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Supporting diverse learner needs: A case study using the 8 Ways of Aboriginal learning

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During my 20-year career as a specialist language and literacy educator, I have found that inclusive and experiential classroom pedagogies stimulate and engage learners of all ages and demographics. What is more, these same methods can be effectively implemented to support individuals with diverse learning needs. This article discusses the 8 Ways of Aboriginal Learning (NSW Department of Education, n.d.) as a pedagogical approach for engaging and supporting learners with diverse needs and, using a case study example, demonstrates how the holistic integration of different strategies enhances learning opportunities for all students. Whether you see yourself as an educator, teacher, trainer, mentor or supervisor, and regardless of whether you 'teach' in a standard classroom, workplace settings (e.g. office building, health clinic), or a community-based learning centre, the ideas and approaches presented in this paper will help you construct learning opportunities that will support student success and make lesson planning and preparation more effective and time-efficient.

***Keywords**: inclusive education, experiential learning, integrated curriculum, Indigenous pedagogies*

Introduction

In any given student cohort, there is always significant diversity between learners in terms of their abilities, prior knowledge and experience, and their individual learning preferences (Teemant & Pinnegar, 2020). Learners will also vary across a range of dimensions including physical or learning challenges, differences in cultural and linguistic backgrounds, socio-economic status, and variances in social-emotional needs (Gronseth et al., 2021). Best practise education literature has evidenced the need to reduce barriers and challenges for diverse individuals since they face greater challenges to academic achievement (Howard & Aleman, 2008), and long-term success in education and employment (Sanderson, 2020). Strategies demonstrating how to adjust your teaching style to accommodate learner variability are widely available (Gronseth et al., 2021; Teemant & Pinnegar, 2020). While these methods are appropriate and effective for one-on-one planning and delivery, 'classroom' populations have become increasingly diverse with the collective diversity (multicultural, learning disabled, and speakers of other languages) now often making up the majority rather than a minority (Gronseth et al., 2021; Teemant & Pinnegar, 2020). Educators are increasingly time-poor with greater administrative responsibilities and demands than ever before (Tisdell, 1995) which makes the tailoring of content to meet the needs of each individual a near impossibility. Scholars now suggest planning for individual learner variabilities from the outset (Gronseth et al., 2021) with programs aiming to meet ‘collective’ needs rather than addressing needs individually (Brownlie et al., 2016; Teemant & Pinnegar, 2020).

Pedagogical approach

The 8 Ways of Aboriginal Learning (8 Ways) reflects Aboriginal perspectives and ways of learning which can be effectively used to improve educational outcomes for a range of student diversities (NSW Department of Education, n.d.). The 8 Ways framework (Figure 1) comprises eight interconnected pedagogies to create a holistic, non-linear and contextualised approach to teaching and learning. The methods are non-sequential and interconnect with individual learning preferences. The depicted pathways are narrative-driven learning, the visualisation of individual learning plans, the use of practical

and hands-on approaches, using symbols, artworks and metaphor, connecting to land and country, understanding of synergies and logic, using scaffolding and modelling to pack and unpack information, and community connectedness.

Figure 1: The 8 Ways of Aboriginal learning

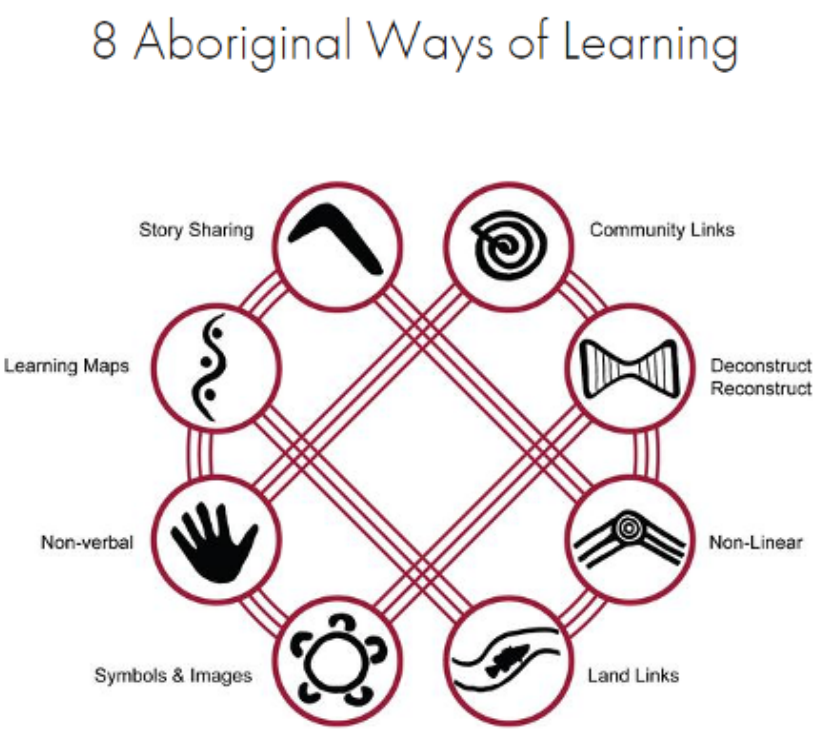

Image from: (NSW Department of Education, n.d.)

Pedagogies that promote experiential learning have been shown to be particularly effective with diverse learner groups (Townsend, 2008). Through the 8 Ways methodology, students explore visual, kinaesthetic and social aspects of knowledge which is developed through a constructivist framework. Learning is seen as the internal contextualisation and comprehension of information through the creation of personal connections to skills and knowledge. Through introspection and self-reflection, students frequently return to learnt knowledge and by integrating these lessons into everyday content,

learning is cemented at a deeper level (Holloway & Gouthro, 2024). Programs that provide behavioural modelling, repeat practice, self-expression, creativity, and self-reflective dialogue have proven to be more effective than other teaching and learning methods in supporting learners to integrate and internalise knowledge (Ricci & Bravo, 2022). Learning through trial and error, copying or mimicking, instruction and demonstration, thinking and reflecting, exploring and investigating, and planning before doing, as incorporated by the 8 Ways, are also effective methods for fostering fundamental cognitive skills and processes that form the basis of lifelong learning (Jarvis, 2014).

Context

While working as the Managing Director for a vocational education and training (VET) centre in the Northern Territory of Australia, I observed the impact of the 8 Ways pedagogy on students from diverse backgrounds and was able to verify the effectiveness of this approach in catering to individual student needs. The VET Centre offered a range of accredited training courses to secondary school students and adult members of the public. A significant portion of the learner group came from Indigenous or multicultural backgrounds, and this created specific language and literacy challenges. Student diversities also included behavioural and learning challenges (e.g. attention deficit hyperactivity disorder), and students who identified as having autism spectrum disorder who faced difficulties with learning, language production and social interaction. Given the diversity in cultural backgrounds, linguistic proficiency, and cognitive, affective and behavioural learning abilities, the VET Centre utilised the 8 Ways pathway model to provide experiential learning opportunities through a scaffolded and contextualised curriculum.

To exemplify the 8 Ways in practice, I present personal observations and interactions with a group of learners undertaking a Certificate II in Conservation and Land Management (AHC21016 - qualification now superseded). As a key component of the program, the students attended work placement at local nursery businesses where they undertook duties such as stock control, customer services, product demonstrations and nursery plant care. Additionally, students were responsible for the nursey area and the mechanical workshop, including equipment maintenance and repairs, at the VET Centre itself. The program was

designed to introduce the learners to various contexts and environments where they would be exposed to and experiment with learning in new and engaging ways. The provision of contextualised experiences aided the students to integrate, internalise and absorb the relevant information through understanding and application of knowledge and skills that were drawn from, and also applied to, the everyday world (Tharp, 2020).

Sharing stories

Behind the VET Centre was a large, protected parkland area and the course trainer regularly guided students on 'walk-throughs' of the area. There was rarely a specific learning intention set for these forays and often this was used as a 'break' from more structured classroom activities. Through these excursions, the trainer would provide opportunities for shared story telling using found objects in the parkland as conversation prompts. For example, when the trainer asked the students if they could identify a particular plant seed, Student A (young Indigenous male) shared a story about foraging with his grandmother to collect the seeds and roasting them in the hot coals of a fire. By allowing the students to explore the area without specific goals or objectives, the trainer was able to engage the learners in genuine conversation and, through this, evaluate what they already knew about a particular topic. Recognising and valuing their existing knowledge helped direct the conversations, allowing the students to co-teach the content. Fostering a 'two way' teaching and learning environment builds relationships through learner to learner knowledge transfer (Purdie et al., 2011) and can provide an opportunity for the role of educator and learner to become more fluid and flexible. Increasing student interaction by allowing students to take a lead role generates meaningful dialogue and shifts the responsibility for the conversation and the learning to the students themselves (Hurst et al., 2013).

Interpersonal exchanges between learners and educators is an integral component in the teaching and learning process (Purdie et al., 2011). The acquisition of new knowledge, and in particular the development and expansion of language and vocabulary, occurs in response to shared activity, direct observations, discussion, and questioning (Tharp, 2020). The course trainer employed effective prompting techniques to stimulate conversations, encouraging learners to share and compare

their knowledge. This sharing of personal narratives is essential for relationship building, and can have a significant and positive impact on a student's participation, motivation and improvement (Ollis et al., 2018). Learner success is enhanced by interactive learning behaviours such as turn-taking, negotiation of meaning, and providing feedback through peer-to-peer interaction (Purdie et al., 2011). Joint production through story-telling increases agency and ownership of the conversation which positively affects learning and contributes significantly to competency development (Jarvis, 2014; Tharp, 2020).

Learning Maps

During the course, each student was responsible for maintaining an individual portfolio that provided formative evidence and demonstrated knowledge competencies applied over time in varying contexts. Each student maintained their portfolio differently; some were text-based with short sentences or stories, others contained artwork, images or symbols, and one was a digital notebook with photos, videos and voice recordings. The portfolios provided an ongoing record of learning but also formed a key part of the preparation and reflection activities undertaken to reinforce learning. The trainer used learning maps as a way to plan for learning, to reflect on learning and to highlight the connectedness of knowledge from one subject area to another. Learning maps can assist students to define and plan out learning activities or for sequencing of tasks within a larger topic or project. For example, prior to work experience placements, the trainer would encourage students to note down questions to help them prepare. Prompting questions such as 'what might you need to know when starting in a new work environment?' or 'what do you want to learn from this experience?' assisted the students to define questions and set learning goals for themselves.

Learning maps were also used for reflective practice to recycle vocabulary and to reaffirm skills and knowledge. Before the conclusion of each day's training session, the trainer would ask students to reflect on their learning for the day and add this information to their workbooks. During these sessions, the trainer would ask students three prompt questions; 'what did you learn today, how does this relate to what you already know, and, what else do you want to know about this topic?' This approach motivated the learners to record new knowledge

and link that information to other subjects and ideas. Equally, they were encouraged to consider what additional learning would enable them to get to the next level. Having an awareness of yourself as a learner, including the ability to plan and manage your own learning is a fundamental life-long learning skill (Jarvis, 2008). The use of learning maps to plan, organise and reflect on knowledge encourages students to use this lifelong learning skill to take ownership of their own learning pathway. According to Teemant & Pinnegar, teachers should model and promote these learning techniques as a way to foster their use (2020).

Non-verbal

I have found non-verbal skills and kinaesthetic, hands-on learning to be successful with diverse learner groups as it allows for the demonstration and expression of knowledge in alternative ways. Learners can model a task without words by using miming actions, gestures or facial expressions to demonstrate meaning and concepts. To promote non-verbal pathways, the trainer would encourage students to act out processes to demonstrate an understanding of key safety concepts. For example, having the students demonstrate how to undertake a safety check prior to using a piece of machinery. To promote discussion and engagement for other students, the trainer might ask other class participants to describe the actions as they are being demonstrated which reinforces key language and vocabulary associated with the topic in a fun and memorable way. Non-verbal performance of tasks was also a helpful mechanism for the trainer to assess the knowledge of those students who were less verbal.

Symbols and images

Symbols, images or metaphors may be used to help students understand, define or record concepts and information. Many of the student portfolios included artwork, images, and photos to document their learning. The use of art and imagery was also used effectively by students to demonstrate their knowledge when completing assessment activities. When defining the assessment requirements for the AHCNSY203 Undertake prorogation activities unit of competency, the trainer advised the students that they were required to propagate and care for a plant over a period of 8 weeks. Students were required

to either propagate five plant seeds or to take and strike cuttings. The assessment also required the students to separately identify each plant to monitor and record its progress, including records of feed and watering cycles. Student B (female student who identified as being on the Autism Spectrum) distinguished each of her plant pots with stickers that showed drawings of each of the plants and their corresponding flower. Her propagation log recording the monitoring cycles for each specimen, used symbols to depict the days when plants were watered or fed. The ability for each individual to contextualise the assessment activity output to suit their strengths created ownership and a learner-led approach to competency development and demonstration.

Land-links

One day, I joined the group on a walk to the parkland area behind the VET Centre. Student C, a 15-year-old Indigenous male, who identified as having attention deficit hyperactivity disorder (ADHD), guided me through the area. As we walked along the trail, he pointed out various trees, plants and landmarks and provided a running commentary on the living landscape. He named trees and plants with both common and scientific names and detailed plant genus, propagation methods, and described common pests and diseases that might affect each plant. He also shared stories about certain native plants and their medicinal benefits; passing on to the class this Indigenous knowledge that had been passed to him through the oral tradition of community elders. If the student had been directly asked 'what is this tree' or 'how do you propagate this plant', the likely response would have been silence. However, being in the natural environment where he could link knowledge to physical specimens and his own personal experiences, increased his confidence and interest in sharing the information. When it came time for the assessment of the ACHPCM201 - Recognise plants unit of competency, the trainer conducted the assessment orally with the student using the same informal format. Student C provided an explanation of each of the plants and specimens indicated by the trainer as they walked through the parkland with the trainer recording direct student quotes on the assessment sheet to provide evidence of the key knowledge competencies.

Non-linear

Learning is not always sequential and is often relational. It is a complex process where learners reflect, evaluate and link new information through associations and connections with the physical environment, social and emotional experience, and existing knowledge (Jarvis, 2012). Non-linear learning acknowledges students' educational and cultural experiences and empowers them to explore different ways to integrate knowledge and skills from other learning areas. Another successful technique employed by the trainer was the use of a 'true or false' game to introduce new topics. Firstly, the trainer would provide a statement about the topic for the students to consider, e.g. 'the lawn mower uses diesel fuel'. The students were then required to decide if they believed this to be true or if they thought the statement was false. Then, students would stand on the left side of the room if they believed the fact to be true, or on the right to signal that they thought it was false. For some students, their existing knowledge might be sufficient to provide them with a known answer, while for others it might be just a guess. Once all students had decided on the statement's merit, the trainer would invite them to justify or explain their answers, encouraging the students to share their knowledge and negotiate with each other to determine the correct answer. The benefit of this approach was that it allowed learners to revisit and reaffirm prior knowledge, to explore and test hypotheses and apply rationale and logic to justify their decision making.

In non-linear learning models, the student is required to filter and critique information that is received from a wide variety of sources (e.g. personal experience, prior knowledge and learning from peers, family and community) and, because of this, the student's critical thinking and problem-solving skills are expanded. Where students are undecided or have limited information to guide their choice, providing prompts to stimulate analysis and reflection and to probe existing knowledge can be useful to aid student thinking. For example, in the case study provided, the trainer asked prompter questions; 'what type of vehicles use diesel fuel', and 'what type of fuel does your car (or parent's car) use?'. Rather than providing answers for the students, questioning techniques were used to stimulate critical thinking and generate further discussion. This technique provides opportunities for learners to explore information through logical reasoning and deduction. Students may be able to deduce the answer about fuel type based on the knowledge that large

vehicles (e.g. trucks) use diesel fuel. Sometimes students were unable to arrive at the correct true or false response, and, in these cases, the trainer would write the statement on the board and return to the game later in the session. Upon revisiting the question, the students would have more information on which to base their answers and were more likely to articulate the reasoning for their answers due to the additional information acquired throughout the lesson.

Deconstruct – reconstruct

For the Operate basic machinery and equipment unit of competency (AHCMOM203), the learning evolved through several stages: exploring prior knowledge, text and topic prediction, reconstructing information, demonstration, modelling, and finally, creation. Using a deconstruct-reconstruct approach, content is sequenced downwards with a focus on understanding the whole before exploring the constituent parts. When the students arrived in the workshop on this particular morning, they found three items on the workshop benches, (a battery-operated power drill, a lawn mower and a whipper snipper). The students were asked about their prior knowledge of the items and were encouraged to name the item, to explain its function or purpose (verbally or visually), and to talk about their own personal experiences in using each item. Vocabulary was developed and practised through a discussion of known parts of each item. Students were subsequently provided with a pile of cards and each card contained the name of a part from one of the items (e.g. choke, drill bit). Students were then asked to break the list of parts into three piles (one for each of the pieces of equipment). The cardboard name tags were then applied to discrete parts of the machinery items. Like the True or False game, students were encouraged to negotiate with each other and use their logical reasoning to name all of the parts.

The next segment of the lesson involved a discussion and demonstration of how items worked. Initially, the trainer asked the students to describe how they thought the items would operate and encouraged them to mime actions to demonstrate. The discussion naturally evolved to cover the safety features of the equipment and the required personal protective equipment that might be needed for safe operation was discussed. The next phase involved a text prediction activity where students were asked to define what information they thought would be included in an operational instruction manual for one of the items. The

students were then provided a cut-up version of the instruction manual and worked in small groups to re-order the operational instructions back into sequence. The trainer then provided explicit instruction and demonstration on how to use each item, relevant safety features and general operational principles. Continuing from this, students were able to trial and practise with each piece of equipment safely. Once they were confident with each of the pieces of equipment, the learners were tasked with creating their own set of instructions to describe how to use one of the items. Some students designed flowcharts or created a sequence of images to define steps in the operational process. One group recorded a video where they provided a demonstration while explaining how to operate and maintain a lawnmower.

Community links

Sharing and connecting through new knowledge is an important part of the learning process, as knowledge sharing and mentoring can reaffirm that knowledge for the sharer (Marshall et al., 2021). Marshall et al., (2021) also argue that acquired benefits from peer mentoring include greater understanding and relational knowledge of the topic, increased self-awareness and confidence, and reinforcement of lifelong learning skills. A clear example of this was when Student D (19-year-old with complex medical issues) attended a first aid course run by his local Scouts group, during which he taught some of those students about the medical properties of the native plants he had learnt about from Student C. On Monday morning, Student D came to class seeking validation from Student C to confirm that he had passed on true and correct information. The community is linked through this story: Student C learnt this traditional Aboriginal knowledge from his grandfather, which he in turn shared with the students in the conservation and land management course. Student D, by passing this information on, continued the cycle where knowledge and learning are reaffirmed for the individual while also being applied for the benefit of the greater community.

Conclusion

Learning is an active and individual process (Jarvis, 2012) that occurs in response to external interactions that are critically reflected upon

and connected to prior knowledge and personal experience. The 8 Ways philosophy promotes side-by-side learning where the teacher and participants all equally engage in the exchange of knowledge and skills. Using this approach, educators can utilise a range of social, educational and environmental settings where learners are empowered to take agency and ownership of their learning and express their ideas and demonstrate competencies in a way that is meaningful to them as individuals. Through increasing learner control, and opportunities for experimentation and negotiation, trainers can create the 'optimal conditions for learning' (Ellis, 1999, p. 166). The example case study demonstrates how the 8 Ways of Aboriginal Learning can be used to generate a learner-centred environment that supports students with diverse learning needs through the simultaneous development of specific subject matter and reinforcement of essential life-long learning skills.

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