maman*, which also means to hold, touch, take from or accept what is offered. *Wik maman* (language learning) has the sense of 'picking up' a language, rather than passively learning through drills. A pedagogical orientation can be discerned here in what seems to be an attitude to learning and knowledge as something to be held, accepted discerningly by autonomous learners who play an active role in the transaction.

As indicated by the terms involving *ngeeyan*, a good learner must be a good listener. The sense of agency inferred by *maman* suggests that this learner would need to be an active listener rather than passive recipient of information. *Pith mut* means the sense or meaning of words (combining the words for 'dream' and 'tail'), which is part of the phrase *pith mut ngeeyan*, meaning to understand, but more specifically to follow the meaning of what is said, which requires active engagement on the part of the listener. It also suggests an orientation to making and discerning meaning through words and language via connection with a rich inner world of personal significance—the 'tail of a dream'. Basic decoding of print into sound without meaning or context would therefore result in disruptive dissonance for a learner with this cultural orientation to language learning.

Pedagogical techniques are indicated by more than these kinds of inferences, however, with several terms specifically naming different kinds of knowledge transmission. The word *aathan* is combined with different body parts to describe several Wik pedagogies. *Kon-aathan* is to train an animal or inept person (perhaps a poor listener) using stimulus-response methods. This is the most basic pedagogy, mostly involving abrupt verbal commands and positive or negative reinforcement—similar to the default pedagogy employed by modern education and training institutions.

*Ma'-aathan* (*ma'* meaning 'hand') is to show how to do something, teach practically using the hands, lend a 'helping hand' in a way that echoes Vygotskian scaffolding pedagogies. *Mee'-aathan* (*mee'* meaning 'eye') means to show, or teach through demonstration with the learner as an active observer. *Thaa'-aathan* (*thaa'* meaning 'mouth') means to teach with words, especially in the teaching of language. *Aath*, when combined with *wuntan*, means to share, swap, exchange knowledge and things. *Aathan* means to spread, like a bushfire spreads, and is used to describe actions proceeding from one point to another, as in walking from place to place, sewing and even reading a text from top to bottom. The fact that this word has been adopted to describe the reading process makes its meaning worth considering in the development of a Wik pedagogy for literacy.

The significance of the word *aathan* with reference to print-based activities also highlights the importance of specific process sequences in Aboriginal culture during acts of knowledge transmission. The cultural process of proceeding from one clearly defined point, step or location to the next is an orientation that can be seen in the singing of country through song lines naming

the story places of ancestral journeys in the dreaming. Cultural processes encoded in these songs and stories are also explicit procedural texts that give instructions in sequence (Riley, 2016). This indicates a cultural preference for explicit pedagogy.

The negative connotation of *kon-aathan* (incorporating the word for 'ear') as the most basic form of training suitable mostly for animals, using mainly verbal commands, suggests that there is more to active listening than simply following instructions. It is distinct from the more nuanced pedagogy of *thaa'-aathan* as used in traditional language teaching, and the more collaborative and kinaesthetic styles of *ma'-aathan* and *mee'-aathan*. The link between active listening and cognition indicated by the ear and hearing vocabulary used in terms associated with understanding and memory seems to be contradicted by the connotation of *kon-aathan*, but this is resolved in the auto-ethnography work of the project, which suggested that there is more to active listening than mere auditory input. For example, visual images in cultural learning contexts were referred to by knowledge keepers as entering the learner's mind through the ears (Field notes, October 2016). The researchers' reflections on cultural learning indicated that active listening involved more than hearing, learner agency and respect for the instructor, but also incorporated acute observation and mindful kinaesthetic activity.

### Example Wik learning cycle for literacy

From the often-observed patterns of learning described in the auto-ethnography work, along with matching patterns and concepts revealed by the language analysis, an example of a structured learning cycle was developed as a model of how these understandings might be applied to curriculum design and lesson planning in formal school contexts.

In this five-step learning sequence envisioned as a template for lesson plans, symbols of body parts corresponding to each stage of the process were combined with the Wik terms for the pedagogy used at each step. The symbols were an eye, a hand, a mouth, a left ear and a right ear.

- (1) *Mee'-aathan* (show: demonstration and observation) includes visual learning, contextualised learning and modelling.
- (2) *Ma'-aathan* (helping hand: scaffolding, zone of proximal development) includes kinaesthetic and cooperative learning in groups. Also explicit genre-based pedagogy to deconstruct texts.
- (3) *Thaa'-aathan* (verbal: explain, discuss and explicit instruction) facilitates deep listening and engagement using narrative pedagogy, moving into explicit literacy or technical instruction.
- (4) *Konangam pi'-pi'an* (remember and memorise: linking to existing schema) use place-based and visual pedagogy including cultural metaphors to organise and memorise key information.
- (5) *Ngantam Ngeeyan* (think and understand: reflection and demonstration of mastery) meaningful assessment producing purposeful texts with real-life audiences, applications and feedback.

This is not intended as a final framework to be used, but as an example to highlight for elders and community members of the kind of pedagogy that is present in the culture and the ways it can be adapted to be used in schooling. The reason for this is to overcome the difficulties in consultation that emerge when

participants are approached for input into education without having expertise in academic pedagogy and without having considered before the abstract idea of pedagogies present in their own traditions. Usually the result of these cold-calling consultations is that participants reproduce their former experiences of public schooling. However, if examples or models are provided from the local culture at the outset, then they are better equipped to recognise, identify and assert customary processes, and are better able to link these ideas to a meta-language of contemporary education theory discerned from the model provided. For many, having such a model as a basis for discussion allows them to express abstract ideas about customary processes they have previously been unable to articulate in Standard Australian English, with joy and empowerment often expressed at co-creating an incipient meta-language to describe these things (Yunkaporta and McGinty, 2009).

While cultural content is easily expressed and shared, cultural processes are often far more nebulous and difficult to describe. Culturally specific ways of thinking, knowing and learning are often invisible to those who use them (and those who observe them), as are the cognitive frameworks of a dominant culture that must be mastered by minority cultures for economic inclusion, but are seldom made explicit. The key principle in utilising Aboriginal pedagogies in this project is that Indigenous perspectives are provided by process rather than content alone, that students are learning through culture rather than about culture while studying mainstream content and acquiring essential skills including, but not limited to, print literacy (Yunkaporta and McGinty, 2009).

### Implications

The possibilities of Aboriginal pedagogy informing approaches to Standard Australian English literacy acquisition and mainstream content present exciting challenges and opportunities to contribute to new understandings in the highly contested field of Indigenous education. While the example framework and specific linguistic/cultural items shared in this paper may not be generalisable to education contexts beyond Aurukun, the generative process used to develop the framework may offer ways forward for other communities and researchers to develop similar frameworks tailored to the specific cultural realities of their students. Observing knowledge transmission in cultural contexts and undertaking relationally responsive analyses of local languages, enfolding Indigenous standpoint methodology, yarning methods and auto-ethnography in consultation with community represents a rigorous process that yields rich insights to inform the development of Indigenous pedagogies. Some elements of Wik pedagogy may be generalisable to other language groups however, such as the tendency for listening to be equated with understanding and cognition, which was noted earlier in the paper to be a feature of many Aboriginal languages and cultures. It was also noted that narrative, place-based and group-oriented approaches to knowledge transmission are widely recognised as common features of Indigenous pedagogies generally. These may be points of reference to help others begin identifying similar patterns in the development of localised learning frameworks.

In terms of implications for Indigenous research, the use of Indigenous methods such as *umpan* and relationally responsive analysis represent potential ways forward in Indigenous standpoint theory and methodologies. The key implications for education stem from the possibility that Indigenous languages and

cultures can provide more than additional Indigenous content for inclusivity in a curriculum that is already overstuffed with mandated content. Our languages and cultures can provide rigorous processes and innovative frameworks for pedagogies and methodologies—the possibility of learning through culture from an Indigenous perspective, rather than about culture from a colonial perspective.

However, as Indigenous logic demands that items are not examined in isolation from lived contexts and realities, this work must also involve careful critique of colonial institutions, economies, assumptions and ways of knowing, with particular focus on the interface of these things with our cultures as they are lived, and languages as they are spoken today. As there is a decided lack of critique or any examination of colonialism in the National Curriculum to date (Lowe and Yunkaporta, 2015; Parkinson and Jones, 2018), understandings arising from such critique could also inform new content and approaches in Australian education generally.

### References

- Arnau E, Estany A, Gonzalez del Solar R and Sturm T (2013) The extended cognition thesis: its significance for the philosophy of (cognitive) science. *Philosophical Psychology* 27, 1–18.
- Ash A, Giacon J and Lissarrague A (2003) *Gamilaraay, Yuwaalaraay, Yuwaalayaay Dictionary*. Alice Springs: IAD Press.
- Battiste M (2002) *Indigenous Knowledge and Pedagogy in First Nations Education A Literature Review with Recommendations*. National Working Group on Education and the Minister of Indian Affairs. Ottawa: Indian and Northern Affairs Canada.
- Bender A and Beller S (2016) Current perspectives on cognitive diversity. *Frontiers in Psychology* 7, 509.
- Bessarab D and Ng'andu B (2010) Yarning about yarning as a legitimate method in indigenous research. *International Journal of Critical Indigenous Studies* 3, 37–50.
- Cibelli E, Xu Y, Austerweil JL, Griffiths TL and Regier T (2016) The Sapir-Whorf hypothesis and probabilistic inference: evidence from the domain of color. *PLoS ONE* 11, e0158725.
- Denny JP (1983) Context in assessment of mathematical concepts from hunting societies. In Irving SH and Berry JW (eds), *Human Assessment and Cultural Factors*. New York: Plenum, pp. 155–161.
- Department of Health (2014) *Aboriginal and Torres Strait Islander Health Curriculum Framework*. Commonwealth of Australia.
- Dow L (2011) Spiders are Mammals: Direct Instruction in Cape York. *Literacy and Numeracy Studies*, Vol 19, No 1.
- Egan K (1998) *Teaching as Story Telling: An Alternative Approach to Teaching and Curriculum*. Chicago: University of Chicago Press.
- Ellis C (2004) *The Ethnographic I: A Methodological Novel About Autoethnography*. Walnut Creek: AltaMira Press.
- Ellis C, Adams TE and Bochner AP (2011) Autoethnography: an overview. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* 12, Art. 10, <http://nbn-resolving.de/urn:nbn:de:0114-fqs1101108>.
- Evans N (2009) *Dying Words: Endangered Languages and What They Have to Tell Us*. UK: Wiley-Blackwell.
- Foley D (2002) An indigenous standpoint theory. *Journal of Australian Indigenous Issues* 5, 3–13.
- Greenfield PM, Maynard AE and Childs CP (2003) Historical change, cultural learning, and cognitive representation in Zinacantec Maya children. *Cognitive Development* 18, 455–487.
- Havelock E (1982) *The Literate Revolution in Greece and its Cultural Consequences*. Princeton: Princeton University Press.
- Hughes P, More A and Williams M (2004) *Aboriginal Ways of Learning*. Adelaide: Uni Sa Press.
- Hunt B and Banaji R (1988) The Whorfian hypothesis revisited: a cognitive science view of linguistic and cultural effects on thought. In Bery J, Irvine S

- and Hunt E (eds), *Indigenous Cognition: Functioning in Cultural Context*. Boston: Martinus Nijhoff Publishers, pp. 57–84.
- Iliev R and Ojalehto B** (2015) Bringing history back to culture: on the missing diachronic component in the research on culture and cognition. *Frontiers in Psychology* **6**, 716.
- Laycock A, Walker D, Harrison N and Brands J** (2011) *Researching Indigenous Health: A Practical Guide for Researchers*. Melbourne: The Lowitja Institute.
- Lowe K and Yunkaporta T** (2015) The inclusion of aboriginal and Torres Strait Islander content in the Australian National Curriculum: a cultural, cognitive and socio-political evaluation. *Curriculum Perspectives* **33**, 1–14.
- Marker M** (2006) After the Makah whale hunt: indigenous knowledge and limits to multicultural discourse. *Urban Education* **41**, 482–505.
- Martin D** (1993) *Autonomy and Relatedness: An ethnography of Wik people of Aurukun, Western Cape York Peninsula* (PhD thesis). Australian National University, Canberra.
- Martin K** (2008) *Please Knock Before You Enter: Aboriginal Regulation of Outsiders and the Implications for Researchers*. Brisbane: Post Pressed.
- Murakami-Gold L and Dunbar T** (2005) *Draft Methodology for Yolngu Research. First Language Community Harmony Project*. Darwin, NT: Charles Darwin University.
- Murdoch J** (1988) Cree cognition in natural and educational contexts. In Beryy J, Irvine S and Hunt E (eds), *Indigenous Cognition: Functioning in Cultural Context*. Boston: Martinus Nijhoff Publishers, pp. 231–257.
- Nakata M** (2007) *Disciplining the Savages--Savaging the Disciplines*. Canberra: Aboriginal Studies Press.
- Ober R** (2017) Kapatí time: storytelling as a data collection method in indigenous research. *Learning Communities: International Journal of Learning in Social Contexts [Special Issue: Decolonising Research Practices]* **22**, 8–15.
- Parkinson C and Jones T** (2018) Aboriginal people's aspirations and the Australian Curriculum: a critical analysis. *Educational Research for Policy and Practice*. <https://doi.org/10.1007/s10671-018-9228-4>.
- Porsanger J** (2004) *An Essay on Indigenous Methodology*. Norway: Paper Presented at the University of Tromsø.
- Rhode AK, Voyer BG and Gleibs IH** (2016) Does language matter? Exploring Chinese–Korean differences in holistic perception. *Frontiers in Psychology* **7**, 1508.
- Riley L** (2016) *The Memory Code*. Melbourne: Allen and Unwin.
- Rodríguez-Arauz G, Ramírez-Esparza N, Pérez-Brena N and Boyd RL** (2017) Hablo Inglés y Español: cultural self-schemas as a function of language. *Frontiers in Psychology* **8**, 885.
- Samovar LA and Porter RE** (2004) *Communication Between Cultures*, 5th Edn. Belmont: Thompson and Wadsworth.
- Sayers BJ** (1976) *The Sentence In Wik Mungkan: A Description of Propositional Relationships*. Canberra: ANU.
- Sharifian F** (2017) Cultural linguistics and linguistic relativity. *Language Sciences* **59**, 83–92.
- Varnum MEW, Grossmann I, Kitayama S and Nisbett RE** (2010) The origin of cultural differences in cognition: evidence for the social orientation hypothesis. *Current Directions in Psychological Science* **19**, 9–13.
- Watson C** (2003) *Piercing the ground*, Fremantle Arts Centre Press, North Fremantle.
- Whitehouse H, Watkin Lui F, Sellwood J, Barrett M and Chigeza P** (2014) Sea country: navigating indigenous and colonial ontologies in Australian environmental education. *Environmental Education Research* **20**, 56–69.
- Yunkaporta T**. (2010) *Aboriginal Pedagogies at the Cultural Interface* (Doctoral thesis). JCU, Qld.
- Yunkaporta T and McGinty S** (2009) Reclaiming aboriginal place-based worldviews at the interface of local and non-local knowledge. *Australian Education Researcher* **36**, 55–72.
- Baressa Frazer** is a Wik woman living on Wik land and working as a Deputy Principal at Aurukun Public School. She has worked extensively on Aboriginal language programmes and resources.
- Tyson Yunkaporta** is a Wik man living on Kulin land and working as a Senior Lecturer at Monash University. He has worked extensively on Aboriginal language programmes and resources.