



Professor Iram Siraj

Froebel Department of Primary and Early Childhood Education, University of Maynooth

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"Aistear has the potential to support the delivery of a child-led, emergent and meaningful play-based curriculum that puts children's rights and interests at the heart of the curriculum."

(French and McKenna, 2022, p6)

Introduction

Aistear is Ireland's early childhood curriculum framework. It was first published by the National Council for Curriculum and Assessment (NCCA) in 2009. An updated version was published by the Government of Ireland (GoI) in 2024, and it retained the original underlying principles. The update followed an extensive, two-phase, consultation process which included a background paper (NCCA, 2021). As an extensive literature review has already informed the update of Aistear's Themes (French and McKenna, 2022), this review does not cover the same ground. Rather, it seeks to extend the work around the twin themes of an 'emergent curriculum' and an 'inquiry-based approach'. Aistear's update was also informed by two consultation reports (NCCA, 2023; NCCA, 2024) and by two consultations with babies, toddlers and young children (O'Toole, Walsh and Kerrins et al. (2023); O'Toole, Ward and Walsh et al. (2024).

The updated Aistear (GoI, 2024a) seeks to respect the agency of babies, toddlers, young children and their educators, i.e., parents, childminders or early childhood educators. The updated Aistear framework sets out the vision for Ireland's early childhood education and care (ECEC), highlights nine underpinning Principles and identifies four main Themes including Wellbeing, Identity and Belonging, Communicating and Exploring and Thinking. Each Theme contains four Aims; and each Aim has three Learning Goals for babies, toddlers and young children. The Framework is supported by the *Guidance for Good Practice* (GoI, 2024b), which is embedded in an inclusive approach that respects diversity.

The updated *Aistear* gives significance to the voice and rights of the child (babies, toddlers and young children) and their educators, and it focuses on relationships, interactions, play, assessing, planning and transitions within ECEC. It emphasises the role of learning, both indoors and outdoors, for children's healthy development, and it introduces 21st century dimensions of sustainability, global citizenship, agency and a slow, relational pedagogy.

Despite the overwhelmingly positive findings of a recent independent review of the early childhood care and education programme in Ireland (Walsh et al, 2024), it also raised some concerns about the contribution of ECEC to children's cognitive development — which lags slightly behind young children's social and emotional development. Notwithstanding this necessary focus on supporting children's transitions into settings from their experiences during

the Covid-19 pandemic, the report draws attention to the ways in which *Aistear*, as a curriculum framework, requires a focus on the intentional educator who both supports and scaffolds children's holistic learning. This has implications for choosing how the curriculum is developed and planned for, and what is transmitted to children through a relational pedagogy.

Ireland is currently seeking to grow its professional learning through the Nurturing Skills workforce plan (DCEDIY, 2024). In alignment with the workforce plan, this review complements *Aistear* (GoI, 2024a) and the *Guidance for Good Practice* (GoI, 2024b) by seeking to show (i) what an emergent and inquiry-based curriculum approach looks like for babies, toddlers and young children, and (ii) how such an approach can help educators to facilitate and support progression in learning. This also has implications for higher education institutions that educate and prepare the ECEC workforce for implementation of *Aistear*.

This review highlights some strategies which can help ECEC educators to facilitate an emergent and inquiry-based curriculum approach for babies, toddlers and young children, and it also stresses that educators' relational and intentional pedagogies should be embedded within a strong understanding of how children learn and develop within the main domains of learning (cognitive, social-emotional and physical). These three domains support the holistic development of young children and fit well with the Themes of the updated *Aistear*. In the following sections the review aims to present a thorough understanding of an emergent and inquiry-based curriculum.

An understanding of the emergent and inquiry-based curriculum

Babies, toddlers and young children's experiences in ECEC are shaped by the crucial role that educators' pedagogy and the curriculum play in their day-to-day experiences. An emergent, inquiry-based curriculum posits the educator as a guide and facilitator rather than as an instructor, with the educator taking the role of a relational pedagogue. The quality of what educators do matters (OECD, 2025). The influential EPPSE study (Sylva et al, 2010; Taggart et al, 2015, Hall et al, 2009) shows the predictive power of quality (both in early childhood settings and the early home learning environment) in supporting emerging academic and social-emotional skills. The emergent literacy, emergent numeracy, emergent science curriculum should focus on the process of development of these skills for babies, toddlers through to older children - it is about scaffolding, responding and challenging as is appropriate to each child and ensuring they are reaching their potential.

This links to the intentional and responsive role of the educator in nurturing these dispositions and knowledge. According to Jones and Nimmo (1994) an emergent curriculum in early childhood

is more of a teaching philosophy where learning activities and planning of the environment are flexible and evolve based on the children's interests, strengths, and needs, rather than being totally pre-determined. They argue that the best curriculum is not taken off the shelf or planned months in advance. Curriculum should be shaped to meet children's needs and interests, emerging as educators and children interact with activities, experiential learning and the environment and weave their combined interests into an emerging curriculum.

Integrating insights from research across a range of fields (including education, psychology and neuroscience) is helping educators to provide better quality educational environments and pedagogies for young children (Darling-Hammond et al, 2020). Accordingly, this review draws on the research and practices to show what is significant in an emergent and inquiry-based curriculum and pedagogy for babies, toddlers and young children. It also aligns well with the Vision, Principles and Themes of *Aistear*; of babies, toddlers and young children exploring, thinking, developing their wellbeing, communicating and establishing a strong sense of identity and belonging.

According to research, a high-quality inquiry-based approach to learning involves three elements: (i) developing language by supporting children's communication skills; (ii) creating environments and opportunities for active learning through hands-on experiences and play; and (iii) supporting young children's ability to self-regulate their emotional and cognitive mental processes (Whitebread and Sitabkhan, 2022; Gol, 2024a). Such a high-quality pedagogy should be complemented by an emergent curriculum which supports babies, toddlers and young children's development in the areas of social-emotional skills, physical health and wellbeing, cognitive (emergent or pre-literacy and numeracy), expressive and creative experiences and an understanding of the world (e.g., emergent science, technology and the social and physical environment).

In developing an emergent curriculum, educators work in partnership with children to develop enquiries and enabling environments which become the focus for learning (NCCA, 2020). Children's engagement with each other and with their educators, materials, ideas and events, triggers their curiosity and their innate motivation to learn.

There is a strong role for educators to be observant, skilled and supportive in harnessing child-initiated interest and inquiry through their planning, environments and interactions. As well as being responsive, educators also provide new experiences and opportunities for children to explore — using these as a stimulus for learning to create a relevant, meaningful and stimulating curriculum for all children. By introducing topics (e.g., 'our bodies', 'people who help us') and

utilising children's personal experiences (e.g., 'shopping', 'going to the doctors'), high-quality educators create exciting play environments which encourage children to explore, interact and — as they get older — they engage in collaborative play. There is a particular emphasis in *Aistear* on setting out, and setting up, provocations for learning and development, to spark curiosity and engagement in different experiences in the environment.

By the end of the last century, researchers had identified the discrete emergent skills, acquired during their first five years, which enable children to become successful readers and writers. Marie Clay (1993) from New Zealand was an early pioneer in this work. She studied the experiences children need *before* formal reading instruction and discovered how children gradually map-print onto their oral language and print experiences they already know to build meaning onto text. *Aistear*'s Theme of Communicating places a particular emphasis on the development and progression of these early literacy and language experience through play-based learning.

Children gradually learn a host of skills like vocabulary, what a book is, pages, what print looks like, and by grasping that print can represent meaning. These are essential skills which later support formal instruction. These include 'print concepts' (Clay, 1993; Justice & Ezell, 2001), 'knowledge of the alphabet' (letter sounds and names; Bowman & Treiman, 2004), 'phonological awareness' (Mann & Foy, 2003) and 'emergent mark making' which turns into early writing (Welsch et al, 2003). However, it is important to remember that oral language begins in the first year of life and that this is important in its own right for communication and not only as a precursor to later reading.

Not long after emergent literacy was identified in the 1990s (Snow, 1991; Clay, 1993; Snow et al, 1999), other researchers began to study emergent mathematics (Nunes & Bryant, 1996), and then emergent science (Agogi et al, 2014; Glauert et al, 2013). Developmental researchers and innovative educators demonstrated through their research that the precursor skills which feed into more formal academic skills were typically acquired before school entry. The emergent curriculum is, therefore, an essential part of the ECEC landscape and sets the foundations for learning during children's learning life-course.

Despite many differences in curricular frameworks around the world, there is increasing agreement that the emerging skills of language and literacy, STEM and physical development should be supported by a playful pedagogy in the early years (Archer & Siraj, 2023; Sylva et al, 2025). An emergent curriculum refers to the knowledge and skills acquired during early childhood which will support more formal learning when the child enters primary education.

In contrast, pedagogy refers to the *how* of practice, to those educator practices and playroom resources which are intentionally and relationally implemented and resourced to ensure that all babies and young children achieve the goals of learning.

Aistear views educators as agentic in knowing their children and families, and in using their knowledge to plan stimulating learning environments and to engage in a slow-paced play-pedagogy which supports babies, toddlers and young children. Educators are capable of high-quality caring, assessing, planning and reflecting on the continuity of learning experiences for each child — so they can provide the continuity and progression of learning all children deserve (Siraj and Asani, 2015). Collaboration with families and communities is vital in achieving this.

What parents, childminders as well as what early childhood educators do with children also matters, especially for those children who live in more challenging social or economic circumstances (OECD, 2022; 2025). Therefore, the focus on what they do and how they do it is equally important. As Heckman, 2016, p1, writes, 'High quality programs produce high quality outcomes', and high-quality programmes are not only associated with children's educational gains, but they are also related with better health, social and economic outcomes — throughout life. Recent research shows an inquiry-based curriculum supports young children's learning life-course. According to Gibb et al, (2021) and Blumenthal and Pianta (2024), research in child development highlights a distinct move-away from didactic learning-teaching towards more play and enquiry-based approaches for all ages. The Guidance for Good Practice states:

The educator considers their practice and what they can do to consolidate and progress babies, toddlers and young children's learning and development. The educator also plans for their own future learning and development (GoI, 2024b, p15).

Blumenthal and Pianta (2024, p11) identify three elements. First, learning needs to be *personal* (recognising the agentic child), 'involving curiosity, play, gathering and evaluating knowledge, connecting ideas, adding new ones, discarding others, gaining skills, refining understanding, and building relationships based upon each individual's unique interests, life situation and goals'.

Second, learning is relational. It arises from relationships with others, especially significant others (agentic educators). It takes shape as children interact and respond; and this, in turn, influences their motivations and behaviours and can support sustained engagement (Siraj et al, 2023). Third, learning needs to be active because it requires personal engagement in things which matter to the child: an environment generally free from stress and too much distraction, involving connection with an adult/peer showing similar interests.

Educators develop an emergent and inquiry-based curriculum through a blend of free-play, guided play and educator-led playful experiences and provocations. This provides choice, opportunity and progression of learning and development. Through such experiences, babies,

toddlers and young children develop a strong sense of wellbeing, of bród (pride) in self, clann (family) and community. They become competent and confident communicators and develop as curious and resilient explorers and thinkers' (Gol, 2024a, p.19).

Developmental scientists and innovative educators have demonstrated through their research (Snow et al, 1999; Stylianidou et al, 2018) that the precursor skills which feed into more formal academic skills are typically acquired well before school entry through an *emergent curriculum*, the pre-cursors to a more formal curriculum e.g., before learning to read, children need the lived experiences of sharing books, knowing about pages, print, stories, authors and symbolic representations. Therefore, knowledge of the world e.g., of how books work (pre-literacy) need to be part of an emergent curriculum through experiences like dialogic reading and sharing books with babies, toddlers and older children.

Relational pedagogy and the emergent and inquiry-based curriculum – supported by the intentional educator

Homes, playrooms and outdoor areas which are heavily focused on high-quality interactions have been shown to be the most powerful predictors of good outcomes for young children. Epstein (2014); Booren et al, (2015); Pianta et al, (2012), and others, all argue that children's interactions with educators and peers determine what children learn and how they feel about learning more than any other programme feature.

In an emergent curriculum, the educator's skilfulness in building relationships and designing thoughtful interactions between children and themselves is paramount — especially interactions which purposefully encourage, challenge, scaffold and extend children's vocabulary and skills (see Appendix for 6 examples of practice with babies, toddlers and young children).

Research shows the early home learning environment (HLE) is another powerful predictor of learning through the learning life-course (Melhuish et al, 2008; Zimmerman et al, 2009). This suggests that skilful early childhood educators should also prioritise supporting parents and carers to talk and play with their children. Families are often the biggest source of information for educators to develop their emergent curriculum, especially for pre-verbal children, because they know the child's interests, needs, strengths, modes of communication, etc. (O'Toole, Walsh and Kerrins et al. (2023); O'Toole, Ward and Walsh et al. (2024).

Framing engagement with families for emergent curriculum as a two-way flow, learning from each other, also allows for culturally sensitive pedagogy — and inclusion and diversity are central concerns of the updated *Aistear* which emphasises the role of parents as the primary educators

and the vital role of family and community. The Framework places a particular emphasis on the importance of incorporating funds of knowledge from home in planning for the emergent curriculum for babies, toddlers and young children.

During the early 2000s, the Effective Provision of Pre-school Education (EPPE) studies in England and Northern Ireland (Siraj-Blatchford and Sylva, et al, 2004; 2008; 2010; Siraj-Blatchford, 2009) identified the concept of 'sustained, shared thinking' (SST) as part of educators' practice in highly effective early childhood centres. This insight came from a bottom-up, grounded analysis of several hundred hours of observations in fourteen 'effective' early childhood settings (Sylva et al, 2004) — i.e., in settings where children were shown to have made more value-added developmental progress to their learning; when their background characteristics had been controlled for.

Initially, the definition of SST was: an episode in which two or more individuals 'work together' in an intellectual way to resolve a problem, clarify a concept, evaluate activities, extend a narrative etc. Both parties must contribute to the thinking, and it must develop and extend (Siraj-Blatchford et al, 2002). Later research for the Sustained, Shared Thinking and Well-being (SSTEW) scale described SST as educator practice which involved 'active engagement in children's learning and extending thinking', (Siraj et al, 2023).

Educators often ask what SST means in practice. Engaging in SST with children not only involves asking questions, it also mean observing children's play and actions and extending their language and thinking when appropriate — not interfering but appropriately extending. SST can be verbal or non-verbal: it emphasises the educator making a 'contribution to the child's thinking'. The educator may 'stand back', 'intervene', 'model', 'question', 'provoke', etc, and they need to be sensitive, not necessarily talkative – they are 'the responsive adult who intentionally scaffolds learning' (Siraj et al, 2023, see the examples in the appendix).

This approach is also possible with babies; through, for example, games like 'Pat-a-cake' and 'Peekaboo'. The Harvard Centre for the Developing Child (HCDC, 2024) asserts: 'Why is play important for babies? It helps develop sturdy brain architecture, the foundations of lifelong health and the building blocks of resilience. Playful interactions with adults also help babies develop executive function skills. Hiding, finger play and conversation games, teach them to focus attention, use working memory and practice basic self-control.'

The HCDC website suggests a range of games for babies, toddlers and pre-schoolers which are appropriate for their ages and language abilities, and which develop interaction, strengthen attachment and 'build-brains' through play.

Children whose home language is not English or Gaeilge benefit equally from these games, which are active, communicative, relational and joyful. Zhou et al. (2024) encourage the use of physical activity to support learning and children's executive functions, and this can be combined with interaction and play to support embodied learning.

Further research funded by the Esmee Fairbairn Foundation (Dowling, 2005) was conducted on SST with childminders, pre-schoolers and early primary age children working with high quality educators (identified through inspection) to be supporting an excellent emergent curriculum for children birth to six and using effective SST.

This study identifies some characteristics of effective educators' communications and provides examples of excellent educators actively listening and responding in ways which extend and support children's thinking and ideas. For example:

- tuning in: e.g., listening carefully to what is being said, observing body language and what the child is doing;
- showing genuine interest: e.g., giving whole attention, maintaining eye contact, affirming,
 smiling, nodding;
- respecting children's own decisions and choices and inviting children to elaborate: e.g., 'I really want to know more about this':
- recapping: e.g., 'so you think that...';
- offering personal experience: e.g. 'I like to listen to music when I cook supper at home';
- clarifying ideas: e.g., 'so you think this stone will melt if we boil it in water? Let's see.'
- suggesting: e.g., 'You might like to try doing it this way';
- reminding: e.g., 'don't forget you said this stone will melt if I boil it';
- using encouragement to further thinking: e.g., 'You have really thought hard about where to put this door in the palace, but where on earth will you put the windows?'
- offering an alternative viewpoint: e.g., 'maybe Goldilocks wasn't naughty when she ate the porridge';
- speculating: e.g., 'do you think the three bears would have.....'
- reciprocating: e.g., 'thank goodness that you were wearing wellington boots when you jumped in those puddles Niamh. Look at my feet they are soaking wet'

- asking open questions: e.g. 'how did you? Why does this? What happens next? What do you think?'
- modelling thinking: e.g. 'I have to think hard about what I do this evening. I need to take my dog to the vet's because he was sick today, take my library books back to the library and buy some food for dinner tonight. But I won't have time to do all these things'. (Adapted from Dowling, 2005, p8-9)

Learning and developing through an emergent, playful and inquiry-based curriculum: noticing, nurturing & responding

The role of any significant adult (educator, parent/carer) in a child's life is pivotal to supporting the child's development, and all educators have the agency to support children's learning. *Aistear* highlights the role of the educator in facilitating and responding appropriately to babies, toddlers and young children's agency in early learning.

The agentic educator sees the language learning in singing songs together during nappy changes. They share the wonder and value moments of discovery as babies, toddlers and young children come to know the world around them. They set out, and set up, provocations for learning and development that respond to the interests and needs of babies, toddlers and young children, as well as knowing the intention of linking to the Learning Goals of Aistear. (NCCA Blog 2, 2025)

According to Yu et al, (2018), learning takes place all the time and everywhere for infants and young children. They show how children learn best, these researchers draw on research in education, cognitive development and cognitive science. Recent research by Blumenthal and Pianta (2024), Hirsh-Pasek and Hadani (2020), Hirsh-Pasek et al, (2022) and Siraj et al, (2003) has proposed an integrative approach for thinking about learning as a *child-led*, *adult-assisted playful activity*. Drawing upon research from multiple disciplines, researchers are now discussing and debating how *playful pedagogies* assist very young children to feel empowered in their learning — and in their *learning-to-learn* skills, which provide children with the 21st century skills they will need in the future.

Hirsh-Pasek et al, (2020) explain how children learn during playful learning. Like Blumenthal and Pianta (2024), they argue children's learning must be:

- active ('minds on') and engaging especially in the toddler and pre-school years when attention is increasing, and the brain is developing rapidly;
- meaningful—an agentic educator makes connections with everyday experiences; for example, telling children about fractions is not the same as taking a birthday cake on a child's special day and discussing how slicing it evenly provides everyone with the same size slice;

- socially interactive —interacting with peers and adults through co-operative activities supports every aspect of children's development;
- *iterative* children generate knowledge through the information they gain by interacting with their environment and others, they begin to hypothesise, even as very young infants. While all play can be iterative, guided play is where educators help children to test and revise their theories about how things work.
- *joyful* this is an inherent part of play and creativity, and it actively enhances positive emotions. Hirsh-Pasek et al, cite evidence that bringing dancing, music and physical activity to daily routines can enhance executive functions and self-regulation.

Hirsh-Pasek et al, (2020) also argue that *what* children learn is as important as *how* they learn. They show that active, engaged, joyful, meaningful and socially interactive experiences are central to playful learning, but then go on to elaborate the *what* of learning by promoting six alliterated characteristics of effective learning:

- collaboration— supports social engagement, community building and learning about diversity, and helps children learn to control their impulses and strengthen their self-regulation;
- communication through SST, back and forth conversations which are meaningful to the child build oracy, which is the foundation for emergent and later literacy;
- content goes beyond language, literacy and emergent, maths, science, social studies, expressive arts and physical development to include dispositions like learning to learn and executive functions such as attention and working memory;
- critical thinking with the related skill of reasoning, it is part of problem-solving opportunities;
- *creative innovation* this is the bringing together of content and critical thinking through exploration;
- confidence closely related to 'grit', this is the ability to persist in the face of difficulty; babies have this naturally as they learn to crawl and walk, but it can also be taught by taking risks with the support of their educator or carer to try new and more difficult things: confidence helps children try new things.

These characteristics fit well with Aistear's Themes of Communicating, Identity and Belonging, Wellbeing and Exploring and Thinking. Devising experiences which fulfil the full range of the domains of development (i.e., cognitive [language, STEM, social studies], social-emotional and physical [movement play, see Archer and Siraj, 2023]) requires educators to be skilled and knowledgeable about child development, appropriate pedagogical techniques and curriculum

content. Here, the role of higher education institutions which prepare early educators and support continuing professional development is critical.

Schachter et al, (2024) argue that educators need to consider generative versus constrained contexts during interactions with young children. This requires educators to develop the ability to differentiate the language learning opportunities in their early childhood setting.

Schachter's researchers chose thirty classrooms where pre-school children made higher language gains and compared their language-related educator practices and children's experiences with thirty classrooms in which pre-school children made poorer language gains. They used a grounded approach to analyse Autumn and Spring classroom video observations and generated a theory around language-related classroom practices and children's experiences. Their educators supported active participation which was responsive to children's contributions and emergent learning needs.

They showed that higher language development classrooms were using *generative contexts* and the poorer language development classrooms were using *constrained contexts*. Children in the generative contexts had many regular, sustained opportunities to learn vocabulary, use language, and make meaning with both language and concepts. These kinds of experiences were rare in constrained contexts both indoors and outdoors.

Play is important for the development of the foundations of learning, speech, vocabulary and meaningful communication. It is long established that play and language development, especially among pre-schoolers, are interconnected, yielding rich collaborative dialogues (Roskos & Christie, 2011, Gopnik et al 1999; see the examples in the appendix). For older children (normally +2) in early childhood centres, pretend, dramatic or role-play is associated with even richer early language and literacy experiences and development.

Pretend play includes a 'role player' who is projecting a mental representation onto reality, and this can be either a collaborative or solo activity (Lillard et al., 2013). Babies and toddlers are unlikely to engage in collaborative play, but they are interested in stimulating inquiry-based activities such as heuristic baskets, exploring objects. They enjoy physical experiences such as tummy-time and simple games with adults during routines such as meal and nappy times. Every opportunity to play and communicate is precious, and it does not always have to be verbal (eg, baby massage). Aistear places a particular emphasis on the multimodality of child voice and the myriad of ways that babies, toddlers and young children communicate during such daily routines and learning experiences.

In recent years, there has been a decline in collaborative play (Han et al, 2010), despite it providing natural opportunities for more authentic conversations and the motivation to talk and pretend to write (emergent literacy). For instance, during travel agency pretend play, children may learn that — before travelling anywhere — they need to pack some necessities, have some form of identification and pre-book the appropriate means of travel and accommodation. This provides an authentic motivation to discuss and browse travel brochures, plan bookings online or over the desk, and use writing to create signs, bookings and travel documents. For young children (+3), this type of role-play allows the educator to scaffold children's learning by introducing, extending or reducing choices, and by eliciting, reasoning, generalising and predicting (Pentimonti & Justice, 2010). Play is an essential part of quality provision for all young children (Hayes, 2024; Walsh et al, 2025).

As mentioned earlier, parents and carers in the early home learning environment (HLE) are supremely powerful (Melhuish et al, 2008), and educators can involve parents and carers in this important work through:

- sending games/books home with clear instructions and guidance;
- assessing and explaining their child's individual needs;
- encouraging parents to try a self-regulation questionnaire and explaining how this develops in young children;
- explaining the strategies and support their children are receiving.

Nurturing Skills (DCEDIY, 2022) is committed to the identification and development of professional learning and roles in ECEC, providing a career development pathway. *Aistear*'s vision for a truly child centred approach to ECEC emphasises the need for a responsive and sensitive educational and care approach based on both a complex and subtle pedagogy as well as an inquiry-based approach to the babies, toddlers and young children in their care. This requires a strong knowledge of child development and how children learn in the first six years of life. It requires a strong knowledge of variation in children's background experiences (cultural, developmental, individual) to enable inclusion for all, and it requires a good knowledge of curriculum in the main domains of learning (cognitive, social-emotional and physical).

Concluding summary

This paper began with some work from Blumenthal and Pianta (2024) which emphasises that learning is best predicated on relational, active and personalised approaches. It discussed how quality matters and how educators can support both environmental and relational pedagogy (Harms et al, 2015; Harms et al, 2017; Pianta et al, 2008; Siraj et al, 2023; Archer and Siraj, 2023;

Sylva et al, 2025). Learning through play in the updated *Aistear* is presented as a blend of free play, guided play and educator-led playful experiences that present opportunities for interactions and deep learning in the environment and with educators. The division between child guided and adult guided learning is not rigid. Learning rarely comes entirely through a child's effort or entirely through adult instruction, and learning may vary over time. Intentional teaching is unlikely to be seen if a setting is very unstructured, and it is also unlikely to be successful if it is too structured. It occurs in both child-initiated activity and adult directed activities with responsive and intentional educators who understand how to support young children's learning and build on their efforts in play and exploration (Hirsh-Pasek et al, 2020; Siraj et al, 2023; Siraj and Kingston 2025, in Press).

Aistear encourages this approach and states that the agentic educator has both the power and the skills to offer support and build on children's play learning while also offering well-thought-out play routines, experiences and environments that stimulate children's interests and advance their development through playful, experiential learning.

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Appendix

Some examples of pedagogy: 'building brains' through an inquiry based, emergent curriculum

The following examples are from Sheringham Nursery and Children's Centre (Sheringham Nursery), a research nursery in a highly diverse and disadvantaged area responsible for supporting evidence-based practices for educators across their region.

These six examples are from a nursery which adopts an emergent enquiry approach, and the interactions are embedded in SST. Some steps the educators take are:

- Step one: observe, wait and listen before acting (slow pedagogy); focus on what the child is doing and then think about feelings and what is to be achieved.
- Step two: establish a connection with the child. The child should know the educator is present, that they are interested in them and what they are doing, and that they want to spend time with them (trust, security and safety).
- Step three: educator can use the materials in the same way as the child and wait for play openings (pauses, looks at you for acknowledgement and/or help).
- Step four: encourage children to solve problems for themselves and extend learning. Encourage (sensitive questions or observations) the child to try new things, think creatively and find their own solutions. (Siraj et al, 2023)

Adults can also provide the first and second-hand knowledge children need by organising experiential field trips (local shops, parks, buildings, farms, etc), reading books to the children and showing pictures and photographs which can aid discussion and pull in the children's own diverse culturally relevant experiences.

Play is enriched by these well-thought-through environments, activities, explorations and routines. In addition, planning the play routines and environments with the children — and identifying the right resources for them, using words that represent nouns, verbs and adjectives for signs and actions — can further support the emergent language and literacy enquiry-based curriculum (Siraj et al, 2024; Siraj and Kingston, in press 2025).

Here are six practical examples of good practice from Sheringham Nursery and Children's Centre. All names are pseudonyms.

Example 1: Angela, educator in the baby room

Angela is the educator and key person for 3 babies under one year. She has recently been involved in a professional learning project focused on book sharing with babies and toddlers. She has been deeply inspired by the project and has spent time reflecting on her practice and how she previously used books with the children. Angela now realises the value and power of enabling the child to take the lead and how to playfully explore the book together.

Angela reflected on the baby room environment and thought carefully about how to reorganise the space to create a comfy, cosy area in which to share books. She audited the books to ensure that there is a collection of high-quality picture books. Angela sits in the book area with 9-month-old Sonny. She knows Sonny well and has noticed that he often gets excited when she shares the book 'Dear Zoo' with him. She places the book near him, he babbles contentedly and bangs his hand on the book.

A: "You like this book. 'Dear Zoo'. She brings the book closer so he can hold it.

S: Sonny grabs the (board) book and turns it upside down, turns it around...mouths the edge of the spine. Angela allows him time to explore the book. She shows through her body language that she is interested in him and what he is doing. She looks expectantly, smiles and repeats back when he babbles. They engage in a short back and forth interaction. Sonny tries to open the book and needs Angela's help to turn the page.

A: "Let's turn the page."

S: Opens the flap to reveal the elephant: "Mmm mm!"

A: "It's an elephant! A big, grey elephant."

S: Picks up the book and looks at it closely...he squeals and babbles, showing his excitement. Angela gently supports him to turn another page.

A: Pauses to allow Sonny to show her what he is interested in. He lifts the flap to reveal the giraffe: "Giraffe, it's a tall giraffe." Sonny runs his hand over the illustration. A: "That's the giraffe's tongue." She pokes out her tongue and repeats the word "Tongue, Angela's tongue!

S: Looks at Angela sticking out her tongue, he giggles. She does it again and he copies.

A: "It's Sonny's tongue!" They spend a few moments lingering in this back and forth copying game.

S: Turns the next page and opens the flap: "Rooooar." He looks up at Angela.

A: "Roooarr...it's the lion! A fierce lion. The lion has sharp teeth!."

S: "Rooooar, roooar."

Example 2: Intimate care in the baby room

Amina is the Baby Room Lead. With the team she has developed an intimate care policy to ensure that it will almost always be the key person who changes a child's nappy. The key person will know about how the child likes to be told that a nappy change is needed and may have special rituals and perhaps a special song for nappy changing time. It is important that children are changed in a reassuring and caring way by their key person or another educator they have a close relationship with, and it is key that we signal our intention to change a child's nappy and ask for the child's consent, as appropriate for their development. That means we do not give children the message that just anyone can pick them up, take them off and undress them.

In this process, the child's voice is paramount, and staff will always listen carefully to children:

- Children have the right to feel safe and secure
- Children will be respected and valued as individuals
- Children have a right to privacy/dignity when staff are meeting their needs
- Children are supported in their understanding of toileting procedures so that they are led to independence.

Staff will ask children first to consent to nappy changing or help with their toileting.

Examples:

- 'You need a new nappy, is it OK if I take you for a nappy change?'
- 'You look like you need some help wiping your bottom, can I help you do that?'
- 'Can I help you pull down/up your trousers/underwear?'

Approach the child and say or sign that it's time for a nappy change. You may need to negotiate (e.g. "OK, I can see you're playing, but we need to change your nappy. We'll do it in 2 minutes"). You should never approach a child from behind, pick them up and take them for a nappy change. Place the child on a nappy changing mat or, if using steps, support the child if necessary to climb up the steps.

If a child does not consent, or if a child becomes distressed, staff will be sensitive and try to find a solution e.g. maybe there is another person the child would prefer to help? Staff are standing in for parents/carers and sometimes that means we might have to use our judgement to over-ride a child's wishes. For example, a child can't go through a whole nursery session with a soiled nappy so it may be necessary for the key person to say something like 'I know you don't want a nappy change. I'll give you a few minutes more to play. Then I have to change your nappy to keep you clean. When this happens, we should explain this to the parent at pick-up time. In rare occurrences, a key person might judge that the child will be too distressed to manage their emotions. Then, the manager, lead or person deputising will call the parent and ask them to change their child, or collect their child.

Vignette:

Noah is 12 months old and has been at the setting since he was 6 months. He has a strong, trusting relationship with Amina. Amina approaches Noah to communicate to him that she needs to change his nappy. To support Noah's understanding she shows him his changing bag and the nappy.

A: "Hi Noah, you need a new clean nappy. Is it ok if I take you to have a nappy change?" Amina waits for Noah to respond.

N: Babbles and looks at Amina. She shows him the nappy: A: "Nappy, let's change your nappy." Noah has just started to walk and is keen to be as independent as possible. Amina is sensitive to this and ensures that Noah has time and support to walk to the changing area.

A: "Let's go through the gate. Noah, would you like to walk up the steps or for me to lift you up?" Again, Amina pauses to ensure that Noah has enough time to listen, process and respond to her question. Amina opens the steps on the changing table to show Noah.

N: "Eee eee..." Noah touches the steps and bangs his hand.

A: "Steps, you would like to walk up the steps." Amina supports Noah to climb up the steps. "Up the steps, good climbing Noah!"

N: "Up!"

A: "Yes, you climbed up!"

fresh nappy on."

N: Noah lies on the mat. The changing area has pictures of key rhymes and songs that the children can point to, to communicate to the educator that they want to sing with them. Noah points to the picture of a cow: "Moooo moooo!"

A: "It's a cow, we can sing Old McDonald Had a Farm. Moooo! Mooooo!" As Amina copies the sound Noah makes, he giggles. She does this a few times encouraging Noah to respond. They engage in this short back and forth interaction for several turns.

A: "I need to put on some gloves." Amina starts to sing Old McDonald Had a Farm while she gathers what she needs.

A: "Old McDonald had a farm e-i-e-i-o and on that farm, he had a cow, e-i-e-i-o...with a moooo mooo here and a mooo mooo there..."

N: Joins in with the cow noise: "Moooooo mooooo!" He giggles and claps his hands.

Amina talks Noah through the process of the nappy change, carefully emphasising and repeating key words.

A: "Let's take off your nappy and get you a nice clean one. First, I have to pull down your trousers and then open the poppers on your vest – 3 poppers, pop, pop, pop!"

A: "I'm going to use some wipes to clean your bottom. The wipes are a bit cold." Amina takes a wipe to show Noah, she lets him touch it. She gently cleans Noah, letting him know when she is finished. A: "All done, finished (she uses the sign for finished). Now you are nice and clean, and I can put your

Amina resumes singing Old McDonald Had a Farm. Noah babbles and points to the picture of a fish.

A: "Fish, I think you want me to sing the song about a fish. 1, 2, 3, 4, 5, Once I Caught a Fish Alive!" N: Starts to move his mouth like a fish making a smacking noise with his lips.

Amina sings the song as she finishes putting the soiled nappy and wipes in a bag and then in the nappy bin.

A: "Now it's time to get dressed. We need some clean trousers, your trousers are a bit wet." Amina opens Noah's bag and takes out two pairs of trousers so he can choose. She allows him time to look at the trousers.

N: "Mmm....rooooaarrr!"

A: "Oh you would like the trousers with the lions on. Roaaar!"

A: "Ok, one foot in, two feet in...stand up." Amina gently encourages Noah to help pull up his trousers. "Thank you, good helping. You are learning to pull up your trousers."

Example 3: Playful maths

Hannah and Adam are two-year-olds. Hannah joins her key person Zara, who is in the sandpit outdoors playing with Adam.

- Z: 'Hi Hannah!'
- H: Hannah responds by giving Z a big hug. She takes Z's hand and directs it to a small bucket.
- Z: 'Oh, you want the small pink bucket'. As she hands the bucket to H, she comments: 'Bucket, you can fill up the bucket with some sand just like Adam'.
- H: smiles and giggles. She looks at Adam and tries to take his spade.
- A: 'No! Mine, mine...no'.
- H: starts to cry.
- Z: 'You want the spade; let's get you a spade so you can dig in the sand like Adam. Adam has one spade; Hannah has one spade; and I have one spade. Three spades and three buckets.'
- H: As she digs and fills the bucket with sand, she starts to say some number names: '1, 2, 4, 3, 3...1,2,3...'.
- Z: 'Oh, Hannah is counting. 1, 2, 3, 4'. Z models saying the number names in order then counts 4 spadefuls of sand into her bucket: '1, 2, 3, 4. 4!' She emphasises the last number and shows 4 fingers.
- A: 'I got lots of sand, it's taller'.
- Z: 'You have got a lot of sand in your bucket Adam; it is almost full. Let's see how many more spadefuls of sand you need until it is full.' Z and A count together.
- A: 'I got it, I got 3'.
- Z: 'Yes! 3, you're right. You needed 3 more, now your bucket is full.'
- A: Lifts the bucket: 'I'm strong, it's big'.
- Z: 'It's heavy. It's full of sand...you're using your big strong muscles to lift the heavy bucket!'
- A: turns his bucket upside down: 'sandcastle!' He taps the bottom of the bucket and tries to lift the bucket. He gets frustrated as he struggles to lift the bucket.
- Z: 'It's a bit tricky; you're trying really hard. Let's lift your bucket together. H reaches to help too.
- Z: 'Hannah wants to help you; let's all help together'.
- H: 'Ready, steady...'.

The children cheer as they reveal the perfectly formed sandcastle.

- Z: 'That is an excellent sandcastle! I am going to make one too. I think I'm going to use the bigger green bucket to make my sandcastle. I'm going to need a lot of sand to fill it up.'
- A: gets up and looks in the crate containing the spades and other tools. He picks up a much larger spade and gives it to Z.
- Z: 'Thanks Adam, you found me a bigger spade. I think this will help me to fill my enormous bucket!'

Example 4: Interactive reading (multi-lingualism focus) three-year-old

Ibrahim is three years old and attends nursery part-time in the afternoons. He is multilingual and is learning three languages: Arabic, French and English. Ibrahim chooses to spend a lot of his time at nursery outdoors. He is very motivated by physical play experiences such as climbing and riding a balance bike. He is often quiet and does not readily initiate interactions with the educators or children. Ibrahim has recently started to show some interest in the new reading den in the garden; it is a quiet cosy space filled with blankets, cushions and lots of books.

During the weekly planning meeting the team of educators discuss Ibrahim's progress. His key person, Kate, says she has noticed he enjoys being in the den looking at books by himself. She is keen to build on this by intentionally dedicating time to join Ibrahim in this newfound interest. The educators in Ibrahim's setting are knowledgeable about the importance of meaningful interactions and the power of responsive, sustained back and forth conversations to support early communication, language and literacy development. They have worked hard to develop interactive reading using the ShREC Approach to engage in rich, child-led conversation about a book.

Ibrahim rides his balance bike around the garden several times. He slows down and stops next to the reading den in the corner of the garden. He stands up, still holding onto his bike and reaches into a basket full of books. He pauses, looking at the front cover of 'Have You Seen Elephant'. Ibrahim gets off his bike and climbs into the den. Kate notices this and decides to join him. She smiles and greets him with a warm 'Hello'. She is intentionally sensitive in the way she approaches the interaction, carefully watching to see what Ibrahim is looking at so she can share attention with him. Kate follows Ibrahim's lead as he looks through the book. She responds by commenting on what he is interested in and expands his language by adding more words. The impact of this is clear, as the conversation progresses, Ibrahim's confidence increases and he begins to use more language.

K: 'Hello Ibrahim'.

I: Looks at the book.

K: 'You're looking at a book: 'Have You Seen Elephant!'

I: Points at the elephant on the front cover.

K: 'It's the elephant; the elephant is hiding'.

I: Whispers: 'effalent.' Giggles and opens the book.

I: 'Oh! Effalent, effalent...'.

K: 'Yes! It's the elephant. The enormous, grey elephant'.

I: Turns the page and exclaims loudly: 'It's eff..ele..elephant! Oh...'. I looks closely at the illustration of the elephant and points at the elephant's trunk.

K: 'Oh, you can see the elephant again...this is the elephant's trunk. Trunk. The elephant's trunk is long.' Kate adds to gestures and emphasises the word.

I: On the next page, Ibrahim notices some numbers; this captures his interest, and he starts to count:

'1,2,3,4...'; he pauses and points at number 5.

K: '5, this is number 5. The boy is counting, the elephant is going to hide!'

I: 'Oh no, elephant gone...'.

K: 'I wonder where the enormous elephant is going to hide? Let's find out...'

Example 5: Snack-time (two-year-olds)

Sarina wants to involve the children in preparing snack. She knows the value of this daily routine and has thought carefully about which children she wants to benefit from this experience. Aiden is very quiet at nursery; he talks with his mum at home about his experiences but is shy and reluctant to talk in the setting. Sarina knows that Aiden helps his mum and grandma with cooking and food preparation at home and wants to build on this, supporting him to make connections. She shows Aiden and Farah the pack of crackers:

S: 'It's time for snack. Today we have crackers, cream cheese and some grapes. I need some help to get snack ready.'

Aiden smiles and joins Sarina at the snack table.

S: 'Farah, Aiden is going to help me prepare snack, you can help too'.

Soon there is a group of five children ready to get involved. Sarina uses the ShREC Approach to engage the children in conversation. She intentionally focuses on Aiden and Farah. Sarina pays close attention to the children and purposefully gives the children the words they need. She comments on what they are doing and experiencing. She expands on what Farah says by repeating and adding more words.

A: reaches for the crackers.

S: 'You would like a cracker, Aiden. A crunchy cracker!'

F: 'Me cracker, me cracker!'

S: 'One cracker for you too, Farah. Here is a knife so you can spread some cream cheese onto your cracker.'

F: 'Oooh it cheese butter. I do it.'

S: 'Soft cream cheese, it's a bit like butter. We had butter on our rice cakes yesterday.'

A: eats a plain cracker, he signals to Sarina that he doesn't want any cream cheese by shaking his head and frowning.

S: 'You are enjoying your cracker Aiden. You prefer a plain cracker without soft cheese.' The next day, Aiden sits at the snack table in anticipation. He stands up and looks at the equipment on the surface. Sarina notices Aiden at the table and comments:

S: 'Aiden you are ready for snack! We are going to be preparing banana smoothies today. We have got lots of delicious ripe bananas. They are very sweet!'

The educators have been sharing the book 'Baby Goes to Market' this week and have planned some meaningful, hands-on experiences connected to the story. In key groups, the children visited the nearby market to buy some items from the story.

A: Quietly says 'Mmm'.

- S: 'Banana, yes, we are going to eat some yummy bananas. We bought the bananas from the market. It was a fun trip, we saw so many different fruits and vegetables.' Sarina takes a banana and gives it to Aiden to peel.
- S: 'First, we need to peel the banana...we must take off the yellow banana skin. I'm going make a cut here so you can peel it more easily.' Sarina models how to peel the banana and Aiden joins in following her actions intently.
- S: 'Next, we are going to cut the banana into slices. Here is a chopping board for you and a wavy chopper.' Sarina starts to sing a song about bananas that the children have been learning.
- S: 'Bananas, bananas clap, clap, clap! Bananas, bananas, flap, flap, flap. Bananas, bananas, click, click, click...' A couple of children hear the singing and start to join in.
- A: joins in with all the actions of the song. He smiles and laughs, cheering 'Yeah!' when they finish singing.
- S: 'Now we've got some more friends to help us Aiden. Let's make sure your hands are clean so you can help us make banana smoothies.'
- S: 'It's important to wash our hands properly. We need to use the soap to make some lather. Well done, Kara, you are really concentrating on making sure you have cleaned all your fingers too!' K: 'I have soooo many bubbles! I'm washing germs.'
- S: 'That's right, the soap and warm water will kill the germs'.
- S: 'We need to peel and slice some more bananas, and then we will mash them!'
 Sarina gives the children some forks and models how to mash the slices of banana. She describes how the banana is changing in texture and consistency.
- K: 'My bananas are not circles now'.
- S: 'Yes, the round slices of banana are all mashed! Now we can add some milk and use the hand blender to create our yummy banana smoothie.'

Sarina supports the children to have a turn at using the hand blender.

A: is immersed in this meaningful experience; it spurs him to feel confident to share his thoughts: commenting: 'I got bananas in my home'.

Example 6: Identity and belonging (four-year-old)

Sara is a four-year-old and her home language is Somali. She attends nursery for 30 hours, having started part-time in the mornings in the two-year-old room. When Sara's key person Joseph visited her at home, he noticed how much she enjoyed interacting with others — including him! She comes from a large family and is immersed in Somali at home and within her wider community. During the visit, Sara spoke to Joseph in Somali and this spurred him to learn some key words. Joseph understands the importance of valuing and nurturing children's home language(s) and intentionally sourced some of the essential books in Somali and English for Sara to take home. The strong and trusting relationship Joseph built with Sara and her family from the beginning at the home visit enabled them to feel proud of their home language and to prioritise speaking in Somali even when they felt they should start to focus on English.

Joseph supported Sara's mum and sister to contribute to her 'special book'. They added photos of things they did at home and Sara drew pictures. Sara's mum would write comments in Somali and her sister translated them into English. When Sara turned three, she moved into a different room; this meant getting to know a new key person. Joseph ensured the transition was smooth — the special book and essential stories in Somali were key to this! Initially, while she was familiarising herself with a new space and establishing new relationships, Sara was very quiet. Her new key person, Mariam, noticed she had a good understanding of English and would use gestures to communicate this, for example at the snack table.

M: 'Today we've got some crunchy crackers and soft cream cheese for snack. Let's get some plates ready...we have four friends here at the snack table so that means we need...'

S: Sara looked around, then flashed four fingers to show Mariam she knew the quantity.

M: 'Yes, Sara! You looked carefully at our friends sitting at the table and noticed there were four people. This means we need four plates. That was great subitising! Four.'

As Sara's confidence grew, so did her expressive language. She continued to enjoy looking at her favourite book 'Lima's Red Hot Chilli' in both languages and would recite the key refrains from the text in English. Mariam built on Sara's love of books by spending lots of time engaging in interactive reading with her. By using the ShREC Approach and following Sara's lead, she effectively supported her communication, language and early literacy development. Sara's special book remains very important to her — she is now on her third! She continues to take it to and from school and delights in any opportunity to look at it and engage in conferencing with Mariam: S: 'Look Mariam...that was when I was little and I was in Red Room. There is Joseph. He came to my home.'

M: 'Yes, that was when you were two. Now you are four! I can see where your mum wrote in Somali.'

S: 'Yes, that's my Hooyo.'



