VCE Psychology
Units 3 and 4, 2023–2027

Supplementary material:
Sung narratives and Aboriginal songlines

Introduction

This supplementary material has been developed and revised to guide teachers in the approach taken to sung narratives and Aboriginal songlines as part of VCE Psychology (2023–2027).

The information provided specifically relates to VCE Psychology, Unit 3: How does experience affect behaviour and mental processes?, Area of Study 2: How do people learn and remember? This includes the key knowledge:

* the use of mnemonics (acronyms, acrostics and the method of loci) by written cultures to increase the encoding, storage and retrieval of information as compared with the use of mnemonics such as sung narrative used by oral cultures, including Aboriginal peoples’ use of songlines.

Cultural sensitivity

Within Area of Study 2 of VCE Psychology Unit 3, students will explore sung narratives and songlines from a knowledge transfer and retention system perspective only. To help ensure information is covered in a culturally sensitive way, teachers should emphasise that students will be merely glimpsing the mnemonic technologies they can learn from First Nations cultures. Teachers should also emphasise that it is not suggested that the only purpose of sung narratives and Aboriginal songlines is for memory – this is just one incredible aspect.

Many spiritual and cultural complexities come into play when considering Aboriginal and other indigenous knowledges. Because there are so many different Aboriginal cultures, it is preferable that teachers are culturally specific when discussing broader contexts. When considering Aboriginal knowledges, teachers should use publicly available information from Aboriginal sources. This can be done sensitively by recognising the diversity of Aboriginal peoples and using resources from specific language groups, Traditional Owners or Aboriginal organisations.

Note, if available, it is always preferable to include knowledge that is specific to your own local area, through the Traditional Owners of the Country on which the course is being taught. Teachers should visit [Victoria's current Registered Aboriginal Parties](https://www.aboriginalheritagecouncil.vic.gov.au/victorias-current-registered-aboriginal-parties) to find the currently registered Aboriginal organisation for their area.

To date, the Victorian Curriculum and Assessment Authority (VCAA) is not aware of any Aboriginal Elders who have objected to songlines being described in terms of their mnemonic potential; however, it is unlikely that local Elders will refer to songlines in terms of mnemonics and/or the method of loci, as these are Western concepts.

Teachers and schools can access *Protocols for Koorie Education in Victorian Primary and Secondary Schools*, developed through the Yalca policy, and other resources relating to the inclusion of Aboriginal and Torres Strait Islander knowledge and perspectives on the [Victorian Aboriginal Education Association (VAEAI) website](http://www.vaeai.org.au/documents/).

In addition to the VAEAI protocols, teachers and schools should follow the [Koorie-Cross-Curricular Protocols](https://www.education.vic.gov.au/school/teachers/teachingresources/multicultural/Pages/koorieculture.aspx%22%20%5Ct%20%22_blank), developed by the Department of Education (DE). These protocols seek to protect the integrity of Aboriginal and Torres Strait Islander cultural expressions in a way in which all Australians can engage respectfully and feel connected to this identity.

Sung narratives

Information that is performed, especially using music, is far more memorable than information presented as prose. Consequently, narratives that encode information are far more memorable when encoded in song and repeated using song cycles.

The definition of ‘song’ is very broad and ‘sung’ narratives might just use rhythm – always a critical component. The musical accompaniment, if present, will often be clapsticks or drums. Songs may also include tonal variations and sounds from the environment. Some indigenous music is described as song-poetry because it resembles rhythmic poetry more than what Western cultures typically consider to be song.

If teachers want students to encode some of their knowledge into sung narratives, students do not need to create elaborate songs in a familiar genre such as pop or opera. They just need to use rhythm, and possibly repetition, to create a memorable version of factual information.

In oral cultures across the world, sung narratives are often combined with dance or another form of movement. Like rhythm and repetition, movement adds to the mnemonic value of the performance. ​

Aboriginal songlines

A sung narrative is almost always related to a specific location in the landscape. In Aboriginal cultures, the landscape plus all the cultural knowledge associated with it forms Country. The sacred locations with their associated songs and ceremonies are not randomly dotted around the landscape; they are linked by ‘lines’ referred to by Western writers as ‘songlines’. The term ‘songlines’ is fairly widely accepted by Aboriginal peoples, although it is always preferable to use the Traditional Owners’ own terms in language for any portion of a songline.

A songline, or dreaming track, is a sequence of short sung narratives associated with specific locations that are linked by a physically walked, or imagined, path through Country. The songline maps the journey of the Ancestral Beings as they created Country and everything associated with it.

A songline can be visualised as a set of locations, much like the method of loci. The difference is that, at each location, knowledge is performed using song and movement. As a child is initiated higher and higher into the culture, more and more detail is added to the knowledge encoded at each location. The new knowledge is layered on top of what is already known. The basis of the knowledge system is anchored in Country.

Another way of visualising songlines is that the set of locations along the songlines form a table of contents to the knowledge system. Although the songline is acting like an encyclopedia, the information encoded in the songline will not be in neat subject domains as in Western encyclopedias; instead the subject domains are interwoven in what is known as an integrated knowledge system. Along with spiritual knowledge, there will be a wide range of pragmatic information domains, such as plant and animal identification and behaviour, timekeeping, land management, navigation, ethical and social laws and expectations, rules for trading, complex genealogies, geology, navigation, resource rights and resource protections.

The songline’s characters and its narrative, as well as the locations in Country, are often represented in art, both fixed and portable. These representations are all components of the knowledge system and will be linked to the songline – but it is the path through Country, following that of the Ancestors, that forms the songline.​

Memory enhancement using songlines

It would be culturally questionable to ask Aboriginal Elders to submit to memory tasks based on their songlines, especially as most of the knowledge that is stored is restricted and researchers would not be eligible to learn this ‘inside knowledge’. Instead, evidence-based research on the effectiveness on memory of using songlines is found through comparing the knowledge base of those using songlines with what is possible using only the natural memory of those who do not use songlines.

It is the vast quantity of information memorised by Aboriginal Elders that is evidence of the effectiveness of these memory techniques. The longevity of these memories also needs to be considered (longevity is considered almost impossible without formal memory methods). The research of Patrick Nunn in ‘Ancient memories of coastal drowning' (Nunn, n.d.) is a valuable resource, describing the incredible longevity of oral stories. The oral cultures mentioned by Nunn all used a form of songlines, which is evidence of the robustness of songlines for memory.

Indigenous knowledge systems around the world are performance based. One of the mnemonic advantages of this is that performances evoke enhanced emotions, which in turn increase the memorability of the performance and therefore of the knowledge encoded within it. Music is well known to affect emotions, and the adventures and misfortunes of characters in stories do the same.

Knowledge is often expressed in songs but may also be conveyed using many art forms, from sculpture and bark paintings to rock art. These aids to memory are linked to songlines, which act as an overall organisation for the knowledge system. The complex meshing of various mnemonic forms enhances the memory of the stories and the essential knowledge contained within them.​

The neuroscience of songlines

Recent discoveries in neuroscience show that the way songlines associate memory with place is already hardwired into our brains – for example, in the way the hippocampus uses spatial assocation and the way the brain creates neural networks that store memory. Cultures around the globe evolved similar methods because they were all working with the same human brain structures. The neuroscience explains how we benefit from repetition and music, and in particular the value of ‘memory palaces’.

The hippocampus plays a vital role in memory and learning by consolidating short-term memories into long-term memories. The hippocampus is specifically activated when interacting with spatial knowledge, such as any information that is encoded by association with locations in physical space. When a person deliberately makes spatial associations, new information and the location will become linked in the neural pathways. So when a story has been told at a particular sacred location in a songline, thinking of one will trigger memory of the other. This is what neuroscientists call a ‘temporal snapshot’.

Novel ideas are a great trigger for neurogenesis, or the creation of new neurons from neural stem cells.

Aboriginal stories retain the same structure and encoded knowledge, but the performance of them will be different every time depending on the performer, just as different singers will sing the same pop song differently. The more vivid, unusual, grotesque or vulgar the story, the more active the brain’s neurons and the more likely the memory will be encoded and stored. Mundane information simply does not excite the brain.

Research under the topic of ‘synaptic plasticity’ demonstrates that the brain’s circuitry is not just about the activation of neurons but also depends on the synapses, the place where the neurons interact and communicate chemically to create neural networks that store memory. The brain will constantly strengthen the most active synapses.

Because hippocampal place cells are particularly good at representing any physical spaces that are encountered, places that we know well are recorded in the brain as physical neural pathways. This includes homes and schools and, for Aboriginal peoples, their Country, skyscapes and seascapes. Some Aboriginal people spend a lifetime learning every detail of Country, which results in a really robust representation in the physical structure of their brains. Entorhinal grid cells create a positioning system in the brain that encodes a cognitive representation of the physical space under consideration. Edvard Moser, May-Britt Moser and John O’Keefe were awarded the 2014 Nobel Prize in Physiology or Medicine for demonstrating that memories that piggyback on the hippocampus's ability to remember space are so strong that they offer us a very powerful system, which comes into play when using memory palaces or songlines.

Swedish psychologist K Anders Ericsson and colleagues conducted research with memory champions (Ericsson 2003). Not only did they demonstrate there are no people with photographic memories, they showed that even those with extremely good natural memories could not compete with memory athletes who trained by using memory palaces. They did not find any systematic anatomical differences in the MRI images of the brains of memory experts when compared with control subjects, but the scans did show higher activity in the areas of the brain that are linked to spatial memory and navigation. Similarly, neuroscientist Martin Dresler at Radboud University in the Netherlands and colleagues found no structural difference in the brains of memory experts but that training altered the brain’s neural networks, increasing memory performance (Dresler et al. 2017).

The findings from neuroscience back up the evidence that constant use of songlines – with all their physical locations, vivid narratives, music, performance and variety – optimise the ability of Aboriginal peoples to learn and recall vast amounts of information in a way that people who do not use memory methods cannot.

Creating memory devices

Many educators are interested in making *lukasa*, a memory device, with their students. Workshops doing so have been very successful here and overseas. One of the leading anthropologists working with the Luba people of central Africa was Professor Mary (Polly) Nooter Roberts. The *lukasa* is displayed publicly, including by her in the video ‘Lukasa Memory Board MNRoberts’ (Russell 2019). Personal discussions with Polly allowed Lynne Kelly to not only pay the Luba for intellectual property to enable her to teach about making *lukasa*, but also to ensure that this was a culturally appropriate thing to do (Kelly 2019).

The public nature of the *lukasa* means that it is not culturally insensitive to learn from the described memory skills of the Luba people. It would be insensitive, however, to claim your product was a genuine replica or encoded what you believed to be Luba knowledge to it. Similar objects, such as the Australian *churinga* (*tjuringa*), are highly restricted objects still in use, so to use those as a model would be culturally inappropriate.

*Lukasa* are made publicly with Luba approval, as in the example described in ‘Tangible and embodied memory maps: design of a Lukasa-inspired interactive exhibit’ (Mazalek and Clifton 2014).

References

Ericsson KA 2003, ‘Exceptional memorizers: made, not born’, *Trends in Cognitive Sciences*, 7(6), 233–235.

Dresler M, Shirer WR, Konrad BN, Müller NCJ, Wagner IC, Fernández, G, Czisch M and Greicius MD 2017, ‘Mnemonic training reshapes brain networks to support superior memory’, *Neuron*, 93(5), 1227–1235.e1226.​

Kelly L 2019, *Memory Craft,* Allen & Unwin.

‘Lukasa Memory Board MNRoberts’ 2019, Marsha Russell, YouTube, [www.youtube.com/watch?v=yL40ebCDTIc](https://www.youtube.com/watch?v=yL40ebCDTIc).

Mazalek A and Clifton P 2014, ‘Tangible and embodied memory maps: design of a Lukasa-inspired interactive exhibit’, Africa Atlanta 2014 Publications, Ivan Allen College of Liberal Arts, Georgia Institute of Technology, <https://leading-edge.iac.gatech.edu/aaproceedings/tangible-and-embodied/>.

Nunn P n.d., ‘Ancient memories of coastal drowning', [Patricknunn.org](https://patricknunn.org/scientific/recent-projects/ancient-memories-of-coastal-drowning/).

Recommended resources

There are many print and online resources available. Local Aboriginal corporations will recommend those best for your area. The following resources are suitable for elaborating on the course material.

Koorie Heritage Trust

For Victorian cultures, the Koorie Heritage Trust is an invaluable resource. The Koorie Heritage Trust is a not-for-profit First Nations owned and managed arts and cultural organisation that provides opportunities for all people to learn, connect and reconnect with the rich living cultural heritage of Aboriginal Victoria.

Located at Federation Square, Melbourne, it is open daily (excluding public holidays), with free entry.

<https://koorieheritagetrust.com.au​>

Monash Indigenous Studies Centre – Wunungu Awara: Animating Indigenous Knowledges

The Monash Indigenous Studies Centre has produced, and continues to update, a wonderful resource including 3D animations of Aboriginal and Torres Strait Islander stories and sung narratives. These are the result of collaborations with the Garrwa People of Northern Territory; the Taungurung People of Victoria; the Yanyuwa Families of Borroloola; the Tati Tai, Mutti Mutti, Latji Latji and Wadi Wadi peoples; the Kaurna people; and Torres Strait Islander communities.

They write: ‘The loss of a language is a lot more than just the loss of words. It is also the loss of identity, spirituality, cultural knowledge and values. Using the latest 3D animation technology Indigenous stories and languages come to life – records the past, preserves the present, and protects Indigenous languages and knowledge into the future.’

The website includes some animations that represent songlines specifically. For example, *The Song of the Tiger Shark at Manankurra (Manankurra Kujika)* presents the Tiger Shark Dreaming songline of the Yanyuwa people. We must always be aware that this is the public level of the songline. A much more complex, layered experience is only available to those initiated into the Yanyuwa culture.

[www.monash.edu/arts/monash-indigenous-studies/wunungu-awara](https://www.monash.edu/arts/monash-indigenous-studies/wunungu-awara)

Songlines: Tracking the Seven Sisters

The *Songlines: Tracking the Seven Sisters* exhibition at the National Museum of Australia (NMA) gave visitors an insight into moving through Country following a songline. Now touring the world, the exhibition is described on the NMA website. Included are animations from the digital dome.

Christine Judith Nicholls described the exhibition in [The Conversation](https://theconversation.com/songlines-tracking-the-seven-sisters-is-a-must-visit-exhibition-for-all-australians-89293) (20 December 2017): ‘Songlines sets out to portray one of the most defining and predominant meta-narratives chronicled in ancient mainland Australia – the story of a predatory, lascivious, rejected loner – an Ancestral Being initially in the guise of a man – who relentlessly pursues seven sisters (Ancestral Women) over land and sky.’

[www.nma.gov.au/exhibitions/songlines](http://www.nma.gov.au/exhibitions/songlines)

Singing the land, signing the land

*Singing the land, signing the land* is an insightful small book that will provide a short and engaging read for students. A digital copy is available [online](http://singing.indigenousknowledge.org/).

The website explains: ‘In 1987, a team of three people – David Wade Chambers, David Turnbull and Helen Watson Verran – began a systematic review of cross-cultural content found in teaching materials in the History, Philosophy and Social Studies of Science. In this book, one of several publications resulting from that collaborative scholarship, Watson Verran (with the Yolgnu community at Yirrkala) and Chambers examine and compare Indigenous and European ways of understanding nature in Australia. This website is a transcription of the book.’

<http://singing.indigenousknowledge.org​>

Books

Bradley J 2010, *Singing Saltwater Country: Journey to the songlines of Carpentaria*, Allen & Unwin.

Buku-Larrngay Mulka Centre 1999, *Saltwater: Yirrkala bark paintings of sea country: Recognising indigenous sea rights*, Buku-Larrngay Mulka Centre in association with Jennifer Isaacs Publishing.

Gay’wu Group of Women 2020, *Songspirals: Sharing women’s wisdom of Country through songlines*, Allen & Unwin.

Kelly L 2019, *Memory Craft*, Allen & Unwin.

Neale M and Kelly L 2020, *Songlines: The power and promise*, Thames and Hudson.

Acknowledgements

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