

Original Research

# "How do families know what makes a great bush kinder? " : understanding the provision of nature-based early childhood education programs in Victoria, Australia

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**Abstract:** Bush kinders, one example of a nature-based approach to early childhood education, is rapidly becoming a staple of Australian providers' programs. Since the early 2010s, the Australian state of Victoria has been a place where these nature-based programs have been on the rise. With increasing bush kinder numbers due to government initiatives and a deeper community understanding of the benefits of young children spending time in nature, we began to investigate the factors, such as location, session frequency and age grouping of sessions (e.g. 3 or 4 year old children), would allow families to have a deeper understanding of the provision of these nature-based approaches to early childhood education and care. We probed the importance of socioeconomic factors and quality assessment processes in kindergartens to understand whether these factors determine the bush kinder program provision. We also sought to understand the publicly available resources that inform families and educators about bush kinder provision. This paper is informed by a longitudinal ethnographic study of bush kinders. It applies Naidoo's stocktake approach to gather qualitative data drawn from a desktop review of web-based, publicly available secondary sources including academic publications, government reports, books, and electronic databases. Focusing on Victoria where bush kinders are proliferating partly due to state government initiatives, in this paper we ask, what measures exist to understand the provision of Australian nature-based early childhood education programs? The study finds that a detailed database of Australian bush kinders is needed for families to make informed decisions about services who offer nature-based programs as part of their ECEC. Location, socio-economic and quality assurance ratings data that allow us to understand characteristics of Australian nature-based early childhood education settings are of value for families to understand the bush kinder programs available to their children.

**Keywords:** Bush kinders, Nature-based education, Early childhood education, Socio-economic indicators, Outdoor education

## Introduction

Over the past decade, a movement has emerged in the Australian early childhood education and care (ECEC) sector to reconnect young children with the natural environment (Hughes et al., 2022). A range of outdoor, nature-based programs where educators create opportunities to build young children's experiential knowledge of the environment have grown and adopted elements of

similar United Kingdom and Scandinavian programs that have existed for well over 50 years. These forest or nature kindergartens are exemplars for how children can playfully engage with their natural surroundings (Knight, 2016) and have been influential for Australian ECEC educators who have come to realize the benefits of implementing outdoor programs beyond the service gate. Nature play itself as method of educating young children is growing in popularity, both in Australia and around the

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world, and research had shown that children's cognitive, social and emotional skills all benefit in the long term because of the positive and far-reaching benefits of time spent in nature (Cutter-McKenzie-Knowles et al., 2022). Australia's unique geographic and climatic conditions present challenges as educators need to ensure the outdoor environment is suitable and all hazards are mitigated when children are learning through play. Play in these nature spaces creates a meaningful context in which children can experience and learn about the environment (ACARA, 2023; Mawson, 2014). There are a number of names for these Australian nature-based education places including immersive nature play programs, forest playgroups/kindergartens/kindys and nature playgroups/kindergartens/kindys (Hughes et al., 2022). Along with these, the term "bush kinder" has been popularised in the Australian state of Victoria. Bush kinder is a popular form of immersive nature play program (INPP) that are described by Hughes et al. (2022, p.5) as "an Australian early years play based program that are conducted in an outdoor environment, typically beyond the 'gate' or demarcations of a centre." Children are taken to a natural outdoor setting for play-based learning on a weekly or fortnightly basis and through play, learn about themselves and how to interact with the natural environment around them (Speldewinde & Campbell, 2024). Regardless of nomenclature, the intent of these such as bush kinder is to facilitate teaching and learning opportunities for the enhancement of children's cognitive, social and emotional development (Christiansen et al., 2019; Mawson, 2014).

Australian ECEC is delivered by "approved providers and services" and care costs are subsidised by the Australian Government. Children can attend a kindergarten program either in a daycare centre (also called a childcare centre) or at a standalone kinder service (which is also called a sessional kinder service). The management of ECEC in Australia, including the health, safety, wellbeing and educational outcomes of children, is then administered by state and territory governments who oversee the National Quality Framework, which sets the rules for service delivery (AGDE, 2024). Australian ECEC is aimed at instilling "social, physical, emotional, personal, creative, and cognitive learning in children" (Australian Government, 2024) and delivered through a formalised learning framework, the Australian Early Years Learning Framework (EYLF). Generally, ECEC covers children aged from birth to school age. In 2023, there were 13,284 service providers in Australia offering a preschool program for children in this age group (ABS, 2024). There is no accurate database of the number of bush kinder programs being offered in Australia with, as this paper will confirm, conflicting accounts of bush kinder program numbers yet research confirms bush kinders are flourishing (Hughes et al., 2022). Bush kinders are predominantly part of an ECEC centres' program and require little or no funding although, in 2023, one state government offered small grants to cover expenses such as first aid kits, tarpaulins and mats

for shelter, portable toileting facilities and some educator professional development (Speldewinde & Campbell, 2024a).

While much research has been done over the past twenty years on the science related to outdoor playgrounds, including the notion of place and context, the benefits to children, and domain-based learning such as STEM, Author One was asked the question that became the objective of this study in a radio interview in 2022. That is, 'How do parents know what makes a great bush kinder?' The literature informed us of the long-term benefits of nature-based education in a global context and the increasing awareness that children gather about the environment (Speldewinde & Campbell, 2022) and the self-efficacy children can gain (Starling, 2011). That question posed in the radio interview became influential in framing this paper as it led to the realisation of a gap in the literature regarding nature play early childhood contexts and how families viewed nature-based contexts. Our search for the characteristics of bush kinder services that can lead to determining the quality of bush kinder service was not sufficient to inform families of this issue. Therefore, in this study, we are investigating what factors determine the quality of bush kinder programs. This paper is novel in that it adds to the discussion on the growth of nature-based ECEC services. We apply publicly available website data regarding locations, socio-economic status and the national quality standards (NQS) rating system to inform discussions. To supplement this data, we provide case studies of six Victorian bush kinders, a representative overview of metropolitan, regional and rural bush kinders to respond to the question what measures exist to understand the provision of Australian nature-based early childhood education programs?

## Literature review

### Theoretical framing

This study is influenced by Glaser and Strauss' (1967) grounded theory which applies a general method of comparison to systematically generate a theory from the data. Tarozzi (2020) views grounded theory as a method for looking at social reality and developing theoretical perspectives based on data that are grounded in the empirical reality of the research context. In this study, a grounded theory approach was chosen based on a longitudinal study of bush kinders (Speldewinde, 2023). The analytic focus in this paper emerged, much like what was stated by Charmaz and Thornberg (2021, p. 305) 'during the research process, rather than being determined before empirical inquiry begins'. Complimenting Charmaz and Thornberg's study (2021), our experience while conducting this study was that a grounded theory approach gave us useful strategies to conduct an analysis of bush kinder service provision through the lens of the layperson as opposed to the academic. Grounded theory supported

our work in 'studying processes' (Charmaz & Thornberg, 2021, p. 308), generating new concepts in nature-based ECEC approaches. It allowed us to follow a process that families may go through when considering which bush kinder program is available to their children.

## Nature-based education

The emergence of outdoor learning in ECEC has led to the development of nature pedagogy, a teaching approach attuned to the natural environment (Buchan, 2015). This growing movement of nature-based ECEC is critical as time spent in natural environments has been found to be beneficial for children's long-term health, well-being and developmental outcomes (Elliott & Chancellor, 2014). Nature-based ECEC approaches originated in Scandinavia (Norðdahl & Jóhannesson, 2015) and have influenced similar programs in the United Kingdom, Japan, New Zealand, the United States, and Australia (Buchan, 2015; Warden, 2015). Nature-based ECEC approaches align with forms of experiential learning allowing children to draw on real-life experiences make connections to the world around them and be guided in 'science and moral life' (Dewey, 1920, p. 78; Coates & Pimlott-Wilson, 2019). Experiential learning has played an important role in the growth of a nature-based ECEC approach in Scandinavia (Knight, 2016), providing educators with opportunities to support children to 'receive help in their development from things found in nature' where nature becomes 'an ideal playground' (Robertson, 2008, p. 5).

Australia has a long history of early childhood educators using the outdoors for children's play and to learn about the world around them (Elliott, 2017). The introduction of the Australian EYLF gave educators wide-ranging recommendations for the provision of children's engagement in outdoor early childhood environments (DEEWR, 2009) and highlighted to educators the benefits of nature-based programs for children before they commence school. With guidelines in place, educators adopted iterations of nature-based ECEC initiatives (Elliott & Chancellor, 2014). The term bush kinders was adopted in some Australian contexts leading to them being described as the 'pedagogy beyond the gate', incorporating a learning programme in and about nature and differentiating them from traditional kindergarten programs (Kelly & White, 2012, p. 5). The Australian environment, according to Christiansen et al. (2018), offers different vegetation and geographic characteristics compared to European forests and woodlands with dangerous snakes, insects and other animals in nature, considerable ranges in weather temperature, periods of drought and heavy rainfall, and higher UV impacting on children's exposure to sunlight. Yet Australian conditions for nature-based education lend themselves to supporting children's sense of freedom and decision-making in their nature play while enhancing their self-confidence and competence (Speldewinde, 2023). Bush kinders provide children opportunities to

learn by 'natural consequences' and learn by engaging in 'independent, self-determined judgement' (Jean-Jacques Rousseau, 2011, p. 479). In the Australian context, bush kinders were initially viewed as a supplementary addition to the kindergarten program, but over the last decade bush kinder programs have become integrated into early childhood curricula (Christiansen et al., 2018). Bush kinders differentiate themselves from regular kindergarten through the rich benefits of being and learning in nature, which is what makes them 'great' for children in the context of Australian ECEC.

Across the southern Australian state of Victoria, the number of bush kinders has increased rapidly. The Victorian State Government has recognized the potential for growth, and in 2023 recognized the value of incorporating a bush kinder component within the ECEC service provision by providing funding for bush kinder growth and development (DET Victoria, 2023). Prior to the COVID pandemic, there was consistent growth in Victorian nature-based ECEC programs. Many of these new programs were based on the experiences of a bush kinder exemplar reported on by Elliott and Chancellor (2014), Westgarth Bush Kinder in Melbourne's northern suburbs which began in 2011. Increasingly, bush kinders have been observed to occur in a range of Victorian settings from local parklands, gardens and national parks with small creeks and dense shrubbery, paddocks and beaches, with regular sessions running for three to five hours each week (Christiansen et al., 2018; Speldewinde, 2023). Despite their growth in numbers, mapping these programs has been challenging, primarily due to reporting inconsistencies regarding the number of nature-based service providers. For example, the Kids in Nature Network (KINN, 2018) surveyed 446 people and 330 respondents indicated they offer nature play, bush kinder and/or outdoor learning programs in Victoria. Elsewhere, in 2019, it was reported by the Australian Broadcasting Commission that more than 150 bush kinders were operating in Victoria (ABC, 2019) and in October 2023 another organisation, the Early Years Outdoor Learning Network (ECOLN, 2023) reported this number had reportedly grown to more than 200 Australia wide. Despite a lack of certainty regarding actual numbers, the numbers of bush kinders in Victoria continued to increase as educators, families and governments understand the benefits for children being in nature (DET Victoria, 2023).

Bush kinders are a place where unstructured free play can take place under the supervision of qualified educators (Speldewinde & Campbell, 2024). Existing regulations for the Australian ECEC sector are yet to fully address the operation of bush kinder programs (ACECQA, n.d). The governance that occurs is often initiated by early childhood professionals such as centre managers and educators and usually involves consultation with local government authorities (that oversee the use and attendance of public areas) or kindergarten management bodies (pers comm). However, the focus and priority of regulating bush kinders is largely about addressing risk management protocols

and occupational health and safety issues (Christiansen et al., 2018). These shortfalls exist despite robust quality assurance processes in place in Australian ECEC.

## Supporting quality ECEC in nature-based settings

In 2009, a focus on increasing teaching quality within the ECEC sector led to the creation of Australia's first Early Years Learning Framework (EYLF). The EYLF played an important role in highlighting the benefits of children being outdoors and created a link with nature pedagogies being implemented elsewhere. The EYLF was influential in creating the first bush kinders (Elliott & Chancellor, 2014). A National Quality Framework (NQF) embedded with National Quality Standards (NQS) (ACECQA, 2017) was introduced following the EYLF that sought to ensure that children attending education and care services were safe, healthy and their wellbeing supported. The NQF aimed to ensure that children's developmental and educational outcomes were met and that ECEC services continuously improved. Its introduction supported access to nature-based spaces such as bush kinders and particularly sustainability education and practices that can occur in a bush kinder session. The NQS itself provides a mandate for ECEC service providers to embed environmental care into services and encourages children to be supported to gain awareness in becoming environmentally responsible citizens (Christiansen et al., 2018).

Aligned with the United Nations Convention of the Rights of the Child (UNICEF, 1989), the NQS (ACECQA, 2017) are based upon guiding principles that focus on children's rights and best interests. Aligning to the premise for taking children into nature-based learning contexts, the NQS seeks to support children being successful, competent and capable learners and to create equitable, diverse and inclusive education practices for enabling children to succeed. As children spend time in nature, the value of Australia's Aboriginal and Torres Strait Islander cultures is highlighted by the NQS and it also compels educators to respect and support families and apply best practice as part of a commitment to continually improve approaches to teaching (ACECQA, 2017). Also included in the NQS are seven different equally important areas. These areas aim to raise the value of the early childhood education environment that include Quality Areas 1-3 (Educational Program and Practice, Children's Health and Safety, and Physical Environment) (ACECQA, 2017) which are relevant to the delivery of nature-based ECEC programs. Quality Area 1 specifies that educators plan child-centred and stimulating programs that enhance their learning, development and wellbeing. Quality Area 2 ensures that children's physical activity is supported in the indoor and outdoor environment while Quality Area 3, ensures that children are given the opportunity to become environmentally responsible (ACECQA, 2017). Quality Area 3 also describes how the ECEC facilities and resources

can be designed so that they offer appropriate learning activities and experiences to promote participation in both built and natural environments. The NQS highlights the use of natural resources, and prompts educators to support children to become environmentally responsible. Despite NQS incorporating supervision requirements, it requires further development to account for nature-based programs. For example, a bush kinder program falls outside of NQS excursion policy due to its regular rather than one-off occurrence. It has been noted by some educators in the field that they can become reliant on local policies to determine educator-to-child ratios, transportation of children to a bush kinder site or professional development that educators may require to adequately organise and administer quality bush kinder programs (personal communication, 15 March 2024). The NQS also does not include socio-economic factors impacting ECEC meaning other measures are required to reflect on how disadvantage impacts families.

## Socio-economic factors

Our literature search found limited consideration of the correlation between socio-economic measures and ECEC nature-based program provision. McCree and colleagues (2019) considered disadvantage in their study of primary school aged children and found that academic attainment benefitted by being in nature-based settings. Despite this gap in the literature specific to ECEC, it has been found that family socio-economic status in many countries and the percentage of children in industrialised nations who are attending ECEC institutions has risen (Stahl et al., 2018). This is despite studies indicating to the contrary that 'formal ECEC is in short supply in many countries' (Baranyi, 2023). Research confirms that kindergarten attendance is often linked to the quality of the learning environment and that high-quality ECEC is effective in promoting health and development for disadvantaged children (Kachi et al., 2020). Despite the benefits, families who experience social disadvantage are often less likely to enrol children in ECEC services (Kachi et al., 2020). Reasons for this may be the affordability of these services and that the location and spatial distribution of ECEC services are skewed toward families that are educated and have higher socio-economic status (Baranyi, 2023).

## Method

### Research design

This paper is based on a longitudinal research project that began in 2015 to understand science learning in bush kinder. Data were collected using an ethnographic design (Delamont 2016; Madden 2017), and ethics approval was obtained and procedures put in place to comply with the University's Human Research Ethics protocols (Deakin University HAE-24-033). Although the present study

was inspired by the previous study, it is distinct from the previous study and differs from that work in the way data were collected. While the authors are experienced in researching bush kinders, it was decided to investigate only what is accessible to families (or laypeople). Therefore, this study only applies qualitative data from web-based, publicly available secondary sources including academic publications, government reports, books, and electronic databases using Google Scholar and Internet WebBrowser applications in Google Chrome and Microsoft Bing as the sole source of data access. These search engines were chosen because they provide broad access to a range of data relevant to this study. With this deviation, new ethical issues became apparent. There is a "sharp division" between ethical considerations when researching people and researching texts (Bassett & O'Riordan, 2002, p. 239). To conduct this study ethically, we applied Cilliers and Viljoen's (2020) framework of ethical issues to consider when conducting Internet-based research. This framework includes five areas to consider: the study population, legal issues, privacy expectations of users, data considerations and data storage. For each focus area, we needed to be aware that we were using secondary data that needed to be de-identified. We ensured all data was publicly available and did not require access behind a login. Since we only had access to publicly available data, we decided to de-identify all data and anonymize each bush kinder site for privacy purposes using nomenclature Bush Kinder 1, 2... We remained cognisant of the issue raised by Gliniecka (2023, p. 1) that on occasions, researchers who label data as publicly available, "waive their obligation to address ethical concerns". We wanted to ensure at all times we were respectful of the bush kinders having only used their publicly available information as the data we were applying and that, as the internet is a medium in which users can create cultural artefacts it would be "counter productive and impossible" (Bassett & O'Riordan, 2002, p. 236) due to the small size of this study, to gain participants consent to use the publicly available artefacts we were applying here.

An inventory was carried out for the study itself. Stocktaking studies have been used as a research methodology (Naidoo, 2009) and are useful when examining a variety of data, particularly those available in the public realm. Applying a triangulation methodology for "stocktaking institutional and programme mobility" (Naidoo, 2009, p. 316), where examples were compared and then cross-checked in a follow-up process. In line with this process, Author Two initially sourced bush kinder information from one database and then crosschecked this with kindergarten websites. Author One then confirmed the validity of the data. A limitation of the study was that it was a single-criterion data selection that covered two metropolitan, two regional and two rural sites, included only online data and was not based on in-depth research. We adopted this research methodology over others as stocktake studies allow the researcher to apply rigour to the individual data. We cross checked and undertook a series of steps (Fogelgarn et al.,

2024) that "stocktake" the data available in the public realm, and to expediently report on what evidence is publicly available and relevant to families.

## Data generation

We were interested in finding out what influenced the implementation of bush kinders in Victoria, and we wanted to understand if location and service quality ratings were influential in bush kinder provision. To generate the data for this work, a desktop review of websites was conducted, which aimed to examine databases of information about Victorian bush kinder. It was found that there were few databases with this information. Using the titles of Australian ECEC nature-based services, bush or nature kinder (garten) to conduct our search, we located three relevant databases: Kids in Nature Network (2018), Eco Explorers (2023) and Early Childhood Outdoor Learning Network (n.d.). In our research, we immediately came across a discrepancy: the Eco Explorers website listed 67 bush kinders in Victoria, the KiNN report stated 330 bush kinders and nature-based services were operating and the ECOLN website listed over 200 bush kinders (although some were not in Victoria). To overview the services available, we elected to use the Eco Explorers (2023) website to examine the 67 Victorian bush kinders listed as it was the most recent dataset available as opposed to the KiNN data. This was an iterative and arduous task. Opting for a case study approach (Stake, 2005), information for six strategically selected Victorian bush kinders was garnered from each bush kinder (or kindergarten's) website. We selected the six sites to provide a cross-section from different locations such as metropolitan, regional and rural places to provide a sense of how location may impact on the bush kinder. Then we reduced the sites under the study to six choosing differing locations determined by SEIFA, as we sought to see how different socio-economic factors may influence the bush kinder. It became necessary to visit each of the six early childhood service's websites to ascertain further details specific to the service.

## Data analysis

The qualitative data for this study was obtained through a review of kindergarten websites then extracted into a spreadsheet for analysis through a thematic process (Braun & Clarke, 2006). We specifically began by reading a sample of ten websites and then began to understand that many searched facts for families such as the NQS rating, the SEIFA rating, the length of bush kinder session and how families transported their child to the bush kinder. These themes became iterative as we carefully read and reread through the websites and searching for recurring data and we determined that these would be valuable to profile what families would also have available to determine the bush kinder program offering.

## Findings

In Victoria, the number of bush kinder has increased exponentially. We can draw this finding from the educator conversations and the longitudinal study as well as from our general knowledge of the Victorian ECEC context. However, despite this growth, we were hampered by the limited data available on a national basis of bush kinder services. In our mapping of publicly available information, it became clear that a range of information is available to determine the quality of a bush kinder and whether it meets their families' needs. The challenge is that much of this information is located in disparate sources. We sought to collate this data necessary for families by beginning with establishing if the rating a service had received after their quality assessment was of relevance to the inclusion of an ECEC program including a bush kinder component to the program (Table 1), but the timeframes of the current rating were generally not provided. Using a service's NQS rating, we found that most services (N= 45) had received an "exceeding" or "excellent" rating for their quality assessment while fifteen services received a "Meeting" rating.

**Table 1.** NQS Rating of 67 services that have a bush kinder program according to the Eco Explorers website

NQS Rating	Eco Explorers bush kinders
Exceeding	44
Excellent	1
Meeting	15
Not a kindergarten	1
Not yet assessed	1
Rating not available	5
Total	67

To build a profile of the socio-economic status of the bush kinder location that families may see as valuable, 67 services on the Eco Explorers website were reviewed, tabulated (Table 2) and categorised according to their ranking using the ABS decile rating of 1 to 10 where the most disadvantaged suburbs receive a ranking of 1 and the most advantaged suburbs a ranking of 10 (ABS, 2023). The Australian Bureau of Statistics (2023) determine community characteristics of advantage and disadvantage using Socio-Economic Indexes for Areas (SEIFA). The data measured by SIEFA includes household income, education, employment, occupation, and housing information (ABS, 2023). SEIFA assists in understanding localised health and educational issues and where service implementation is needed (ABS, 2023). From SEIFA data, we can understand the socio-economic status of families attending a bush kinder program and the location's status (i.e. a suburb, township, or regional or rural area).

## Case studies

Understanding the service quality and socioeconomic data of a sample from 67 bush kinders, we now describe the information available to families for six bush kinder programs. These six case studies were randomly selected from the 67 bush kinders listed on the Eco Explorers website [18]. The selection process took into account varied locations and program characteristics to obtain a sample of bush kinders across urban and rural areas. Our intent was to overview the children's age groups attending the bush kinder (three- and/or four-year-olds), how often bush kinder sessions took place, the location in proximity to the regular kindergarten and how children arrive at the bush kinder (walk, bus transportation or family drop-off). We found that in the six case studies, the year when each bush kinder commenced was not provided. The examples below include bush kinders that operate as a stand-alone service, meaning children aged from three to five years of age attend the kindergarten for the weekly sessions (days, hours and times differ from one stand-alone/sessional kindergarten to another). In contrast, another service is a Long Day Care service accommodating children from birth to school age. This centre includes integrated component, meaning that children attend for just the regular kindergarten component of the weekly program (approximately 15 hours a week).

**Table 2.** Deciles and percentiles of Victorian suburbs and townships (regional and rural areas) with a bush kinder

Decile	Bush kinder service numbers (N= 67)	Percentile range location (%)
10	19	91-99
9	16	81-90
8	9	74-80
7	4	63-65
6	1	50-60
5	5	44-48
4	6	36-38
3	5	21-27
2	2	10-20
1	0	0

### BUSH KINDER 1 (BK1):

Part of a large Christian denominated school in a regional Victorian city one hour's drive from Melbourne. Located on the primary school campus, the kindergarten's website highlighted that it was one of the first to offer a bush kinder component including a beach kinder program. Available as both the 3-year-old and 4-year-old program, the website explains the importance of learning about sustainability and assisting with children's fine and large motor skills through bush kinder participation. The location of the bush or beach kinder is not described, nor is it mentioned how the children arrive at these sites. SEIFA data for this

Victorian suburb had a decile rating of 7 (out of 10) and a percentile of 67 (out of 100). This centre highlights on its website that it achieved an exceeding NQS rating.

#### **BUSH KINDER 2 (BK2):**

This kindergarten, located in Melbourne's eastern suburbs, has operated for over 50 years. The four-year-old bush kinder go on regular outings to a nearby nature reserve, approximately a five-minute walk from the kindergarten site. Another site visited by the bush kinder is a local stream, but this was approximately five kilometres from the kindergarten site. There are no details about how the children arrive at the creek setting. Children's play-based learning in the bush kinder aimed to develop children's language, their social, emotional and cognitive skills as well as physicality. The timetable of different kindergarten groups is publicly available however, it lacked detail about the number of hours each group attend bush kinder or how they arrive at the site. SEIFA data for this suburb had a decile rating of 9 and a percentile of 83. This kindergarten achieved an NQS rating of exceeding.

#### **BUSH KINDER 3 (BK3):**

This kindergarten, is located in downtown of Melbourne, near the city's Central Business District. This kindergarten's philosophy was that children learn best when they are actively involved in their own play, with open-ended activities and experiences. The bush kinder takes place once a week, in the morning, at a set time outdoors. The purpose of these sessions is to experience nature, forge connections to Earth, and enhance opportunities for children to become advocates for nature. It is held at a nearby creek and is aimed at the four-year-old group and only for children attending the centre's long day care [LDC] program. Those who attend for shorter hours in the sessional program, are not included in the Bush Kinder outings. The bush kinder site is evident on their website, however information about how they arrive at the site is not. Of interest is that there is specific mention of there being no additional cost to attend this bush kinder. The bush kinder is about four to five kilometres away from the kindergarten centre. SEIFA data for this suburb has a decile rating of 8 and a percentile of 80. This kindergarten achieved a NQS rating of exceeding.

#### **BUSH KINDER 4 (BK2):**

This kindergarten is in the outer northern suburbs of Melbourne. Its website described the number of groups, the educators' name that attend each session and included a family handbook with bush kinder program information. The handbook mentioned staff-to-child ratios (2:22), the centre's bush kinder policies and links to media articles. A link is also given for the location to see where sessions are held (depending on the time/group the child attends). Two bush kinder sites are used for four-year-old children. At one site, families delivered children for five hours of bush kinder. At the other site, the educators and children walked to the site for a three and a half-hour session.

SEIFA data for this suburb had a decile rating of 2 and a percentile of 80. This kindergarten achieved an NQS rating of exceeding.

#### **BUSH KINDER 5 (BK5):**

This kindergarten was located in a small Victorian seaside town about 90 minutes drive time from Melbourne. Its website noted that the four-year-old kindergarten groups spend one day a week on the beach in summer and in the bush in winter. Bush kinder played an important part of the kindergarten program as the program is philosophically aligned with an ethic of environmental sustainability. The kindergarten believes that this is in keeping with its own connection to the land and ocean and that these spaces are the best classrooms. There is no mention of where bush kinder sessions take place nor whether children or teachers can walk to the sites. SEIFA data for this township has a decile rating of 9 and a percentile of 85. This kindergarten achieved an NQS rating of exceeding.

#### **BUSH KINDER 6 (BK6):**

This kindergarten was located in a small rural Victorian township approximately 300 kilometers from Melbourne in an agricultural area. Offering three and four-year old kinder groups, the kindergarten's website has its bush kinder prominent amongst its information. Its website has several images captured during the bush kinder sessions. The bush kinder program runs fortnightly at a site away from the kindergarten, based near a mountain. The viewer of the web-page would be safe to assume that from the information provided, children or teachers cannot walk to the sites. SEIFA data for this township has a decile rating of 7 and a percentile of 61. This kindergarten has achieved a rating of meeting under the NQF.

## **Discussion**

As we were unable to locate a comprehensive national database, we were limited in our capacity to undertake an expedient, nationwide Australian study. As experienced researchers, if we found this challenging, then laypeople including families may also face similar challenges. We determined to limit our search to the one Australian state, Victoria, where we were able to locate some bush kinder program information, albeit somewhat disparate and sometimes contradictory facts and figures. Author one's previous fieldwork conducted in 2015, 2017 and 2020 (Speldewinde, 2023) provided insights into how the bush kinders had grown over a decade as when his study commenced. In 2015 and 2017, there were only a small number of bush kinders often facilitated based upon local conditions (Campbell & Speldewinde, 2019). Through locating three bush kinder databases, we were able to contemplate on the issues families might have in finding reliable sources to understand what constitutes a bush kinder and how these distinguish from other services

that have other designations, such as a nature playground. We came to question our data when we realized from further internet research that the information on these sites was contradictory. We attribute this not to the databases, rather to the ongoing and often expeditious addition of bush kinder programs to existing kindergarten services.

We found that we needed a comprehensive database that included statistical data as well as information pertaining to the facilitating of a bush kinder program. This database would be valuable for families.

**Table 3.** Bush kinder 6 case studies data

Bush kinder	Location	SEIFA	NQS Rating	Location	Attendance	Children's age
1	Regional city	7	Exceeding	No location provided.	Not indicated	3- & 4-year- old
2	Capital city: metropolitan	9	Exceeding	Uses different bush kinder sites.	Regular	4-year-old
3	Capital city: fringe CBD	8	Exceeding	One site away from the kindergarten	Weekly	4-year-old
4	Capital city: metropolitan	2	Exceeding	One site away from the kindergarten	Weekly	4-year-old
5	Rural: coastal	9	Exceeding	Uses different sites away from the kindergarten	Weekly	4-year-old
6	Rural: inland	7	Meeting	One site away from the kindergarten	Fortnightly	3- & 4-year-old

Our web-based searching of individual bush kinder programs, summarised in Table 3, led us to understand that there are means and ways of incorporating a bush kinder into local ECEC service provision, it is a matter that a database resembling Table 3 would be highly beneficial for prospective families seeking to access a bush kinder. The data we located indicated that families should expect that bush kinders are predominantly facilitated for four-year-old groups. This may in part be due to the government funding for these services as opposed to three-year-old programs (Campbell & Speldewinde, 2019). One further factor in determining bush kinder age groups could be the setting, for example BK6 which is well away from a major city. Rural townships such as that where BK6 is located, with a small population, may lack the critical mass of people to make a weekly nature-based program viable. Families should expect that bush kinder sessions occur weekly as they are most popular and that they consistently take place away from the regular kindergarten premises. Families should also understand that undertaking regular INPPs such as a bush kinder ensures it is not seen as a novelty and that it is an important part of the child's kindergarten experience as opposed to a single purpose excursion such as visiting a zoo (Hughes et al., 2022).

In all the cases studied here, high-quality services were found to be relevant to families' understanding of the quality of a bush kinder session. Hughes and colleagues (2022) highlight the important role that the NQS has played in promoting and supporting educators to understand the 'how to' of facilitating INPPs such as bush kinders. As a

service quality measure, it is important that we provide opportunities for families to be aware of how these ratings provide that measure to help understand the quality of the service being provided to their child. Table 1 confirmed that almost all bush kinder programs we drew on as cases in this study provide a high quality ECEC service. Most services achieved an "exceeding" rating for their NQS assessment. From this, we conclude that educators have good command of their approach to ECEC teaching and learning. An important finding, however, is that limited information is publicly available regarding how to attend the bush kinder. Where it is provided, as in the cases of BKs 4 and 5 (Table 3), families are better informed about whether the children go to their kindergarten building then walk to the bush kinder, whether the children are transported by bus, or whether there is an expectation for family member to deliver the children at the bush kinder.

Benefits abound for young children being in the natural environment (Speldewinde & Campbell, 2024). Acknowledging that we purposely sampled bush kinders to illustrate one premise in this paper, that families need accurate information to determine what makes a great bush kinder, the SEIFA data indicates the majority of bush kinders occur in higher socioeconomic areas. This premise affirms Kachi and colleagues (2020) finding that social disadvantage inhibits young children's ECEC attendance and that preschool services are not often taken up by families of low socio-economic status (Stahl et al., 2018). Providing equitable access to bush kinders for families will need to be front of mind for policymakers as bush kinder



locations are heavily weighted (66%) towards the top three, higher socio-economic ABS Deciles (Table 2). This will be important moving forward to ensure that bush kinder services are offered in regions of lower socio-economic status to give all children the opportunity to learn in and from nature. Acknowledging that children from contexts that are less than favourable socio-economically and who may be less active and have fewer opportunities to access nature than more affluent families (Specht et al., 2023) is important as it makes the need for bush kinders in these situations more important. As outdoor play provides children with their main source of physical activity, it makes accessing a nature-based ECEC setting important for children who may be in a less than favourable socio-economic situation (Specht et al., 2023).

## Limitations and conclusions

One of the limitations of this study was the difficulty in obtaining consistent data regarding bush kinder service provision. It should be noted that the research team are experienced academics from the early childhood field, highlighting the difficulties encountered by laypeople such as families who potentially are less adept at locating important information encountered when trying to source bush kinder details. A further limitation is that the stocktake method investigated only Victoria, in part due to being unable to find any detailed data for other Australian states and our selection of six bush kinders is, in itself a limitation, as we sought to strategically select bush kinders that provided a breadth of location, SIEFA and NQS rating, that are a cross-sectional representation of the potential data. The stocktake method itself, as a way to locate and apply secondary sources, is prone to potential bias, and gaps in the data availability in terms of timeliness of available are potentially problematic. We were reliant only on what we could locate through desk-based web searches. Also, a further limitation to the data we sourced was that we could not identify when NQS ratings had been applied to the centres we investigated. Not knowing the dates means that we could not be sure if the ratings were applied before the bush kinder service commenced and local policies in regard to determining the feasibility of facilitating a bush kinder were not explored as part of this study. Therefore, there exists the potential for new research that examines other Australian states and research that probes the centres more intricately.

If, as Christiansen and colleagues (2018) report, there are considerable benefits to attending a bush kinder and with government funding (DET, 2023) available for increased numbers of bush kinders, we hypothesize that a detailed database of all bush kinders with a range of information is needed to enable families to make informed decisions about services. What we can confirm is that there are factors including location, socio-economic data and quality assurance ratings that allow us to understand the

characteristics of Australian nature-based early childhood education settings and that any database that is constructed should incorporate these attributes. These factors are valuable for families to understand the bush kinder programs available to their children. The number of facilities in urban, peri-urban and rural Victoria continues to increase, which may also be the case across Australia however, without an accurate database, this is difficult to confirm. Having accurate, detailed information will be valuable to educators and families alike to be able to understand where these services prevail and what they offer, particularly as greater numbers of bush kinders become embedded in Australian ECEC services.

## Authors' contributions

Both authors contributed equally to the development, writing and editing of this paper. Data collection was done by author two and reviewed by author one.

## Conflict of interest

Both authors confirm that no conflict of interest exists.

## References

- Australian Broadcasting Corporation (ABC). (2019). *Bush Kinder: Nature, wellbeing and resilience*. <https://www.abc.net.au/abckids/earlyeducation/reflectivejournal/bush-kinder-nature-wellbeing-and-resilience/13390968>.
- Australian Children's Education and Care Quality Authority (ACECQA). (2017). *Guide to the national quality framework*. Australian Children's Education and Care Quality Authority.
- Australian Government Department of Education (AGDE). (2022). *Belonging, Being and Becoming: The Early Years Learning Framework for Australia (V2.0)*. Australian Government Department of Education for the Ministerial Council.
- Australian Government Department of Education (AGDE). (2024). *About early childhood education and care in Australia*. <https://www.education.gov.au/early-childhood/about-early-childhood-education-and-care-australia>.
- Australian Bureau of Statistics (2023). *Socio-Economic Indexes for Areas*. <https://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa>.
- Australian Bureau of Statistics (2024). *Preschool Education*. <https://www.abs.gov.au/statistics/people/education/preschool-education/latest-release>.
- Baranyai, E. (2023). The Socio-Economic Status of Neighbourhoods and Access to Early Childhood

- Education. *Child Indicators Research*, 1-30. <https://doi.org/10.1007/s12187-022-10007-9>.
- Bassett, E.H. & O’Riordan, K. (2002). Ethics of internet research: Contesting the human subjects research model. *Ethics and Information Technology*, 4, 233-246.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- Buchan, N. (2015). Children in Wild Nature: A practical guide to nature-based practice. Teaching Solutions.
- Campbell, C., & Speldewinde, C. (2019). Bush kinder in Australia: A new learning ‘place’ and its effect on local policy. *Policy Futures in Education*, 17(4), 541-559. <https://doi.org/10.1177/1478210317753028>.
- Charmaz, K., & Thornberg, R. (2021). The pursuit of quality in grounded theory. *Qualitative Research in Psychology*, 18(3), 305-327. <https://doi.org/10.1080/14780887.2020.1780357>
- Christiansen, A., Hannan, S., Anderson, K., Coxon, L., & Fargher, D. (2018). Place-based nature kindergarten in Victoria, Australia: No tools, no toys, no art supplies. *Journal of Outdoor and Environmental Education*, 21, 61-75. <https://doi.org/10.1007/s42322-017-0001-6>.
- Cutter-Mackenzie-Knowles, A., Osborn, M., Lasczik, A., Malone, K., & Knight, L. (2021). *Mudbook: Nature Play Framework*. Queensland Government Department of Education
- Delamont, S. (2016). *Fieldwork in educational settings: Methods, pitfalls and perspectives*. Taylor and Francis.
- Department of Education, Employment and Workplace Relations (DEEWR). (2009). *Belonging, Being and Becoming: The Early Years Learning Framework for Australia*. Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, Commonwealth of Australia.
- Department of Education and Training, Victoria (DET, Victoria). (2023). *Bush kinder grants program*. <https://www.vic.gov.au/bush-kinder-grants-program>.
- Early Childhood Outdoor Learning Network (ECOLN). (n.d.). *Outdoor Learning Programs*. <https://earlychildhoodoutdoorlearning.weebly.com/outdoor-learning-programs.html>.
- Eco Explorers. (2023). *Bush Kindergarten Melbourne Directory*. <https://www.ecoexplorers.com.au/bush-kindergarten-melbourne-directory>.
- Elliott, S. (2017). An Australian perspective: Seeking sustainability in early childhood outdoor play spaces. *The Sage Handbook of Outdoor Play and Learning*, 295-316.
- Elliott, S., & Chancellor, B. (2014). From forest preschool to bush kinder: An inspirational approach to preschool provision in Australia. *Australasian Journal of Early Childhood*, 39(4), 45-53. <https://doi.org/10.1177/183693911403900407>.
- Fogelgarn, R., Weller, J., & O’Reilly-Briggs, K. (2024). Permission to teach VET: Enabling a vicious circle that maintains the low status of VET education. *Issues in Educational Research*, 34(1), 37-57.
- Glaser, B., & Strauss, A. (2017). *Discovery of Grounded Theory: Strategies for Qualitative Research*. Routledge.
- Gliniecka, M. (2023). The ethics of publicly available data research: A situated ethics framework for Reddit. *Social Media and Society*. July-September 2023, 1-11.
- Hughes, F., Elliott, S., Anderson, K., & Chancellor, B. (2022). *Early Years Learning in Australian Natural Environments*. Oxford University Press.
- Kachi, Y., Kato, T., & Kawachi, I. (2020). Socio-economic disparities in early childhood education enrolment: Japanese population-based study. *Journal of Epidemiology*, 30(3), 143-150. <https://doi.org/10.2188/jea.JE20180216>.
- Kids In Nature Network (KINN) (2018), *The State of Nature Play, Outdoor Learning and Bush Kinder in Victoria. Summary of Key Findings and Recommendations*, November 2018.
- Knight, S. (2016). *Forest School in Practice*. Sage.
- Madden, R. (2017). *Being Ethnographic: A Guide to the Theory and Practice of Ethnography*. SAGE Publications Ltd.
- Mawson, W.B. (2014). "Experiencing the ‘Wild Woods’: The Impact of Pedagogy on Children’s Experience of the Natural Environment." *European Early Childhood Education Research Journal*, 22(4), 513-524. <https://doi.org/10.1080/1350293X.2014.947833>
- McCree, M., Cutting, R., & Sherwin, D. (2020). The Hare and the Tortoise go to Forest School: taking the scenic route to academic attainment via emotional wellbeing outdoors. *In Young Children's Emotional Experiences* (pp. 106-122). Routledge.
- Naidoo, V. (2009). Transnational higher education: A stocktake of current activity. *Journal of Studies in International Education*, 13(3), 310-330. <https://doi.org/10.1177/1028315308317938>.
- Neuhouser, F. (2011). Jean-Jacques Rousseau and the origins of autonomy. *Inquiry*, 54(5): 478-493.
- Specht, I.O., Larsen, SC., Nielsen, A. K., Rohde, J.F., Heitmann, B.L., & Jørgensen, T.S. (2023). Types of kindergarten and their relationship with parental and children’s socio-demographic characteristics in Denmark. *PloS one*, 18(7), e0288846.
- Speldewinde, C. STEM Teaching and Learning in Bush Kinders. (2022). *Canadian Journal of Science, Mathematics and Technology Education*. 22, 444 - 461. <https://doi.org/10.1007/s42330-022-00207-4>
- Speldewinde, C., & Campbell, C. (2022). Mathematics learning in the early years through nature play. *International Journal of Early Years Education*, 30(4), 813-830. <https://doi.org/10.1080/09669760.2022.2122026>
- Speldewinde, C., & Campbell, C. (2024). Bush Kinders: Building Young Children’s Relationships with the Environment. *Australian Journal of Environmental*

- Education*, 40(1), 7–21. doi:10.1017/aee.2023.36
- Speldewinde, C., & Campbell, C. (2024a). Invisible and fluid walls in early childhood nature learning: collecting data through video. *Educational Research*, 66(4), 365–380. <https://doi.org/10.1080/00131881.2024.2393139>
- Stahl, J.F., Schober, P.S., & Spiess, C.K. (2018). Parental socio-economic status and childcare quality: Early inequalities in educational opportunity?. *Early Childhood Research Quarterly*, 44, 304-317. <https://doi.org/10.1016/j.ecresq.2017.10.011>
- Stake R.E. (2005). Qualitative case studies. In Denzin NK & Lincoln YS (eds). *The Sage handbook of qualitative research (3rd edition)*. Thousand Oaks: SAGE, pp. 443–466.
- Starling, P.E. (2011). An investigation of unstructured play in nature and its effect on children's self-efficacy. *Doctorate in Social Work (DSW) Dissertations*, 105.
- Tarozzi, M. (2020). *What is grounded theory?*. Bloomsbury publishing.
- Thomas, D.R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246. <https://doi.org/10.1177/1098214005283748>.
- Warden, C. (2015). *Learning with Nature: Embedding Outdoor Practice*. Sage Publications Ltd.