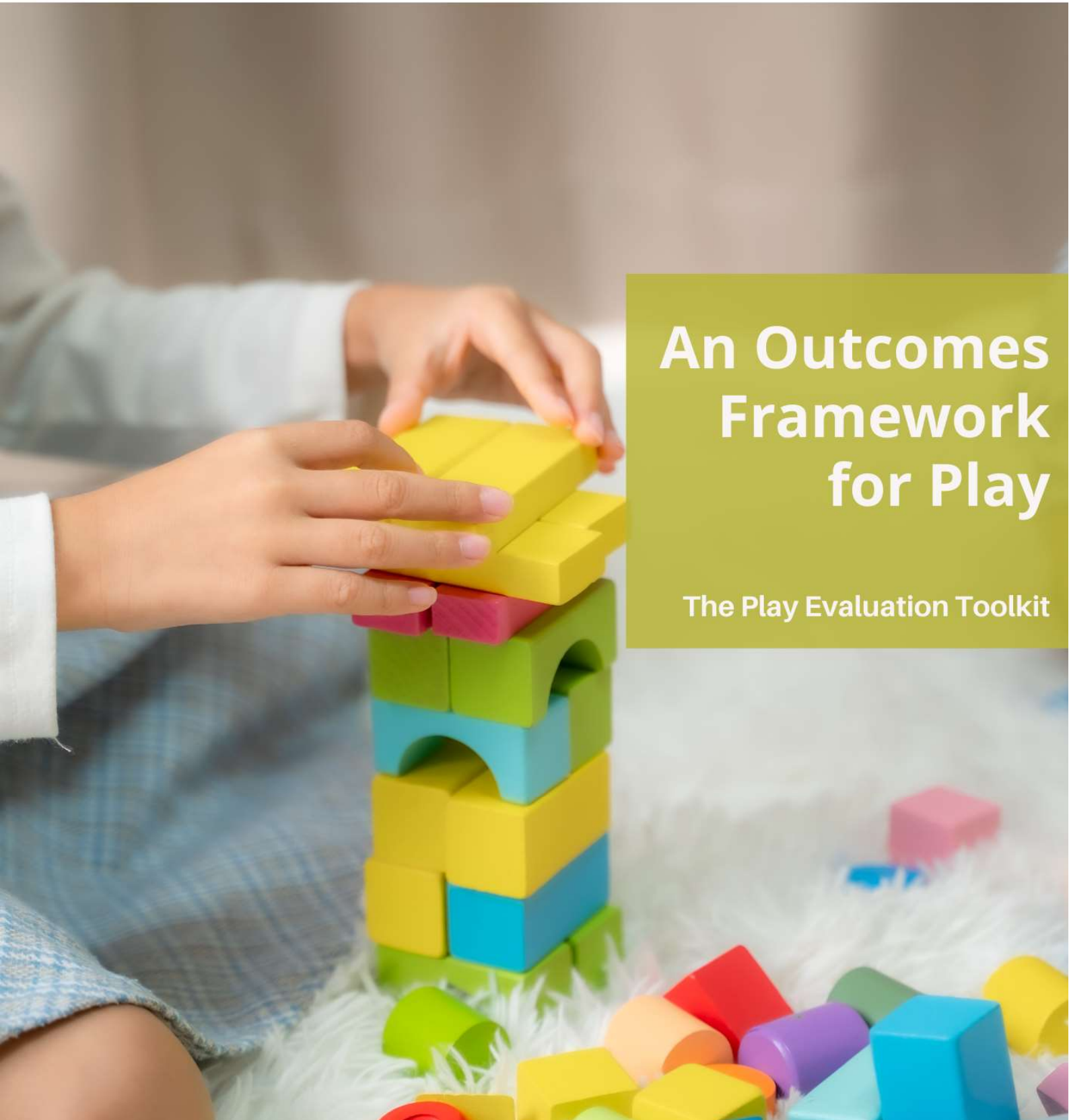




An Outcomes Framework for Play

The Play Evaluation Toolkit

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1. About this framework

This framework sets out the outcomes and indicators that organisations providing play and toy-enabled play can use to measure developmental change in children. The outcomes in this framework have been identified through a review of play research, and represent the main areas that play has been evaluated against. Across the literature reviewed, different forms of play were examined in relation to social interaction and competence, self-regulation, cognitive development and problem-solving, communication and language, creativity and imagination, physical and motor development, and emotional wellbeing. These study areas provide seven broad outcome areas around which a play-related evaluation can be organised.

The framework presented here treats play as an experience through which some or all of these outcomes may develop. Toys, games, loose parts and other play materials can enable, shape or extend the play experience; however, simply providing a resource does not itself guarantee that play occurred or that a developmental outcome followed. Play-related evaluations therefore need to consider what children actually do through play as well as the changes or behaviours observed alongside it. The seven outcomes developed in the framework here are not intended as a checklist that every play intervention should measure. Different forms of play, delivery settings, levels of intensity and groups of children will make different outcomes more or less relevant. Play organisations should select the outcomes that are plausible for the types of play opportunities they provide and only then select a manageable number of indicators describing what they would expect to observe if those outcomes were developing.

The framework below provides a common structure for making these decisions. Each outcome is unpacked into indicators expressed in terms of what a child can do, does or demonstrates. These indicators can then be used to inform structured observation, assessments, practitioner records, parent or carer reporting and other data-collection

tools. In this way, the framework provides the link between broad developmental outcomes and the evidence collected through an evaluation.

1.1. About play

Play can take many different forms and can occur across different physical and social settings, with different levels of structure and adult involvement. Research distinguishes, for example, pretend, social, physical, exploratory and constructive forms of play, while also showing that play is shaped by the physical and social environment and by adult participation (Stagnitti, 2004; Whitebread et al., 2017; Sandseter et al., 2022; Fein and Diamond, 1974). Play may be solitary or shared with peers, siblings or adults, and the same broad form of play can occur in different social configurations (Smits-van der Nat et al., 2024; Howe et al., 2022). These characteristics are not mutually exclusive and may occur together within the same play experience. The form that play takes is important because different play experiences provide different opportunities for developmental change.

Play therefore is not a single intervention and there is no single established mechanism through which all forms of play can be expected to produce developmental change. Across the literature, however, play provides opportunities for children to engage in processes including exploration and problem-solving, imagination and symbolic representation, social interaction and cooperation, communication, self-regulation, planning and adaptation, and physical movement and coordination (Stagnitti, 2004; Whitebread et al., 2017). Different forms of play provide different opportunities for these processes to occur. Social and pretend play, for example, can require children to negotiate roles and actions, coordinate their behaviour with others and sustain shared activity (Slot et al., 2017; Smits-van der Nat et al., 2024), while constructive and exploratory play can involve manipulating materials, testing possibilities and solving problems (Ness and Farenga, 2016; Chen et al., 2025).

Some studies have examined these processes more directly as possible mechanisms through which developmental change occurs. Kalkusch et al. (2022), for example, found that the quality of social pretend play helped explain some of the relationship between play tutoring and subsequent social skills. The wider evidence does not, however, establish a common causal mechanism across play. Much of the evidence linking particular forms of play with developmental outcomes remains observational or correlational, and intervention studies do not consistently find effects across all of the developmental areas examined (Smits-van der Nat et al., 2024; Smits-van der Nat et al., 2026).

Toys, games and other materials sit within this process as resources that can enable, shape or extend different forms of play. Research examining loose parts, object structure and other play materials shows that the characteristics of the resource can influence the possibilities available for exploration, construction, symbolic use and interaction, but that the resulting play also depends on the child, other players and the wider setting (McLoyd, 1983; Gibson et al., 2017; Howe et al., 2022). The same toy or material may therefore support different forms of play depending on how the child uses it, who they play with and the setting in which play occurs. The provision of a toy or game should therefore be distinguished from the play experience that develops through its use.

For this reason, the framework focuses on seven developmental areas that the literature has examined in relation to play. These are social interaction and competence; self-regulation; cognitive development and problem-solving; communication and language; creativity and imagination; physical and motor development; and emotional wellbeing. These are not intended as fixed categories, or as outcomes that will emerge uniformly for every child, every form of play or at the same point in time. Instead, they provide practical categories through which

organisations can identify, organise and measure the different types of developmental change that may be observed through play.

1.2. How this framework was developed

To understand how change in children has been examined in play research, a rapid review of 36 studies and reviews was undertaken. Three further database searches were used to broaden the evidence base using ERIC (the Education Resources Information Center), a US government-funded database of education research, containing more than 2 million journal articles, research reports and other education literature. The first looked for research connecting toys and play materials, access or provision, different forms of play and child development. The second focused more specifically on whether the type, structure or availability of toys and play materials affected how children played. The third looked across different forms of play, including pretend, imaginative, constructive, exploratory, social, cooperative and child-directed play, as well as areas of children's development examined alongside them. This third search returned 2,170 records; the first 200 were screened for relevance rather than attempting to review the full search result. The search strategies are provided in Appendix 2, below.

For each relevant paper, the areas of development were examined and the ways in which these were measured were logged. Across the literature, around 50 differently named outcomes or areas of development were identified. These included, for example, social competence, social skills, peer competence, cognitive and emotional self-regulation, inhibitory control, spatial cognition, problem-solving, receptive and expressive language, creativity, imagination, motor competence, positive affect and internalising and externalising behaviour. Many of these described closely related types of change rather than genuinely separate outcomes.

The different outcomes were therefore compared and grouped where they described the same broader area of children's development. The language used by different studies was then simplified and made consistent. This produced seven outcome areas:

- social interaction and competence;
- self-regulation;
- cognitive development and problem-solving;
- communication and language;
- creativity and imagination;
- physical and motor development;
- emotional wellbeing.

Each outcome area was then given a working definition setting out what it means within this framework. The specific abilities, behaviours and changes examined within the studies were then reviewed to identify what might be observed if a child were developing within each. These were used to produce an initial longer list of possible indicators.

The indicator list was then reviewed to remove repetition and substantial overlap. The remaining indicators were written as observable statements describing what a child can do, does or demonstrates, and sense-checked against both the research and their practical use in play-related evaluation. This produced 35 indicators, five for each of the seven outcome areas.

The resulting framework therefore moves from the many differently named areas of development examined across the play literature to a smaller, common set of outcomes and indicators that organisations can use to structure the collection and interpretation of play-related impact data.

1.3. How this framework measures 'play'

This framework measures developmental outcomes associated with children's play. These are changes in the child that may be observed or assessed through play and play-based interventions. The framework does not measure provision itself. The number of toys provided, children reached or play sessions delivered are outputs. Nor does it measure the play experience itself, such as whether children played, what form that play took, how long they played for, whether play was solitary or shared, or how engaged they were. Satisfaction and enjoyment data also sit separately, describing how children, parents or carers experienced and valued the provision. Instead, the focus is on the change observed in relation to play.

The literature reviewed identified seven broad developmental outcome areas against which play has been evaluated. Alone outcomes areas are often unhelpful as they require interpretation to apply to observed play behaviour. For instance, social interaction and competence identifies an area of development, but does not by itself specify what social interaction and competence means or what a practitioner would need to observe to determine whether it had changed. To avoid this problem two interim stages were followed, following Adcock and Collier (2001), moving from the broad outcome area to a clear definition of what it means and then to specific indicators that can be observed or measured.

- **Conceptualisation** – this means defining what each outcome area means for the purposes of this framework. For example, social interaction and competence is conceptualised as improved ability to interact positively with others, cooperate, negotiate, share play and develop positive peer relationships.
- **Operationalisation** – this means translating that conceptualisation into indicators that can be observed or measured. For social interaction and competence, these include whether the child can join and sustain play with

other children, share toys or play materials, wait and take turns, negotiate roles or rules, and assert preferences or set limits appropriately during play.

In practice, this allows broad areas of development identified in the research to be translated into specific behaviours or abilities that organisations can observe and measure. The indicators can then be used to develop observation items, practitioner ratings, parent or carer questions and other play-related data collection tools.

Table 1 sets out these outcomes, provides a working conceptualisation of what each means within this framework, and identifies the studies that informed its inclusion.

Table 1 – Outcomes Development

Outcome	Conceptualisation ('what this means to us')	Studies informing the outcome
Social interaction and competence	Improved ability to interact positively with others, cooperate, negotiate, share play and develop positive peer relationships	Smits-van der Nat et al. (2024; 2026); Kalkusch et al. (2022); Dankiw et al. (2020); Gibson et al. (2017); Whitebread et al. (2017)
Self-regulation	Improved ability to regulate emotions, behaviour, attention and impulses, and persist during challenging situations	Goldstein & Lerner (2018); Slot et al. (2017); Van Reet (2020); Whitebread et al. (2017); Brian et al. (2025)
Cognitive development and problem-solving	Improved ability to think, reason, solve problems, understand concepts and apply learning through exploration and play	Lai et al. (2018); Chen et al. (2025); Vogt et al. (2018); Harbourne et al. (2021); Whitebread et al. (2017); Brian et al. (2025)
Communication and language	Improved ability to understand and use language, communicate with others, develop vocabulary and construct or retell narratives	Lake & Evangelou (2019); Kasari et al. (2008); Lai et al. (2018); Whitebread et al. (2017)
Creativity and imagination	Improved ability to generate ideas, imagine possibilities, use objects symbolically and express ideas through play	Al-Mansour (2018); Lai et al. (2018); Dankiw et al. (2020); Whitebread et al. (2017); Ness & Farenga (2016); Tsai (2012)

Physical and motor development	Improved movement competence, coordination, balance, object-control skills and participation in physical activity	Johnstone et al. (2018); Jones et al. (2020); Dankiw et al. (2020); Pawlowski et al. (2023); Harbourne et al. (2021); Whitebread et al. (2017)
Emotional wellbeing	Improved positive mood and emotional wellbeing and reduced emotional or behavioural difficulties associated with positive play experiences	Vasilopoulos et al. (2026); Dankiw et al. (2020); Brussoni et al. (2015); Gibson et al. (2017)

1.4. Outputs, outcomes, and indicators

At this stage, it is useful to distinguish between outputs, outcomes, and indicators so that different types of evidence generated through play can be interpreted consistently and used appropriately for monitoring delivery, assessing progress, and reporting impact:

- **Outputs** – these describe what a play intervention delivers, for example, the number of toys or games provided, the number of play sessions delivered, the number of children reached, or the amount of time made available for play. Reporting outputs helps show the scale and intensity of provision.
- **Outcomes** – these describe the areas of developmental change that play is expected to support, such as social interaction and competence, self-regulation, cognitive development and problem-solving, communication and language, creativity and imagination, physical and motor development, or emotional wellbeing.
- **Indicators** – these describe the observable signs that progress is taking place within each outcome area. In this framework, they are expressed as statements describing what a child can do, does, or demonstrates during or through play.

These provide the basis for structured observation, assessments, practitioner records, parent or carer reporting, and other data collection methods.

2. What outcomes are relevant to play

The outcomes presented in this framework represent the main areas of developmental change examined across the play literature reviewed. The same broad area of development were conceptualised and operationalised differently between studies: researchers used different constructs, focused on different dimensions of development, or uses different measures to examine closely related forms of change. The seven outcomes used in this framework therefore provide organising categories through which these related constructs and measures can be brought together. For example:

- **Social interaction and competence:** This outcome brings together related constructs and measures concerned with how children interact with others, including social competence, social skills, peer relations, peer competence, social communication, social acceptance, prosocial behaviour and aspects of social-emotional behaviour (Kalkusch et al., 2022; Smits-van der Nat et al., 2024).
- **Self-regulation:** This outcome brings together related constructs and measures concerned with children's regulation of behaviour, attention and emotion, including cognitive self-regulation, emotional self-regulation, behavioural regulation, inhibitory control, emotional control and delay of gratification (Goldstein and Lerner, 2018; Slot et al., 2017; Van Reet, 2020).
- **Cognitive development and problem-solving:** This outcome brings together related constructs and measures including general cognitive development, means-end problem-solving, spatial cognition, spatial orientation, mathematical competence, reasoning and aspects of executive functioning (Vogt et al., 2018; Harbourne et al., 2021; Chen et al., 2025; Cunha et al., 2024).

- **Communication and language:** This outcome includes related constructs and measures such as receptive language, expressive language, receptive and productive vocabulary, narrative ability, mean length of utterance, social communication and joint attention (Kasari et al., 2008; Lake and Evangelou, 2019).
- **Creativity and imagination:** This outcome brings together constructs and measures concerned with children's generation, representation and development of ideas through play, including creativity, imagination, symbolic representation, object substitution and symbolic transformation (Fein and Diamond, 1974; Al-Mansour, 2018; Ness and Farenga, 2016).
- **Physical and motor development:** This outcome brings together measures of gross and fine motor development, reaching, grasping, balance, coordination, fundamental movement skills, object-control skills, motor competence and physical activity (Johnstone et al., 2018; Harbourne et al., 2021; Dankiw et al., 2020).
- **Emotional wellbeing:** This outcome brings together related constructs and measures concerned with children's emotional and behavioural wellbeing, including positive affect, internalising difficulties, externalising difficulties, anxiety, withdrawal and wider measures of emotional or social-emotional adjustment (Dankiw et al., 2020; Vasilopoulos et al., 2026).

These ways of describing change are related but are not necessarily interchangeable. The purpose of the seven headings is therefore not to suggest that the literature uses a single agreed definition or measure for each outcome. They provide practical organising categories that allow evidence examining closely related dimensions of development to be brought together within a common outcomes framework.

2.1. Hard and soft outcomes

This framework here focuses on developmental, or 'soft', outcomes. These describe changes in the child that may develop through play, such as improved social interaction, self-regulation, communication, problem-solving or emotional wellbeing. The indicators in the framework are used to identify and measure these changes. Some play interventions may also be associated with harder outcomes. These are more concrete changes that sit outside a developmental framework. Depending on the type of play, they might include physical activity levels, mathematical or language attainment, developmental assessment scores, or other measures already collected by a school, nursery, health service or delivery organisation. These harder outcomes do not need to be added to the outcomes framework as additional indicators. Instead, where the information is available and relevant, it can be brought into the evaluation during analysis and reporting. For example, an organisation might find that children whose self-regulation improves also show improvements in recorded behaviour, or that children showing stronger communication and language outcomes also improve on an existing language assessment. Similarly, an active-play programme might consider changes in physical and motor development alongside information about children's levels of physical activity.

Looking at the evidence together can provide a fuller picture of what is happening. The outcomes presented in the framework shows how children are changing in the areas most closely related to the play experience, while harder measures show whether other relevant changes are occurring alongside that development.

An important point is not to assume that one caused the other. If improvements occur together, the evaluation can report that relationship and consider what it may mean, but should not claim that change in one outcome produced change in the other unless the evaluation was specifically designed to establish this.

3. The Play Outcomes Framework

The table below sets out the core outcome areas associated with play and play-based interventions. The headings used in the table provide a practical structure for organising evidence about children’s development through play, while accommodating the different terminology and measures used across the literature. Not every form of play should be expected to contribute to every outcome, and organisations should select the outcomes and indicators that are relevant to the play experience being evaluated.

Appendix 1 – A Play Outcomes Framework

A. Social interaction and competence	B. Self-regulation	C. Cognitive development and problem-solving	D. Communication and language	E. Creativity and imagination	F. Physical and motor development	G. Emotional wellbeing
<i>A1. The child can join and sustain play with other children</i>	<i>B1. The child can persist with play when an activity becomes difficult</i>	<i>C1. The child can work out how to achieve a goal using available objects or materials</i>	<i>D1. The child can understand words used during play</i>	<i>E1. The child can use one object to represent something else</i>	<i>F1. The child can reach for, grasp and manipulate play objects</i>	<i>G1. The child has positive mood and enjoyment during play</i>
<i>A2. The child can share toys or play materials with others</i>	<i>B2. The child can wait for something they want rather than act immediately</i>	<i>C2. The child can identify and use spatial relationships between objects</i>	<i>D2. The child can use a wider range of words to communicate</i>	<i>E2. The child can invent pretend roles or characters</i>	<i>F2. The child can coordinate hand and eye movements during play</i>	<i>G2. The child has fewer signs of anxiety or emotional distress</i>
<i>A3. The child can wait and take turns during shared play</i>	<i>B3. The child can regulate emotional reactions during play</i>	<i>C3. The child can use number and quantity concepts during play</i>	<i>D3. The child can use longer spoken utterances</i>	<i>E3. The child can create imaginary situations or narratives</i>	<i>F3. The child can balance and control their body during movement</i>	<i>G3. The child has fewer withdrawn or other internalising behaviours</i>
<i>A4. The child can negotiate roles, rules or play actions with peers</i>	<i>B4. The child can adapt their behaviour to the rules or demands of the play situation</i>	<i>C4. The child can remember information needed to complete a play task</i>	<i>D4. The child can describe and sequence events or actions</i>	<i>E4. The child can combine or transform materials in different ways</i>	<i>F4. The child can run, jump or hop with increasing control</i>	<i>G4. The child has fewer aggressive or disruptive behaviours</i>
<i>A5. The child can assert preferences or set limits appropriately during play</i>	<i>B5. The child can plan, monitor and adjust their own play actions</i>	<i>C5. The child can change their approach when an initial attempt does not work</i>	<i>D5. The child can initiate and respond to another person's shared attention</i>	<i>E5. The child can extend or change a play idea as the activity develops</i>	<i>F5. The child can throw, catch or kick objects with increasing control</i>	<i>G5. The child has greater confidence about themselves</i>

Appendix 2 – Database Search Strategies

The rapid review searched ERIC (Education Resources Information Center), a US government-funded database of education research maintained by the Institute of Education Sciences within the U.S. Department of Education. ERIC contains more than two million records covering journal articles, research reports and other education literature. Searches were undertaken during August 2026. This was not a systematic review and was not intended to provide an exhaustive account of the play literature. Its purpose was narrower. It was designed to ground the outcomes and indicators in a justifiable body of play-related research and to identify the main areas of children's development that have been examined in relation to play. The search strategy was developed iteratively. An initial search attempted to identify studies that connected toys or play materials, the resulting play experience and developmental outcomes within the same record. This produced very few results. The search was therefore refined in two directions. Search 2 examined the relationship between toys and other play resources and the type or quality of play that followed. Search 3 examined different forms of play in relation to developmental outcomes. Together, these searches allowed the review to examine both the role of play resources and the developmental evidence associated with play.

Search 1 – Toys and play materials, play and developmental outcomes

The first search aimed to identify studies connecting access to toys or play materials with children's play and developmental outcomes. Search string:

("toy*" OR "play material*" OR plaything* OR "loose parts") AND (access OR provision OR availability OR exposure) AND ("play behavio*" OR "play engagement" OR "free play" OR "unstructured play" OR "pretend play" OR "symbolic play" OR "constructive play" OR "social play") AND ("child development" OR "developmental outcome*" OR

self-regulation OR creativity OR "problem solving" OR "social competence" OR wellbeing OR "motor skill*")

The search identified 7 records. None met the requirements for inclusion in the final literature reviewed. The small number of results suggested that requiring a single record to connect the resource, play experience and developmental outcome was overly restrictive.

Search 2 – Toys and play materials and children's play

The second search therefore focused on whether the availability, characteristics, design or structure of toys and other play materials influenced how children played.

Search string:

("toy*" OR "play material*" OR plaything* OR "loose parts" OR "play resource*") AND (provision OR access OR availability OR exposure OR characteristic* OR structure* OR design) AND ("play behavio*" OR "play engagement" OR "play type*" OR "play pattern*" OR "pretend play" OR "fantasy play" OR "symbolic play" OR "constructive play" OR "exploratory play" OR "social play" OR "free play" OR "unstructured play" OR playfulness)

This search identified 110 records. The records were screened for relevance to the review question. The search identified research subsequently used in the review on areas including toy structure, loose parts, open-ended materials, play environments, pretend-play materials and the relationship between play resources and children's social interaction.

Search 3 – Forms of play and developmental outcomes

The third search broadened the review beyond toys and play materials and examined different forms of play in relation to children's developmental outcomes. Search string:

("pretend play" OR "symbolic play" OR "imaginative play" OR "constructive play" OR "exploratory play" OR "social play" OR "cooperative play" OR "games with rules" OR "free play" OR "child-directed play") AND ("self-regulation" OR creativity OR imagination OR "problem solving" OR cognition OR "social competence" OR communication OR cooperation OR agency OR wellbeing OR "motor skill*" OR "child development")

This search identified 2,170 records. Because the work was designed as a rapid review rather than a systematic review, the first 200 records returned by ERIC were screened for relevance rather than screening all 2,170 records. Records were included where they contributed evidence on either of the following.

- How toys, play materials or other play resources shaped the form or experience of children's play.
- How particular forms of play had been examined in relation to children's developmental outcomes.

Records that used play only incidentally, focused on unrelated educational activity, or did not provide evidence relevant to either of these questions were excluded. The ERIC searches supplemented an existing play evidence base. In total, 36 studies and reviews were used in developing the Play Outcomes Framework. The review was therefore intended to provide a sufficiently broad and defensible evidence base for the framework, rather than the exhaustive coverage expected of a full systematic review.

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