

Discussion paper

Play-based learning with intentionality

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The Australian Education Research Organisation (AERO) is Australia's national education evidence body, working to achieve excellence and equity in educational outcomes for all children and young people.

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AERO acknowledges the Traditional Owners and Custodians of the lands, waterways, skies, islands and sea Country across Australia. We pay our deepest respects to First Nations cultures and Elders past and present. We endeavour to continually value and learn from First Nations knowledges and educational practices.

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List of abbreviations

Abbreviation	Full term
ACECQA	Australian Children's Education and Care Quality Authority
AEDC	Australian Early Development Census
AGDE	Australian Government Department of Education
ECEC	Early childhood education and care
EYLF V2.0	Early Years Learning Framework V2.0
NQF	National Quality Framework
NQS	National Quality Standard
PRISMA-P	Preferred Reporting Items for Systematic review and Meta-Analysis Protocols

Introduction

Large-scale research such as the Effective Provision of Pre-School Education (EPPE) study (Sylva et al., 2004) confirms the significance of educator and teacher practices for improvement in learning outcomes for young children. The quality of instruction children receive in ECEC settings and programs can influence child learning and development (Tayler et al., 2013), with children from equity groups considered most likely to benefit (Elek et al., 2020; McLaughlin et al., 2016).

The [National Quality Framework \(NQF\)](#) in Australia aims to raise quality and drive continuous improvement in early childhood education and care (ECEC) services. It is a commitment to supporting better educational and developmental outcomes for all children by striving for best practice (Australian Children's Education and Care Quality Authority [ACECQA], 2024). Achieving best practice requires educators, teachers and service leaders to understand what matters most for children's learning and development and how they facilitate and extend each child's learning and development through play-based programs.

Inherent within the NQF is a **commitment to continuous improvement** and **striving for best practice** underpins this commitment. While the NQF does not prescribe what best practice looks like, it **encourages education and care services to draw on a range of current research, theory and understandings** about early and middle childhood. This can provide educators with an understanding of best and most suitable practice in the unique and changing context of their service.

—The Guide to the National Quality Framework (2024)

Intentional teaching involves educators making deliberate, thoughtful decisions to achieve quality learning outcomes for children (Australian Government Department of Education [AGDE], 2022). [Quality Area 1 of the National Quality Standard](#) requires educators to enact intentional teaching through their decision making and practices. Recent [research from the Australian Education Research Organisation \(AERO\)](#) showed that improved ECEC quality, as measured by the National Quality Standard (NQS), consistently reduced the likelihood of developmental vulnerability at school entry (Rankin et al., 2024). Prioritising quality improvement in Quality Area 1 (as well as Quality Areas 3 and 5) is a predictor of improved outcomes for children at risk of developmental vulnerability (Rankin et al., 2024).

Despite the benefits of intentional teaching and its place within Australian curriculum frameworks and policy initiatives, there remains a disconnect between policy, educator and teacher knowledge and pedagogical practice (e.g., Kirkby et al., 2018; Leggett, 2023; Lewis et al., 2019). This disconnect contributes to a lack of clarity about the intentional roles educators and teachers have in supporting children's learning and how intentional teaching strategies are applied within play-based learning (Bubikova-Moan et al., 2019; Chen et al., 2023; Grieshaber et al., 2021).

This discussion paper provides a synthesis of contemporary evidence, derived from 2 literature reviews examining conditions and practices that maximise learning and development in ECEC. It contributes to collective understanding about intentional teaching in early childhood and helps address common misunderstandings about what it means, why it's important and what's required for it to be applied effectively.



A plain language definition of intentional teaching

To have an intention means to have a **purpose** or reason for doing something. Intentional teaching is, therefore, **teaching** that has a **purpose or reason behind it**.

Intentional teaching can include **pre-planned and adult-led learning experiences** as well as **spontaneous opportunities** where educators and teachers respond to ‘teachable moments’ that align with their intentions. It may also mean making **deliberate decisions** about when to guide play and when to step back from and observe play experiences.

The **effectiveness** of **intentional teaching** depends on the nature of the intentions held by an educator or teacher. To be effective, these intentions should be based on a combination of:

- **professional knowledge** about **children and how they learn**
- an **understanding** of the aims and outcomes of **relevant curriculum documents** (such as the [Early Years Learning Framework \[EYLF\] V2.0](#))
- **content knowledge** in relation to specific areas of learning
- an **understanding** of the **individual child(ren)** with whom they are working.

Effective intentional teaching involves **reflexivity** and **critical reflection**, both individually and collectively, on the **beliefs** and **knowledge** held about children as learners and the critical role of educators and teachers in **play-based learning**.

Intentions should also be shared and documented by all educators and teachers working with a particular group of children. In this way, educators and teachers can set **shared intentions** (and **develop learning and teaching strategies** to achieve them) that reflect the overarching goals of early childhood education, while also including the **specific aims, ambitions and wishes of children, families and communities**.

Research approach

Methodology

This discussion paper brings together key insights from 2 literature reviews which investigated the following research questions:

- What conditions and practices support all children's learning in ECEC?
- What is known about intentional practices that can maximise learning and development for all children?

The first review examined literature that met Level 3: High confidence of [AERO's Standards of Evidence](#) – research that shows the approach causes positive effects. This review included 240 articles. The second literature review began by selecting studies that likewise met Level 3 of AERO's Standards of Evidence and then expanded to include emerging and conceptual literature. This was done to capture research insights that may have otherwise been missed, as previous reviews have noted that the literature is primarily small-scale research favouring case study and/or observational methods (Grieshaber et al., 2021). The second review included 165 papers. Both reviews employed rigorous inclusion and exclusion criteria and review methods (See [Appendix A](#) and [Appendix B](#) for more information on methodology and limitations).

Key findings

Intentional educators and teachers are critical to maximising children's opportunities for learning and development, particularly for children experiencing disadvantage.

Opportunities for learning and development through play are maximised when children have intentional educators and teachers. This is true across all learning domains, with evidence of the benefits of intentional and responsive interactions being strongest for children experiencing disadvantage.

Active decision-making and a repertoire of learning and teaching strategies are required to maximise children's outcomes through intentional teaching.

Intentional teaching requires educators and teachers to have a diverse repertoire of learning and teaching strategies, with the knowledge of when and how to use these effectively to extend children's learning and development.

Foundational beliefs, knowledge and attitudes enable and impact educator and teacher intentionality within play-based learning.

Educators and teachers need certain foundational beliefs, knowledge and attitudes to manage the balance and nuances of navigating play-based learning with intentionality. There is opportunity to better understand how these beliefs, knowledge and attitudes can impact and enhance teacher and educator practice.

Gaps exist in the evidence base on intentional teaching.

These gaps in the evidence base are widest for very young children (birth to 3) and in research undertaken with First Nations children. The evidence that does exist underscores the importance of intentional teaching in promoting outcomes for all children (e.g., Degotardi et al., 2016; Elek et al., 2020; Gardner-Neblett et al., 2016; McLaughlin et al., 2016; Tayler, 2016).

Findings

Intentional educators and teachers are critical to maximising all children's opportunities for learning and development

Educator–child interactions impact children's outcomes

- Recent systematic reviews and meta-analyses confirm links between quality educator–child interactions and long-lasting, positive impacts on outcomes for children – particularly for children experiencing disadvantage (Schmutz, 2024; Suchodoletz et al., 2023).
- Educators and teachers have a critical role in mitigating education inequities. Purposeful intervention can have long-lasting impacts on learning and developmental outcomes that shift life trajectories (Dwyer & Harbaugh, 2020; Elek et al., 2020; Groom et al., 2022; Langeloo et al., 2019; McLaughlin et al., 2016; Tayler, 2016).
- [Australian E4Kids research](#) (Tayler, 2016) found the quality of educator–child interactions impacted child outcomes and were the defining feature of high-quality learning environments.

Educators and teachers have a critical role within children's play-based learning

- A systematic review by Howard et al. (2024) showed the significant association between educators and teachers intentionally supporting play and child outcomes.
- Research on play pedagogies recognises that while play is vital to young children's learning, educator and teacher involvement and support are crucial for children to develop conceptual understandings (Cutter-Mackenzie et al., 2014).
- Shared dialogue, high-quality adult–child interactions and rich conversational experiences are key for linguistic and cognitive development (Houen et al., 2022). Toddlers' communication rates are higher when educator and teacher responsiveness is higher (Eshelman et al., 2023).
- Intentional and explicit focus on mathematical concepts and practices effectively engage children in mathematical thinking (Clements & Sarama, 2011). Similarly, children's scientific thinking can be nurtured through playful experiences, supported by educators and teachers who thoughtfully observe children's current learning, needs and interests, create engaging and meaningful play environments, and interact purposefully during play (Fleer, 2019; Guarrella et al., 2023). However, research indicates that early childhood educators and teachers show a lack of understanding for, and confidence in, supporting young children's emergent science, mathematics and numeracy, even though meaningful instruction in these areas is a strong predictor of future success (Cohrssen & Niklas, 2019; Grimmond et al., 2022; Kingston & Siraj, 2017).
- Evidence suggests there are missed opportunities to enhance children's communication skills during everyday experiences and routines such as mealtimes. These times are opportunities for rich exchange by sitting with children and using vocabulary and meaningful contexts as critical contributors to children's language growth (Degotardi et al., 2016; Frick & Lehnerer, 2023).

Active decision-making and a repertoire of learning and teaching strategies are required to maximise children's outcomes

Fostering ongoing intentionality

- Intentional educators and teachers create, plan for, respond to and reflect on planned and spontaneous learning opportunities that arise throughout the day.
- Ongoing intentionality requires educators and teachers to consider the whole learning environment, including 'physical, temporal, social and intellectual elements' (AGDE, 2022, p. 23).
- Positive adult–child relationships are foundational to intentional teaching, as these relationships provide children with a secure and safe base for exploring the interpersonal and intellectual aspects of ECEC (Hedges & Cooper, 2018; Howard et al., 2024; McLaughlin et al., 2016).
- Epstein (2007, p. 4) emphasises the importance of 'beginning with the emotional climate' and for educators and teachers to consider how their actions and behaviours will set the tone to promote learning.
- Relationships are central to early childhood pedagogy and practice. However, practical notions of relationships would be enhanced by understanding of, and more support for, intentional teaching (McLaughlin et al., 2016).

Integration of learning and teaching strategies is supported by active decision-making

- Intentional educators and teachers incorporate children's intentionality into their decision-making process, drawing on their interests, curiosities and diverse funds of knowledge to plan and implement play-based learning experiences. This approach fosters a 'teacher/learner nexus', where the educator shifts from being a passive supporter or a provider of knowledge to an active collaborator and co-learner (Leggett, 2023). In this context, play-based learning becomes a collaborative process, with children and adults co-constructing knowledge through negotiation, cooperation and even conflict (Denée & Cherrington, 2023; Edwards, 2017; Leggett, 2023; Parker et al., 2022; Pullum et al., 2022; Richards & Terreni, 2022; Smedsrud et al., 2024).
- Intentional teaching requires educators and teachers to have knowledge of and to draw from and integrate a repertoire of evidence-based practices to promote knowledge and higher-order thinking and provide opportunities for language and social development (Barblett et al., 2021; Epstein, 2007; Howard et al., 2024; Leggett & Ford, 2013; Skene et al., 2022; Tayler, 2016).
- Intentional educators and teachers are attuned to the nuances of both the learner and the learning context and have a clear understanding of the learning outcomes they want the child to achieve. This knowledge shapes their teaching intentions and actions (Chen et al., 2023; Epstein, 2007).
- Intentional educators and teachers actively evaluate and make decisions about when and how to step in and out of children's play, moving fluidly between child-led, guided and adult-initiated learning experiences to support children's learning outcomes.
- Educators and teachers thoughtfully select learning and teaching strategies that align with their teaching intentions and specific content areas, such as scaffolding, questioning, direct instruction, modelling, demonstrating, speculating, inquiring and sustained shared thinking to extend children's understanding and engagement.
- At other times, educators and teachers may step back to encourage independent exploration and peer scaffolding (AGDE, 2022; Chen et al., 2023; Epstein, 2009; Kennedy, 2014; Kirkby et al., 2018; Lewis et al., 2019).

Foundational beliefs, knowledge and attitudes enable and impact educator and teacher intentionality within play-based learning

Beliefs and knowledge enable and impact intentional teaching and intentionality

- Educator and teacher intentionality and intentional teaching are enabled by factors including educator and teacher attitudes, values, beliefs and dispositions (Grieshaber et al., 2021; Leggett & Ford, 2013; Pyle et al., 2017). These attitudes and beliefs shape the way educators and teachers view and understand the child, learning and play, and the roles they have in children's play-based learning.
- Intentional teaching moments can be both spontaneous, capitalising on teachable moments, or planned. However, for actions to be intentional, educators and teachers must be purposeful and deliberate and have clear teaching intentions that connect to what and how they want the child to learn (Chen et al., 2023; Epstein, 2007; Grieshaber et al., 2021; Guarrella et al., 2023; Leggett & Ford, 2013).
- Intentional teaching is not highly structured teaching, nor is it an ad hoc approach (Epstein, 2007; Grieshaber et al., 2021; Kennedy, 2014; Kirkby et al., 2018; Lewis et al., 2019).
- Moving beyond the traditional dichotomy of free play versus direct instruction, an expanded view of play as a spectrum of playful experiences can help educators and teachers better understand how play supports children's learning and development, as well as the different roles they may adopt depending on the context and teaching intentions (Zosh et al., 2018).
- Recognising children's intentionality is critical to this fuller understanding of intentional teaching (Barblett et al., 2021; Kirkby et al., 2018; Leggett & Ford, 2013; Zosh et al., 2018). Understanding children's intentionality requires educators and teachers to view children as capable, competent and agentic learners who bring their own funds of knowledge. This understanding is grounded in a deep knowledge of each child's learning and development, alongside intentional and relational pedagogies (McLaughlin et al., 2016; Neilsen-Hewett et al., 2018; Proud et al., 2017).
- When educators and teachers recognise that play can be both purposeful and intentional, it allows them to conceptualise play as a context and vehicle for exploring content areas and achieving learning outcomes (Edwards, 2017; Howard et al., 2024; Pyle et al., 2017; Zosh et al., 2018).
- Intentional educators and teachers understand that certain content areas, learning outcomes and contexts may require specific teaching strategies (Epstein, 2007). This knowledge enables them to make deliberate decisions about transitioning between and integrating child-led, guided and adult-initiated experiences to effectively achieve their teaching intentions (Chen et al., 2023; Edwards, 2017).
- In play, children have agency, which includes their capacity to decide what and who to engage with, and their decision to persist and willingness to follow through (AGDE, 2022; Chen et al., 2023; Proud et al., 2017). While there are commonalities in how play is experienced by children, Proud et al. (2017) highlight the distinct features of play within First Nations communities tied to cultural and local contexts.

Reflexivity and critical reflection underpin intentional teaching and intentionality

- Reflexivity and critical reflection underpin an educator's and teacher's capacity to be intentional (Chen et al., 2023; Elek et al., 2020; Epstein, 2007; McLaughlin et al., 2016). There is a need for educators and teachers to deeply examine their own practice (conscious and unconscious) affected by their knowledge, assumptions and attitudes and consider the impact on children (Cohrssen et al., 2021; Morrison et al., 2019; Phillips, 2021).

- Intentional teaching requires educators' and teachers' ongoing critical reflection – on children's strengths, capacities, needs, preferences and learning outcomes, teaching strategies, the learning environment, and how these can come together to promote children's learning and development (e.g., Chen et al., 2023; Danniels & Pyle, 2023; Epstein, 2007; Grieshaber et al., 2021; Leggett, 2023; Lewis et al., 2019; McLaughlin et al., 2016).
- When educators and teachers take intentional actions, they closely monitor the situation through observation to assess children's progress in learning and development, ensure their actions align with their intended purposes, and evaluate the outcomes (Chen et al., 2023; Epstein, 2007; Lewis et al., 2019). This process involves critically reflecting on the observations and using the insights gained to inform further decision-making, fostering continuous intentionality in their practice.

Gaps exist in the evidence base on intentional teaching

Further research is needed on intentional teaching

- The relationship between early childhood educator and teacher content knowledge and children's learning outcomes is largely absent in the literature.
- Limited research is available in the birth to 3 years age range. Further research in this area could help us better understand pedagogical alignment across birth to 5 and how educators and teachers can cultivate a learning focus with very young children.
- There is limited research that specifically focuses on intentional teaching with First Nations children. Rather, the evidence base references the value of culturally responsive pedagogies (Morrison et al., 2019). How intentionality and culturally responsive pedagogies intersect and align in contextual ways is an under-researched area.
- The alignment of pedagogy between ECEC and the early years of schooling also requires greater consideration, including how play with intentionality can be embedded across content areas across the age span.
- Despite the benefits of intentional teaching and its place within Australian curriculum frameworks and policy initiatives, there remains a disconnect between policy, educator and teacher knowledge and pedagogical practice (Colliver, 2022; Kirkby et al., 2018; Leggett, 2023; Lewis et al., 2019).
- In the existing evidence base, limited focus has been applied to understanding the foundational aspects of intentional teaching.
- As outlined in Recommendation 3.11 from the recently published [inquiry report by the Productivity Commission](#), there is a need to understand how to support the ECEC workforce to remain up-to-date with the latest pedagogical research and how to apply this (Productivity Commission, 2024).
- A recent study reported results indicating exemplary early childhood educators spent, on average, 62.3% of their time engaged with children. Of this time, only 9.8% was identified as being in intentional teaching (Harrison et al., 2024).
- Qualitative studies offer further nuanced and in-context findings showing intentional teaching primarily happens indoors (Leggett & Newman, 2017).
- When intentional teaching is narrowly conceptualised, this becomes an equity issue and contributes to differences in quality experiences, outcomes and opportunities for children (McLaughlin et al., 2016).

Links between AERO's evidence synthesis and the NQS and EYLF V2.0

The [Early Years Learning Framework \(EYLF\) V2.0](#) outlines Play-based learning and intentionality as one of the Practices and recognises the intentional roles both children and educators take in children's learning (AGDE, 2022). This evidence synthesis connects with the EYLF V2.0 Practice by reinforcing the importance of the beliefs and knowledge held by educators and the critical role they have in fostering children's intentionality and agency through play-based learning.

AERO has created concept maps (Figures 1 to 4) showing the links between the evidence and the [relevant elements in the NQS](#), including Quality Areas 1, 3 and 5. It is important to note that these concept maps do not aim to provide a comprehensive overview of child and educator intentionality but to present the evidence found through this study in alignment with the NQS.



Figure 1: Conceptual mapping of evidence to NQS – 1.2 Practice

Figure 2: Conceptual mapping of evidence to NQS – 3.2 Use**Element 3.2.1**

Outdoor and indoor spaces are organised and adapted to support every child's participation and to engage every child in quality experiences in both built and natural environments.

Intentional teachers and educators ensure all children can access and meaningfully participate in quality learning environments.

All aspects of outdoor and indoor environments are considered, including physical, temporal, social, emotional and intellectual aspects.

Intentional educators and teachers begin with the emotional climate and reflect on how their own actions and behaviours influence learning experiences and their relationships with child(ren).

Element 3.2.2

Resources, materials and equipment allow for multiple uses, are sufficient in number, and enable every child to engage in play-based learning.

Intentional educators and teachers are active collaborators in children's learning.

Intentional teaching includes creating meaningful play environments and purposefully selecting resources and materials to enrich learning.

Purposeful interactions, including deciding when, how, and if to step in and out of children's play is a key part of intentional teaching.



Figure 3: Conceptual mapping of evidence to NQS – 5.1 Relationships between educators and children**Element 5.1.1**

Responsive and meaningful interactions build trusting relationships which engage and support each child to feel secure, confident and included.

Intentional teaching is strengthened through positive, responsive and meaningful adult–child interactions and trusting relationships.

Positive and meaningful adult–child relationships provide children with a secure base for exploration and learning.

Responsive interactions and the relationality of educators and teachers is especially important for children aged birth to 3.

Element 5.1.2

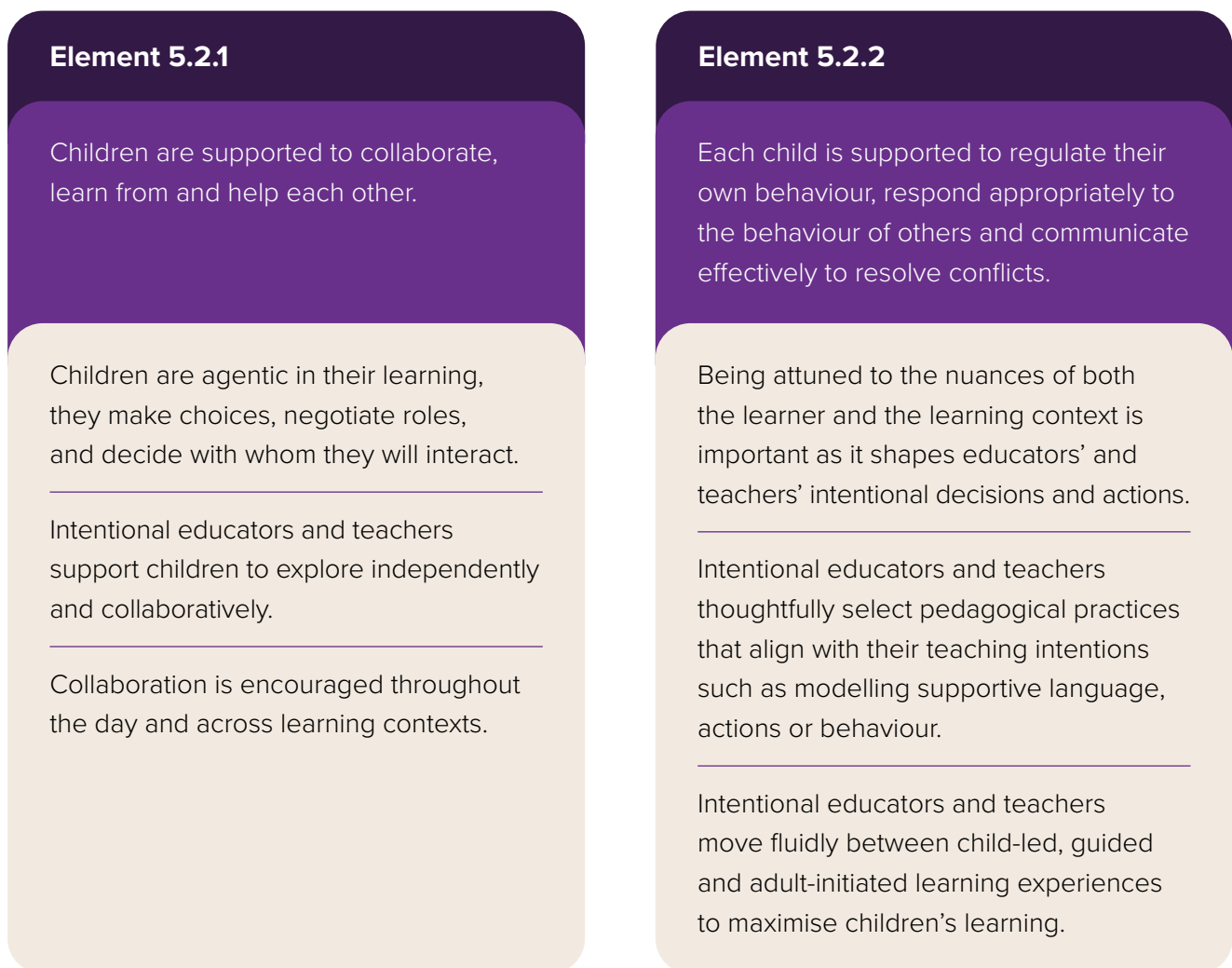
The dignity and rights of every child are maintained.

Intentional teaching means using a range of teaching strategies to ensure every child's rights, intentionality, and agency are respected.

Intentional educators and teachers draw on deep knowledge of each child, alongside intentional and relational pedagogies.

Reflexivity enables educators and teachers to consider how their beliefs and attitudes may impact their role in children's learning and children's dignity and rights.



Figure 4: Conceptual mapping of evidence to NQS – 5.2 Relationships between children

Conclusion

Intentional teaching and play in ECEC have often been positioned in opposition to one another. This has created a seemingly intractable problem (Edwards, 2017). Contributing to these challenges are traditional notions of child-led learning which conflict with contemporary policy, and curricular documents that have a focus on learning and learning outcomes (Grieshaber et al., 2021). Research highlights binaries in educators' and teachers' perspectives on play. Those adopting a developmental view of play tend to favour free play with the adult adopting a passive role, while those who link play to learning are more likely to adopt active roles in play (Pyle et al., 2017).

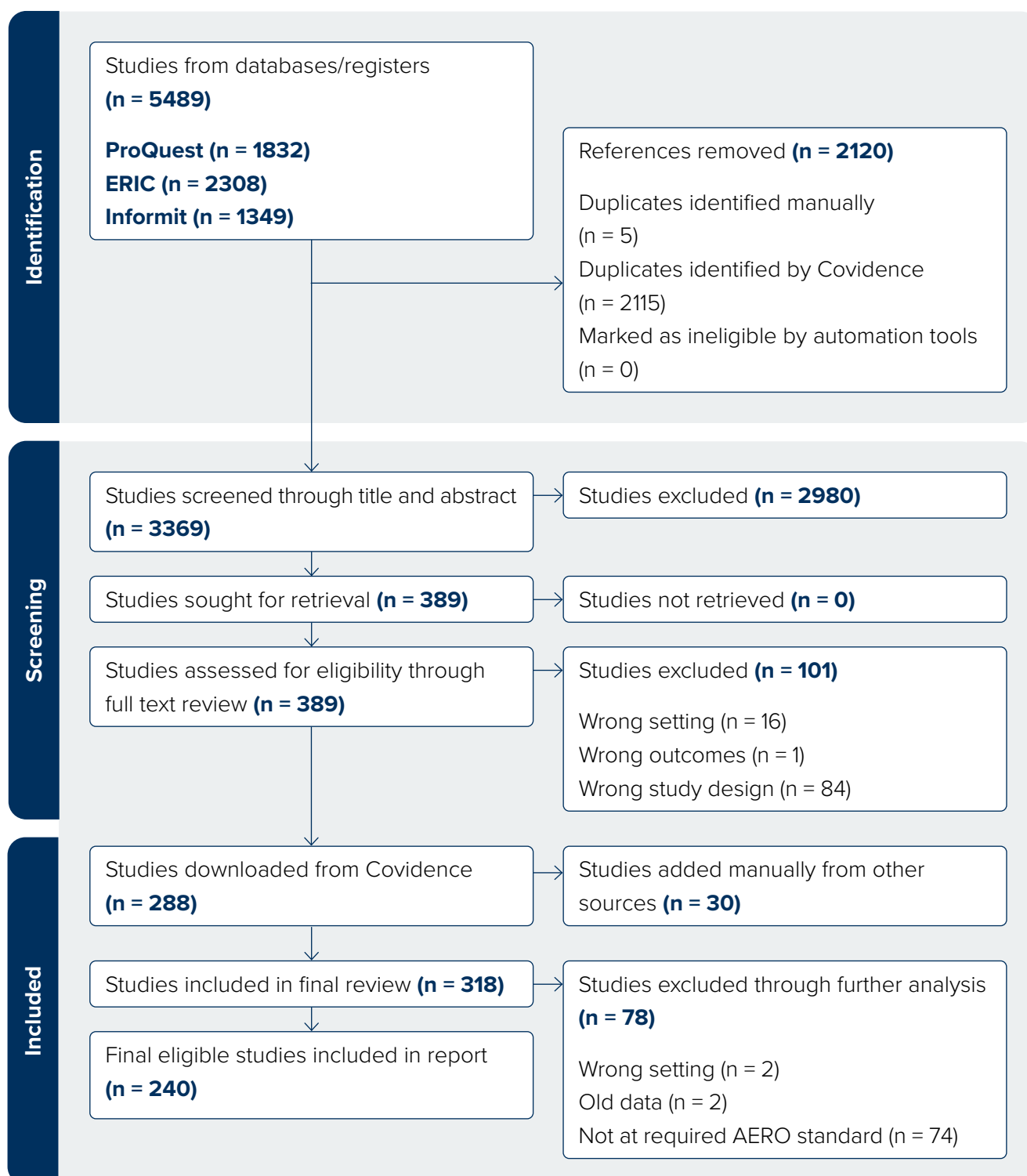
This divide contributes to ongoing confusion about the role of educators and teachers and the application of intentional teaching in contemporary early childhood contexts (Bubikova-Moan et al., 2019; Chen et al., 2023; Grieshaber et al., 2021). There is an identified need to better understand intentional teaching in ECEC settings, specifically within Australian settings (Colliver, 2022; Leggett, 2023; Lewis et al., 2019), and for clear actionable guidance and advice for educators and teachers to strengthen practice and address theory/practice disconnects around intentional teaching.

Appendix A: Methodology Scoping Review 1

Scoping Review 1 followed the Preferred Reporting Items for Systematic review and Meta-Analysis Protocols (PRISMA-P) guidelines (Moher et al., 2015) to answer this question within international and Australian research literature: What conditions and practices support children's learning in ECEC?

The flowchart in Figure 5 presents a visual representation of the search process.

Figure 5: PRISMA flowchart for Scoping Review 1



Methodological steps

The contexts considered were long day care, kindergarten, preschool, family day care, and the early years of schooling. Three definitions guided the searches:

- age range
- context
- learning environments.

Search contexts

Age

The age range was birth to 8 years. This was broken into 3 sections (under 3, 3 to 5 years and 5 to 8 years). This was achieved through the following word combinations:

- infant* or toddler* or childcare or nursery or childcare or long day care (long day care settings) (Level 1a)
- 3 to 5 years or kindergarten* or preschool* (Level 1b)
- 5 to 8 years or elementary students or school students (Level 1c).

Context

Three different contexts were investigated:

- family day care (Level 2a)
- nursery or kindergarten or preschool or long day care (Level 2b)
- early years of schooling or Prep* or Foundation year or Year 1 or Year 2 or elementary (Level 2c).

Learning environments

‘Learning environments’ included all environments within which a child learns and develops. For the purposes of this review, we have limited the literature to that which addresses education settings. We drew upon the categories identified from a synthesis of literature in the European Union CARE Project on early childhood education and child development (Resa et al., 2016).

We drew upon the identified areas of importance within the literature that was found on:

- positive relationship and interactions
- pedagogical practices and curriculum
- physical environment.

From these areas, we created searches based on:

- “physical environment” (Level 3a)
- “pedagogy* or intentional teaching or instructional teaching or instructions or didactics” (Level 3b)
- “program or curriculum or framework” (Level 3c)
- “interactions” (Level 3d).

‘Pedagogy’ included pedagogy as learning areas, as well as pedagogy as teaching strategies such as relational pedagogies, intentional pedagogies, play-based pedagogies and child-initiated pedagogies.

Search method

The protocol development began with identifying specific keywords and exploring terms through initial database searches and through contacting international experts around the world on suitable research for inclusion (including grey literature). The search strategy was trialled, and the results reviewed a number of times, with the aim of increasing the relevant articles while maintaining the breadth of scope. Once initial databases identified articles, duplicates were removed. Articles were then uploaded and screened in Covidence to determine relevancy to the research question and whether the article describes empirical research. The articles were screened using the Level 3 criteria of AERO's [Standards of Evidence](#) to ensure high confidence in the research findings.

Initial scoping searches were carried out between 1 and 4 September 2024 with a preliminary set of terms from a draft protocol to determine the current state of the research field and test suitable databases. After these initial databases and search terms were fine-tuned, targeted literature searches were executed again between 10 and 15 September 2024, then fine-tuned again on 25 and 26 September to further eliminate unrelated studies using filters within the databases. A total of 3 electronic databases were accessed (A+Education, ERIC, ProQuest) using word search combinations within the article as set out as follows:

■ Age (1a, b or c) + Context (2a, b or c) + Learning Area (3a, b, c or d)

Boolean terms used were:

Infant* OR toddler* OR childcare OR nursery OR childcare OR “long day care” OR family day care
OR kindergarten OR preschool
“3–5 years” OR kindergarten* OR preschool*
“5–8 years” OR “elementary students” OR “school students” OR “early years of schooling” OR
prep* OR “foundation year” OR “year 1” OR “year 2” OR “elementary”
AND “Physical Environment”
AND Pedagogy* OR “intentional teaching” OR “instructional teaching” OR instructions OR didactics
AND Program* OR curriculum* OR framework*
AND Interactions

Screening criteria

Identified studies were reviewed against the following screening criterion:

- To ensure studies were relevant, they must be international and national peer-reviewed journal articles and relevant grey literature (e.g., PhD theses, reports), published from January 2014 to August 2024 (inclusive), concerning the conditions and practices that support children’s learning in ECEC.
- The populations under investigation were children aged from birth to 8 years, including children with First Nations backgrounds and children with disabilities.
- Specific age brackets were searched – specifically ages birth to 3, 3 to 5 and 5 to 8 – to fit with the contexts of long day care, kindergarten, preschool, family day care and the early years of schooling.

- Studies could be both quantitative and qualitative and include a clear description of methods linking an approach to child outcomes or development within an early childhood setting (i.e., able to be classified as at Level 3 of AERO's Standards of Evidence).
- Consequently, studies that were theoretical, conceptual and position papers were excluded, and those concerning family and parental involvement, as well as teachers' perspectives, dispositions, attitudes, professional learning and education. Studies published before the year 2014 were excluded to limit the search size and ensure a focus on contemporary children's outcomes.
- Papers not written in English, conference papers and other non-reviewed articles were excluded.

Scoping strategy

The initial search across the 3 databases generated 5,489 results. These were imported into the [Covidence systematic review tool](#) for further review. This process identified 2,120 duplicates, 5 of which were identified manually. Two researchers screened each of the remaining 3,369 studies by title and abstract against eligibility criteria. From the initial search, 389 studies were assessed at the full-text level. A further 101 studies were excluded as irrelevant. The researchers included and downloaded 288 studies as full text to fully review. Nineteen were added manually as a result of a researchers' search. In the end, a further 78 were excluded due to not meeting required standards and the remaining 240 studies were included in the final discussion paper.

Characteristics of the literature: Data charting and data items

Selected studies were entered into an Excel spreadsheet structured according to the agreed search strategy categories (e.g., title, URL, DOI, summary description of the study, location, age range, main findings, and implications for practice).

Further assessment was conducted to reduce the risk of bias assessment across the articles (detection of possible selection, performance, detection, attrition, reporting and other biases). High risk of bias indicates that caution should be used when interpreting results of the scoping review with implications for the research synthesis.

According to scoping review methods, data was then charted (Peters et al., 2015). Charting of data involved 'sifting, charting and sorting the literature in relation to information and themes' (Arksey & O'Malley, 2005, p. 26). The charting process also involved inter-rater reliability from within the research team. Covidence allows for extraction of data tables, which were subsequently edited.

Emergent themes were discussed in response to the research question to provide a synthesis of the evidence. These are provided in the next section on findings, within the headings of content, curricula, learning environment, structure, interactions, social and emotional learning, self-regulation, inclusion and family day care.

Limitations of Scoping Review 1

While every attempt was made to be as comprehensive as possible, articles that did not include key search terms may have been missed within the search of electronic databases.

Appendix B: Methodology Scoping Review 2

Scoping Review 2 followed methodological steps outlined by Arksey and O'Malley (2005) and further advanced by Levac et al. (2010). A summary of the 6 stages of the review process is outlined in Table 1.

Table 1: Summary of the 6 stages of the review process for Scoping Review 2

Stage	Process
Stage 1: Identify the research questions	Research questions What is known about intentional practices that can maximise learning and development for all children?
Stage 2: Identify the relevant studies	Search criteria was created using key terms and date range: • Separate searches were conducted to ensure evidence of teaching 'all children' was captured. • An experienced educational librarian conducted the preliminary searches and extracted results in an Excel spreadsheet. • Search terms were further refined by the researcher team.
Stage 3: Select the studies to be included in the review	All study designs were considered for inclusion: • Studies were screened against the search criteria and AERO's Standards of Evidence. • Two researchers screened all abstracts with discrepancies resolved by consensus. • Full texts were screened for inclusion. • A third researcher independently screened all full-text articles for specific mention of the term "intentional teaching" and/or "intentionality (intent*)". Given inconsistent use of these terms globally and across the sector, terms such as 'purposeful', 'thoughtful', 'responsive' 'instructional', 'explicit', 'teacher-led' and 'guided' were also searched. • Papers that did not specifically focus on intentional teaching or intentionality were screened out with discrepancies resolved by consensus. • Stage 3 was an iterative process that aimed to balance comprehensive assessment of the field and feasibility.

Stage	Process
Stage 4: Chart the data	Charting the data involved ‘sifting, charting, and sorting the literature in relation to key information and themes’ (Arksey & O’Malley, 2005, p. 26): • A data charting form was created using Excel. Design of this tool was informed by the research questions, prior research and continual discussion within the research team. • Key aspects of the data were detailed under column headings. Separate tabs sifted the data into broad themes based on context and learning area and equity and inclusion. • Two researchers charted the data and synthesised and interpreted articles to identify key themes. • Data were then presented in narrative format to contextualise findings within the broader ECEC landscape, an Australian context and in response to the research questions. • This process was iterative and continuously refined through ongoing discussions with the third researcher.
Stage 5: Collate, summarise and report the results	All studies were summarised and results reported: • Preliminary themes were iteratively expanded during the extraction process. Prior analyses were updated accordingly. • Main themes were distilled and critically dissected by the research team with consensus reached on reviewed themes. • Validity of evidence supporting each theme was determined.
Stage 6: Consult with key stakeholders	Themes and findings were reviewed internally and externally: • AERO’s Executive and First Nations teams both provided feedback throughout the analytic process. • Insights were discussed and tested against the evidence base by the research team.

Screening criteria

Inclusion screening criteria

Articles were included if they:

- investigated intentional teaching, intentionality or similar terms
- contributed conceptual understandings of intentional teaching in ECEC
- focused on learning and development for children aged birth to 8 years
- were available as full-text.

Exclusion screening criteria

Articles were not reviewed if they did not meet the inclusion criteria and met 2 or more of the following exclusion criteria:

- date range 2016 or prior
- small-scale studies (such as singular case studies) and those that used observational methods
- international context (singular country)
- focused on pre-service teachers, rather than educators or teachers
- secondary source (e.g., book chapter)
- not published or peer reviewed (e.g., thesis)
- the article was published in a journal that scored Q3 or Q4 in [Scimago](#), raising questions about its rigor.

Emerging literature

An ‘emerging literature’ field was created in alignment with the aim of this research. AERO’s Standards of Evidence advise against inclusion of small-scale research using case study and/or observational methods when justifying claims about the impact of a specific approach (due to potential threats to internal validity). However, as reflected in Grieshaber et al.’s (2021) scoping review, the literature base pertaining to intentional teaching is dominated by small-scale research favouring case study and/or observational methods and, thus, could potentially contribute to the research questions. Research conducted in Australian ECEC settings, in particular, could be valuable. To complement AERO’s Standards of Evidence, an emerging literature field was created to capture such evidence and further consider for inclusion.

Literature was labelled ‘emerging’ and considered for inclusion if the research was a small-scale case study and/or used observational methods and the research was deemed high-quality (peer reviewed, scholarly article), recent (2016 to 2024), relevant (aligned with intentionality), and focused on an Australian context. All ‘emerging’ items were discussed, and inclusion was agreed by consensus of 3 researchers.

Reference lists

Reference lists of found studies were checked – especially those of systematic reviews and literature reviews. Checking the reference lists helped to maximise coverage (Arksey & O'Malley, 2005) and yielded relevant articles not captured in the database search. Notably, many of these research articles contributed to an understanding of intentionality within an Australian context and the use of intentional teaching practices to support outcomes for children, including those from Aboriginal and/or Torres Strait Islander cultures, culturally and linguistically diverse (CALD) backgrounds and with disability. In addition, several systematic reviews, white papers and governmental reports that contributed important contextual information were identified.

To ensure systematic rigor and transparency, all items were further assessed against AERO's Standards of Evidence and included if they met 2 or more of the following criteria:

- They were relevant and aligned to the topic of intentional teaching or intentionality.
- The methodology was a systematic review of meta-analysis.
- The article was a report produced to inform government policy or by a transnational peak body – for example, the United Nations or Organisation for Economic Co-operation and Development.
- The study focused on an Australian context.
- The study focused on First Nations or CALD children or children with disability, or children from other equity groups – for example, children from low socio-economic backgrounds.
- They were published from 2016 to 2024.

Characteristics of the literature

Key characteristics of the literature base include:

- Of the 165 papers summarised, numerical analysis showed approximately half ($n = 64$) specifically included the term 'intentional' or 'intention'. The remaining papers ($n = 63$) used terms related to the definition of intentional put forward by Epstein's seminal work (2007), including 'purposeful', 'thoughtful', 'responsive', 'instructional', 'explicit', 'teacher-led' and 'guided'. Since the release of Epstein's seminal work (2007), changes in policy landscape may account for a slight increase in the use of the term 'intentional' over more recent years (e.g., Chen et al., 2023).
- Variances in the use of terminology were evident across and within geographical areas. For example, United States-based studies (e.g., Cohen & Emmons, 2017) tend to use the term 'explicit' or 'direct instruction' instead of 'intentional', whereas New Zealand-based research (e.g., Dyson et al., 2021) emphasises 'purposeful interactions' and 'relationship quality' as the emphasis lies more on relational pedagogy.
- Terminology also varies across content areas. Literature focused on the arts in ECEC settings are more likely to use the term 'intentional' (e.g., Denée & Cherrington, 2023), whereas research focused on science often discussed the role of the teacher within 'inquiry-based learning' (Hollingsworth & Vandermaas-Peeler, 2017). When literacy was the focus, the terms 'explicit' and 'direct instruction' were more likely used (e.g., Rand & Morrow, 2021; Roberts, 2021) as this type of intentional teaching strategy is thought to be most effective for young children's learning of alphabetic systems and vocabulary (Mantei et al., 2022).

- Use of the term ‘intentional’ varied in reference to groups of children. This term tended to be drawn on when discussing general ECEC settings (children aged 3 to 5). Research focused on First Nations children (e.g., Morrison et al., 2019; Phillips, 2021) and children from CALD backgrounds (e.g., Adam et al., 2023; Cohrssen et al., 2021) placed more emphasis on teachers being ‘responsive’ and ‘reflexive’ in their teaching practices, as per culturally responsive pedagogies.
- Studies centred on children with a disability spoke of teachers ‘intervening’ to ‘support’ social and learning outcomes (e.g., Brodzeller et al., 2018).
- Research encompassing children from equity groups more broadly highlighted the importance of ‘explicit’ or ‘direct’ to mitigate educational inequity. Most often, this research was focused on literacy and language development (e.g., Dwyer & Harbaugh, 2020; Groom et al., 2022).
- There was a dearth of literature pertaining to intentional teaching for infants (n = 8) and older children (n = 5) and variance in terminology was noted.
- Studies involving young children aged birth to 2 position intentional practice as being attuned, which contrasts with the emphasis on explicit and direct instruction for children aged 5 to 8.
- The inconsistent use of the term ‘intentional’ within early childhood literature reflects scoping review findings by Grieshaber et al. (2021).

Limitations of Scoping Review 2

While care was taken to be as thorough as possible in the search and review process, there is a chance that some literature was missed. The variance in terminology used across the literature base elevates the likelihood of articles not being captured. However, the researchers sought to mitigate this through the checking of reference lists throughout screening and analysis.

It could be argued that the inclusion of ‘emerging’ literature may dilute the rigor of evidence. However, these articles provide nuanced insights into Australian ECEC and add value to the currently underdeveloped literature base. Combining these articles with systematic reviews and meta-analyses and larger-scale studies (both of national and international origin) help to provide a more comprehensive picture and offset potential uncertainties regarding strength of evidence.

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