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Developing life skills through play

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Executive Summary

- **Child centred activities versus child led activities**

When an activity is *child centred* that means it takes into consideration the abilities, development and interests of children (Pyle & Danniels, 2017). *Child led* on the other hand refers to activities where children have choices and where they experience themselves as autonomous learners.

- **Direct instruction versus guided play activities**

In *direct instruction* the teacher is initiating and leading the activity; in *guided play*, in turn, the autonomy stays with the child and the teacher is scaffolding children's learning. There is some evidence that guided play is more beneficial for children's learning compared to direct instruction (Fisher, Hirsh-Pasek, Newcombe, & Golinkoff, 2013).

- **Engaging children in meaningful, challenging tasks with choices**

Children show more self-regulated behaviour if they engage in tasks that are meaningful to them, where they have the opportunity to lead their own learning, and where they can adjust the level of difficulty to their own ability (Perry, 2013).

- **Providing children with a variety of play opportunities**

Given that different types of play promote different developmental and educational outcomes, children would benefit from an array of play materials (Zosh et al., 2018). Materials that

capture children's play and encourage play-based behaviours tend to be visually appealing, easy to manipulate, provide immediate feedback, can grow in complexity as the children become more experienced with the object and can be used in multiple play scenarios depending on the children's imagination.

- **Participating in the play** Children are more likely to engage in more complex forms of play that have developmental and educational benefits when they feel emotionally secure (Ackermann, Gauntlett, Whitebread, Wolbers, & Weckström, no date). A teacher can promote children's learning through play when they themselves take part in the activity alongside the children, which further emphasises that play is important (Pramling Samuelsson & Johansson, 2006). There is always a give and take in the teacher-student interaction and the teacher can enrich the play experience by assisting children with materials, ideas, and the development of their thoughts.

- **Scaffolding the play** Scaffolding involves an adult monitoring the elements of the activity that are beyond the child's learning capacity at the first instance, thereby allowing the child to focus on the aspects of the task that are within his or her capability (Wood, Bruner, & Ross, 1976). In order for the scaffolding approach to be effective, the strategy needs to be catered to the appropriate level of the

child. Six strategies that were found to be effective include co-participating, reducing choices, eliciting, generalizing, reasoning, and predicting (Pentimonti & Justice, 2010). These strategies can be used to help children make connections between areas of learning and experience, thereby supporting their learning (Pramling Samuelsson & Johansson, 2006).

- **Offering positive reinforcement** Providing the children with positive reinforcement, such as praising them for participating in higher levels of play, is an effective technique for engaging children in sociodramatic play activities without the use of direct imitation (Collins, 2010; Pea, 2015; Schunk & Zimmerman, 1997). The repeated use of scaffolding and reinforcement also allows for the development of children's self-regulation skills because the children are able to utilize all their skills independently and adapt them as the contextual and personal conditions change (Schunk, 1999). As the children develop their skills and become more independent, support provided to the children can be gradually withdrawn (Pyle, Poliszczuk & Danniels, 2018).



Introduction

The concept of play is difficult to define and there is no consensus on one definition. Play is typically intrinsically motivated, and it is an activity that is done for its own sake and not for its outcome. Children usually express joy during play and immerse themselves in the activity which is usually sustained over some time (Ackermann et al., no date; Lillard et al., 2013). Play is often considered in society as the opposite of learning. This dichotomy between play and learning is even represented in our spoken language when we use phrases such as 'Don't play with your pen,' which indicates that play is something negative and unnecessary; or, 'If you finish this task, you can go and play,' which implies that the less important play can only be done if the important work has been completed.

Given that play is often not considered as something valuable, it is playtime that is cut first when yet another

policy target asks education to focus on academic skills such as mathematics and literacy. There is a current trend to emphasise cognitive development and, consequently, the whole child approach that also acknowledges social and emotional development gets less attention (Hirsh-Pasek, Golinkoff, Berk, & Singer, 2009). Nevertheless, the research community highlights the importance of play and children's learning outcomes. It may be better to redefine play as a spectrum that ranges from free play, child self-directed joyful activities, to guided play, which involves an activity structured by an adult that is focused on a learning goal (see Figure 1). Reconceiving play as a range would provide opportunities to specify the type of play the child engages in and link this to the outcomes (Fisher et al., 2013; Zosh et al., 2018).

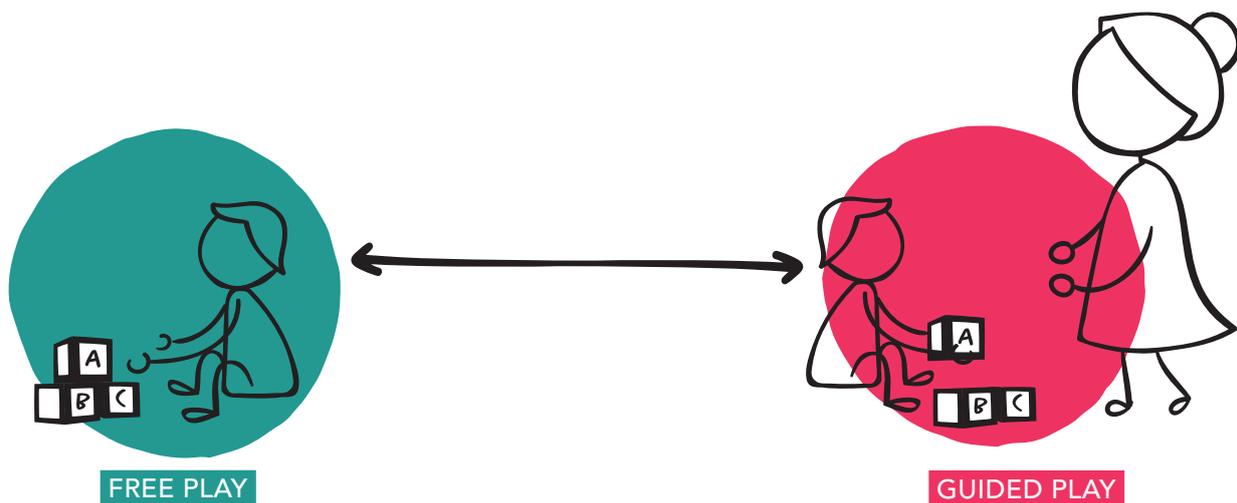


Figure 1: play as a spectrum that ranges from free play to guided play

Play has a role in developing life competencies. Through play, children can experience and craft a world with its own conditions and values that differ from reality. Children then have the opportunity to utilize their creative thinking skills and share this world they have created with their peers. Children are also able to practice their negotiation skills during play activities, as the interplay of children is complex. Children are able to learn from their peers who may be of a different age or have different experiences, and thus children's learning will be challenged in play. It is during these challenging experiences brought about by play that children have a chance to experiment with, expand and alter the play world they have created.

A child's learning is not solely dependent upon the individual but is also influenced by the environment and the relationships they form. Children are best able to learn when their full attention is captured, which often occurs during play. Hence, play becomes a source of learning that is especially inseparable during pre-school. It is important to differentiate between play-based learning and play. Play-based learning, as the name suggests, involves learning while playing where the pleasurable activity caters to a goal (Pyle & Danniels, 2017). Play, on the other hand, is more open-ended and is a pleasurable activity that is primarily concerned with the process not outcome. Hence, when children are playing it may not necessarily include a learning component unless they are engaging in a play-based learning activity. This paper will explore the use of various types of play, including pretend, social, free play, and guided play in the primary classroom setting.

Children are best able to learn when their full attention is captured, which often occurs during play.

It is important to recognise that the evidence to support the benefit of play-based learning is weak and inconsistent. That being said, the evidence suggests that there is a positive relationship between play and children's early learning outcomes, with play-based learning approaches

improving early learning outcomes by approximately five added months on average (Education Endowment Foundation, 2018). These positive outcomes have been seen in connection with developing competencies such as children's early numeracy, reasoning and vocabulary skills. However, the results in terms of children's early language and problem-solving skills are mixed.

There has also been considerable debate over the benefits of children's engagement in free play versus guided play. Free play includes child self-directed joyful activities, often involving an imaginative component, without an external goal (Fisher et al., 2013). There are two main differences as to how guided play differs from free play: (i) The adult supports and structures the activity; and (ii) The activity is focussed on a learning goal (Zosh et al., 2018). Guided play acts as an intermediate learning approach between free play and direct instruction where the child still has the ability to direct the activity. Guided play can take many forms, including an adult scaffolding or monitoring the activity and offering guidance while participating in the activity with the child. Alternatively, the adult can design the space or activity in a way that supports the child but allows the child to play independently. This often occurs when the child engages with games. Guided play is particularly beneficial to support children's meaning-making as young children especially may find it difficult to understand the meaning of the activity by themselves. For example, children are able to learn more when they read a book with an adult rather than reading a book by themselves, as the adults can pose questions which encourage the child to connect the story to their existing knowledge. Research suggests that children learn best when they are actively engaged in the process, can make connections to previous knowledge, and when the learning takes place in a socially-interactive environment (Zosh et al., 2018).

Research suggests that play contributes to the development of children's academic outcomes as well as essential skills including collaboration, communication, confidence, content, creative innovation and creative thinking (Golinkoff & Hirsh-Pasek, 2016; Zosh et al., 2018). *The Cambridge Life Competencies Framework* was created in response to requests from educators about how all the various

skills and competencies that students require in the 21st century relate to English language programmes. *The Cambridge Life Competencies Framework* includes the areas of creative thinking, collaboration, critical thinking, learning to learn, communication, and social responsibilities. All the competencies have breadth and depth and outline how the learning outcomes can be further developed in the long-term.

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The following sections will explain the role of play-based learning in connection with the development of children's **creative thinking, critical thinking, learning to learn** and **communication skills**. The report will conclude by presenting the underlying principles when using the play-based learning in the classroom and will provide practical examples of how play can be incorporated towards enhancing children's competencies.



Creative Thinking



Creativity can be defined as the manner of quickly and comprehensively thinking of many original ideas and possibilities that would also be of value to others. There are many aspects of creativity including cognitive flexibility, divergent thinking, imagination, intrinsic motivation, open-mindedness when faced with uncertainty or change, and enjoyment of new things and experiences. *The Cambridge Life Competencies Framework* identifies three competencies of creativity within an educational setting:

- 1 Participating in creative activities**
- 2 Creating new content from one's own ideas or other resources**
- 3 Using newly created content to solve problems and make decisions**

The following sub-sections will outline the contribution of play towards children's problem-solving skills. Additionally, the role of pretence in different aspects of creativity will be highlighted while also noting the benefits of children collaborating with their peers.

Creativity when using problem-solving skills

Play contributes to the development of children's thinking and problem-solving skills which is aligned with *The Cambridge Life Competencies Framework*, that notes that creating new content from one's own ideas or other resources requires divergent thinking including flexibility,

elaborating, fluency, and originality. Play frequently provides children with opportunities to develop their creative thinking skills, such as allowing them to view situations from different perspectives, thinking of alternate strategies to resolve a problem, and practicing thinking in different ways, all without punitive consequences (Ackermann et al., no date). In order to examine the role of play in the development of children's problem-solving skills, Ramani and Brownell (2014) reviewed articles that examined pre-schoolers' cooperative problem-solving in social play contexts. Children are able to establish joint goals in social play contexts which include early childhood classroom activities, such as construction and sociodramatic play that involve acting out specific roles or characters (Mussen, Carmichael, & Hetherington, 1983). This occurs as children must work with their peers to create the goals of the activity, and by doing so pre-schoolers practise using their elaboration and flexibility skills which are aspects of divergent thinking. Additionally, participating in social play enables children to develop their negotiation and conflict resolution skills, as they must identify the problem and discuss it in order to reach a solution that is agreeable by all (Ramani & Brownell, 2014). Since the goals in a play activity are determined by the child and change throughout the child's play, the children are continually utilizing their creative thinking skills, which allow for development in this area.

Pretence and different aspects of creativity

In addition to developing problem-solving skills, another competency of creative thinking highlighted in the *Cambridge Life Competencies Framework* is developing

the skills necessary to participate in creative activities including divergent thinking, imagination, cognitive flexibility, and tolerance or enjoyment of ambiguity or unpredictability. Russ (2016) noted that the cognitive and emotional processes involved in pretend play and creativity are similar. Sociodramatic play provides children with a chance to develop their creative thinking skills, as they can use objects to symbolise other objects (a stick may turn into a wand), invent stories, use role-playing activities to enact various themes such as eating, monsters, and games with their peers. Since the conditions of the children’s play worlds are typically changing, the children must continually revise the rules of the activity, thereby allowing for the development of their creativity skills (Pramling Samuelsson & Johansson, 2006).

Moore and Russ (2008) conducted a study to examine the effects of a pretend play intervention on the play, creativity and emotional processes of six- to eight-year-olds. The results were assessed immediately post-intervention and again two to eight months post-intervention to see if the effects of the intervention were sustained. The children in the study were divided into three groups: (i) imagination group; (ii) emotive group; and (iii) control group (Figure 2).

IMAGINATION	EMOTIVE	CONTROL
Children were asked to enact stories with high fantasy content and story organisation.	Children were given toys and were urged to express their feelings and enact stories with affective content.	Children were provided with puzzles and colouring books.
Child enacted about four stories and made up one story.	Child enacted about four stories and made up one story.	

Figure 2: The design of the pretend play intervention in Moore and Russ’ (2008) study

The results of the study two to eight months post-intervention demonstrated that the children in the imagination group engaged more in playful activities (Moore & Russ, 2008). Additionally, the children were more expressive and imaginative while enacting the

stories in the imagination group compared to before the intervention was administered. These results indicate that children’s play, imagination, and expression of emotion could be improved through the use of a systematic intervention and that possibly an intervention can be used to improve children’s long-term cognitive play processes.



To summarize the creative thinking section, children’s engagement in play activities allows for the advancement of their problem-solving, imagination, and cognitive flexibility skills. Research in this area also suggests that play has positive long-term benefits in children’s cognitive development. These results should be viewed in light of the evidence that play-based learning demonstrates moderate impact, but this is based on limited studies in this area (Education Endowment Foundation, 2018). That being said, the costs associated with play-based learning are extremely low as early year settings are already equipped with play facilities. Additional resources may be needed to support children’s engagement in sociodramatic play, but these tend to be minimal. It would be a good idea to consider how the equipment in the learning environment supports the development of children’s creative thinking skills without necessarily relying on the support from adults. Additionally, it would be helpful to consider how the balance between free play and guided play in the classroom allows for the development of children’s creative thinking skills.

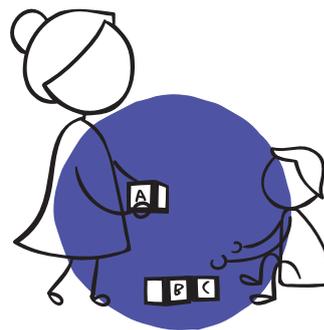
Critical Thinking



Critical thinking describes children's ability to reflect critically on what they are learning. It includes the skill to process information at a high level, extract and evaluate information, and to draw conclusions accordingly. Critical thinking is important on an academic, behavioural, and social level. That is, when it comes to learning, young children need to be not only reflective, but also considerate in interactions with other children or adults. For children to become good citizens it is important for them to learn that there are different ways to solve problems, that people have different views and opinions and that it is key to find compromises in social interactions. All this requires the skill to reflect critically on one's learning and actions, to understand different views, and to flexibly revise one's ideas, beliefs and course of action. *The Cambridge Life Competencies Framework* emphasizes three key competencies within critical thinking:

- 1 **Understanding and analysing links between ideas**
- 2 **Evaluating ideas, arguments, and options**
- 3 **Synthesising ideas and information**

Critical thinking skills are typically applied in learning contexts where the child has an active role and is encouraged to share ideas and thoughts. For young children, these types of interactions often happen within guided play or discovery learning where children reflect on novel questions, synthesize information to come to a conclusion, and gain hands on experiences. Weisberg, Kittredge, Hirsh-Pasek, Golinkoff, & Klahr (2015) differentiated interaction styles, emphasizing who initiates and who leads the activity.



DIRECT INSTRUCTION

Direct instruction: The adult is initiating and leading the activity. That is, the adult directs whereas the child is in a passive role.



FREE PLAY

Free play: The child is initiating and leading the activity. There is no influence from an adult and the child decides what he/she wants to play, with whom, and for how long.



GUIDED PLAY

Guided play: The adult initiates while the child leads the activity. Guided play includes an interaction between an adult who supports children's learning by asking questions and introducing new concepts. However, the autonomy stays with the child.

Guided play or discovery learning involves active learners, where children have to extract and construct knowledge. In direct instruction, children are passive recipients of knowledge that they have to reproduce (Weisberg et al., 2015).

Pedagogical approaches and children's learning

To better understand whether play in general and guided-play in particular is beneficial for children's learning, research studies in which children were assigned to different groups and exposed to different pedagogical approaches were conducted. These studies aimed to understand whether the pedagogical approach (e.g. play-based learning vs. direct instruction) has an impact on children's learning (e.g. when completing a problem-solving task or understanding shape properties).

Problem-solving is the process of developing strategies or ideas to overcome an obstacle. This often includes thinking outside the box and using objects in a new and innovative way. Children typically use objects in their play in a variety of ways; hence, there is the theoretical assumption that children may perform better in subsequent problem-solving tasks if they have had the chance to play with the respective objects beforehand (Lillard et al., 2013). Some work on this was done in the 1970s (Smith & Dutton, 1979; Sylva, Bruner, & Genova, 1976) and studies have shown benefits of playing with material for the performance on a subsequent problem-solving task. However, these studies were criticized for how they were done and a replication which addressed these shortcomings (Smith, Simon, & Emberton, 1985) did not find the same effects. Lillard and colleagues (2013) reviewed these studies and found that it seems to be relevant in what type of play children engage during the play time. They point out that engaging in 'construction' seems to be a key factor (Lillard et al., 2013). That is, children who try to build something, which often includes stacking objects and connecting them, are also more likely to gain an understanding of the objects' properties. Conversely, if children use sticks within a pretend play scenario and the sticks represent family members, it is less likely that they get a good understanding of the properties (e.g. weight) of the sticks. Hence, it seems to be important to understand which type of play in particular is beneficial for a subsequent problem-solving task.

Another experimental study examined whether children learned best about shape properties under conditions of direct instruction, guided play or free play (Fisher et al., 2013).

DIRECT INSTRUCTION	GUIDED PLAY	FREE PLAY
<p>Experimenter taught children about the properties of different shapes.</p> <p>The child listened passively.</p>	<p>Experimenter taught children in a playful way about the properties of the different shapes.</p> <p>Child answered questions and was encouraged to touch the shapes.</p>	<p>Children were exposed to the shape stimuli for the same time as direct instruction and guided play groups.</p> <p>There was no interaction with an adult.</p>

Figure 3: Overview of three shape learning groups

After children were exposed to these different pedagogical approaches, they were asked to complete a shape knowledge test. Children in the guided play condition performed best and seemed to have acquired a deep level of understanding. Children in the direct instruction group seemed to have a rather superficial understanding of the shape categories. That is, they understood that it is important to count shape features such as the sides, but they did not really understand why that is important. Children of the free play condition made most mistakes in sorting shapes (Fisher et al., 2013). It can be assumed that children might not necessarily learn about complex characteristics such as shape properties by solely playing with the shapes. An adult who is emphasizing critical knowledge might be key. Furthermore, the study indicates that it is important to be an active explorer, and not only a passive recipient of knowledge. Hence, adults can extend children's learning in an interaction where the child is in an active role.

 To sum up, there is inconsistent evidence whether free play learning approaches are beneficial for children's problem-solving skills. However, a study on children's shape learning indicated that guided play is more beneficial compared to direct instruction. Hence, the role of the adult seems to be key for children's learning.

Learning to Learn



Today people all over the world are experiencing economic, environmental, and societal changes. Hence, a highly educated workforce with the ability to react to sudden changes which may require new skills is needed. Therefore, there is an increasing awareness that students should not only acquire knowledge such as mathematics and literacy, but also the skill of how to learn. In relation to this, *The Cambridge Life Competencies Framework* emphasizes three related competencies:

- 1 Practical skills for participating in learning**
- 2 Taking control of own learning**
- 3 Reflecting on and evaluating own learning success.**

In the following section, we will focus on how play-based learning approaches may benefit children's ability to become more self-regulated, autonomous learners while acknowledging that practical skills and the ability to evaluate one's work are also key in young learners' development. Students' classroom adaptive behaviour—that is, their ability to participate in a classroom—is important. Children who demonstrate basic skills such as paying attention, remembering instructions and inhibiting distractions are in a better position to learn compared to their peers who struggle with these skills. In psychology, these skills are referred to as self-regulation and considered as a milestone in children's development. Self-regulation includes the ability to control one's behaviour, thoughts,

and emotions (Welsh, Pennington, & Groisser, 1991). Self-regulation is important for goal-directed behaviour, planning, and organizing information. Self-regulation is related to children's school readiness (Blair, 2002; Blair & Diamond, 2008), academic achievement (Blair & Razza, 2007) and social-emotional development (Riggs, Greenberg, Kusché, & Pentz, 2006). It also helps students to become independent, autonomous learners, who are able to guide their own learning and not depend on teachers who have to spoon-feed them with learning steps and knowledge. It is important to empower students by teaching them strategies of how to acquire knowledge as this is a skill they can rely on throughout their lives.

As mentioned before, self-regulation is key for a number of skills (e.g. planning or goal-directed behaviour) that would be considered to be important by most people in society. Research suggests that play-based learning environments where children have the opportunity to explore, to interact with others, and where they are required to regulate themselves are beneficial for children's self-regulation development (Perry, 2013). Generally speaking, we learn through repetition. That is, the more often we face specific challenges, the better the strategies we develop to approach them. Hence, if children are exposed to more play-based and exploratory environments where they set their own goals, organize their own learning towards those goals, and monitor their learning processes, it is likely that with repetition and support from a teacher, children will become more self-regulated compared to children who are constantly told what they should do and as a result simply carry out instructions.

Meaningful, child-led activities benefit self-regulation

Barker et al. (2014) explored this question and asked 70 parents of six- to seven-year-olds to document their children's activities outside of formal schooling over the course of a typical week. Importantly, they asked parents to indicate whether the activities were organized and supervised by an adult or whether activities were child-led. Piano lessons or soccer practice were, for instance, seen as adult-led; whereas free play with other children was considered as child-led. Barker and colleagues found that children whose parents reported that their children had spent less time in adult-led activities performed better on a task which required children to apply a cognitive skill related to self-regulation (Barker et al., 2014). Based on this work, it can be assumed that children's self-regulatory skills profit from time where they have to make their own decisions, guide their own behaviour, and regulate their actions towards a goal. Notably, this study only looked at leisure activities outside of formal schooling.



Researchers also examined the benefits of play-based, child-directed learning approaches for children's self-regulation in a school context. Nancy Perry has conducted research with the focus on self-regulation in a classroom context for many years. She emphasized that learning environments where children are active and work on complex meaningful tasks, feel autonomous as they have choice over their learning and can control challenge, are ideal for children's self-regulation development (Perry, 2013). Teachers are key in this process as they scaffold children's learning by preparing the environment and supporting children in approaching tasks and accessing information if needed. However, if a child needs support, the teacher does not provide the solution to the problem, but instead carefully guides the child towards a solution by, for instance, asking questions. Hence, children are scaffolded in becoming problem-solvers and independent learners. Furthermore, teachers in Perry's project emphasized metacognitive strategies – the awareness of one's own knowledge, thinking and abilities. A teacher who asked her students to carry out research about an animal encouraged them to think about three questions before choosing an animal: "Am I interested (in the topic)? Can I find books (about the topic)? And can I read the books by myself, with a friend, or with an adult?" (Perry, 2013, p. 54). Hence, this made the children think ahead and what they had to consider to successfully complete the task. Overall, children who engage in meaningful tasks where they experience autonomy are more involved, persistent and learn more. Even though this learning approach cannot be classified as play as such, it can still be seen as a play-based approach, as it is child-led, enjoyable, and fun for the child to engage in.



Overall, there is an increasing awareness of the importance of children's skills to learn to learn. Learning to learn is closely related to children's self-regulation. A variety of research has shown that children benefit from opportunities where they can manage challenge and make meaningful choices about their learning and experience themselves as autonomous. Teachers play a key role in this developmental process by scaffolding children's learning and helping children if they get stuck, or teaching them strategies to monitor their learning process.

Communication



Communication is a vital life skill that allows for the exchange of ideas and information and the expression of feelings and disagreements (Cenere, Gill, Lawson, & Lewis, 2015). Our communication is influenced by non-verbal behaviour, personal interpretation, and providing meaning to events that greatly influence our lives. Communication comprises of fundamental linguistic features of a language that can be developed over time. *The Cambridge Life Competencies Framework* identifies three competencies of communication within an educational setting:

- 1 Using appropriate language and register for context**
- 2 Managing conversations**
- 3 Participating with appropriate confidence and clarity**

There is considerable evidence that describes the impact of communication and suggests that language teaching approaches can be effective, particularly in terms of children's spoken language, expressive vocabulary, and early reading skills (Education Endowment Foundation, 2018). Reading aloud to children and then spending time discussing books, and further extending their vocabulary by drawing their attention to letters, sounds, and new words are all examples of language approaches that are frequently used in the early years. That being said, more research is required to examine the long-term impact of communication and language approaches. The upcoming

sub-sections will highlight the contribution of play-based activities specifically towards children's vocabulary skills.

Children's vocabulary development through play-based interventions

In terms of theory, as per the psychologist Vygotsky (1986), sociodramatic play is critical to children's, particularly pre-schoolers' development of language skills and allows for the broadening of their zone of proximal development (ZPD). Aligned with Vygotsky's notion of the ZPD, as children engage in dialogue with adults, during which the conversation is slightly more advanced than the child's present level of functioning, it creates the zone for development to occur (Berk, 2001; Vygotsky, 1986). Sociodramatic play according to Vygotsky has great influence on three- to five-year-olds' thought processes, engages them in challenging skills beyond their average age, and creates opportunities for them to gain culturally valued competencies (Roskos & Christie, 2011, 2013; Vygotsky, 1986). Development in this area is particularly facilitated when children are capable of using language skills to participate in pretence, which allows for rich collaborative dialogues (Bodrova, 2008; Roskos & Christie, 2011; Vygotsky, 1986). This is reflected in *the Cambridge Life Competencies Framework*, which states that using appropriate language and register for context refers to learners' understanding that there are formal and informal contexts/situations and they know how to vary language and expressions and adapt communication style so that they are appropriate to the context they are in.

Toub et al. (2018) conducted a study to examine whether low-income pre-schoolers' word learning abilities would be improved by book-reading and subsequent engagement in play-based activities. Additionally, the study inquired about the effectiveness of a play-based versus a direct-instruction approach to support vocabulary learning during book-reading. The study used three different approaches (i) free play; (ii) guided play; and (iii) directed play (Figure 4).

FREE PLAY	GUIDED PLAY	DIRECTED PLAY
Ten-minute book-reading with explicit vocabulary instruction.	Ten-minute book-reading with explicit vocabulary instruction.	Ten-minute book-reading with explicit vocabulary instruction.
Children were given toys related to the story and could play with them as they desired.	Children were given toys related to the story and the adult actively supported vocabulary development during the play.	Children were given toys related to the story and the adult used scripted language while the children re-enacted the story.

Figure 4: The design of the book-reading and play intervention in Toub et al.'s (2018) study

The study's results noted that through play the children were able to engage with the words in a meaningful context that allowed for vocabulary development (Toub et al., 2018). Children in the guided play group and the direct instruction made significantly greater gains in both the expressive and receptive vocabulary measures for the target words than the children in the free play group. There were no differences in the guided and directed play groups. In terms of the application of the results to the classroom experience, Toub et al. (2018) suggest that a play-based intervention may be utilized to support the vocabulary skills of pre-schoolers, but more evidence is needed to support this finding.

In addition to the study by Toub et al. (2018), the study by Han, Moore, Vukelich, and Buell (2010) aimed to examine if there were differences in the expressive and receptive vocabularies of children that received Explicit Instructional Vocabulary Protocol (EIVP) during storybook reading and children that received shortened EIVP and a Play Intervention during storybook reading. The study's

sample consisted of 49 four- and five-year-olds, and one adult delivered the intervention to pairs of children for 30 minutes, twice a week over a 4-month period. The two different approaches, EIVP and shortened EIVP and a Play Intervention are outlined in Figure 5.

EIVP	SHORTENED EIVP & PRETEND PLAY INTERVENTION
Story was read to the children in 30 minutes and included explicit vocabulary instruction.	Story was read to the children in 20 minutes and included explicit vocabulary instruction. This was followed by 10 minutes of engagement in pretend play activities.

Figure 5: The two approaches in Han et al.'s (2010) study

The results of the study indicated that both groups made improvements in their expressive vocabulary skills, but the gains for the shortened EIVP and the Play Intervention group were higher than that of the EIVP group. The results suggest that the application of a pretend play intervention that includes an explicit vocabulary instruction component in the classroom can allow for improvements in children's expressive vocabulary skills. When implementing communication and language approaches in the early years, thought needs to be given to how children can be provided with assistance to orally communicate their ideas and experiences effectively (Education Endowment Foundation, 2018). Moreover, a combination of communication and language approaches will likely be more helpful in developing children's skills in these areas.

 Furthermore, this section has outlined the role of play in children's communication skills, particularly in connection with vocabulary skills. Children benefit from the incorporation of play in the classroom where the combination of the structure of the room, the materials available and the teacher-child interaction support the children's learning. Refer to Appendix 1.1 for details regarding children's emergent literacy development in a classroom setting.

Practical Examples

Below are examples of activities that can be incorporated into the classroom to promote children's creative and critical thinking, their ability for learning to learn, and their communication skills.



CREATIVE THINKING

Encouraging children to consider different perspectives: When reading a book or telling a story, teachers can encourage children to consider different perspectives, introduce new vocabulary, and get an understanding of common events/concepts (e.g. restaurant visit). By acting out interactions or ideas, children engage with the vocabulary on a deeper level and the vocabulary becomes more meaningful. Furthermore, children can be encouraged to take different perspectives. An example would be a teacher reading about space with the children, then crafting space props with the children and finally engaging in sociodramatic play concerning space. Hence, children could engage with unfamiliar vocabulary such as *astronauts*, *space*, or *planets* in a meaningful way. Children typically communicate during play, better understand and establish the aims of the interaction, and discuss alternative solutions to a problem. Familiar themes further enrich the experience as children have greater involvement in the play and can develop their problem-solving skills and improve cognitive processes including discussion, engagement and negotiation (Ramani & Brownell, 2014; Short-Meyerson, 2010).



CRITICAL THINKING

Active, hands-on learning: Children learn better if they get the opportunity to actively explore and have hands-on experiences which are scaffolded by a teacher. In particular hands-on experiences that offer surprising outcomes that children would not expect (e.g. observing the behaviour of a wooden block and a stone in water - why does one object float?). Teachers can ask open-ended questions that challenge children's thinking and extend children's learning. Examples of open-ended questions within the context of a science experiment would be to ask the children to describe their experience ('What just happened?', 'Why do you think the wood floats and the stone sinks?'). Children can then predict and attempt to reason what they think.

Considering others' perspectives: Children may learn about perspective taking and understanding others' beliefs if they are exposed to storytelling with questions about characters' mental states, their knowledge, false beliefs and emotional states. Furthermore, stepping into a role in sociodramatic play seems to be beneficial for children's ability to consider others' perspectives too.



LEARNING TO LEARN

Children's self-regulation development: Children benefit from activities where they are setting their own goals and monitoring their progress towards the learning goal. This requires children to regulate their own learning, something which initially needs to be scaffolded by a teacher and can eventually be carried out by children themselves (Perry, 2013). Picking up on children's ideas and following their interests gives children the opportunity to learn something that is meaningful to them. If children express which aspect of a specific topic they are interested in (e.g. growth of plants), teachers can scaffold the children to learn more about the topic. Instead of providing the answer, the teacher can facilitate children's acquisition of knowledge by helping them getting access to books or conduct small experiments.

Thinking about one's thinking: Children become more aware of their own learning if they are asked questions that make them think about themselves as a learner such as 'What are you interested in?', 'Are you able to read this book?' (Perry, 2013, p. 95). Questions like these will make children more reflective of their own learning processes. Teachers can also establish routines where children reflect on the outcome of their learning process ('What worked well? What did not work well? How can I approach a similar task next time?').



COMMUNICATION

Develop children's vocabulary skills: Word learning can be stimulated using repeated exposure to the target words, captivating the child's attention, creating a collaborative and open environment, and providing a meaningful context. This can be done using play practices and interventions that systematically expose children to new words (e.g. through book reading) and invite them to engage with these new words in a different context (e.g. play) (Toub et al., 2018).

Increase children's use of appropriate language: Child-led activities, including the time that children spend in various play areas in the classroom, provide great opportunities for educators to develop children's oral language skills (Whorrall & Cabell, 2016). Educators can engage the children in challenging conversations about their interests by asking open-ended questions and using sophisticated language that is relevant to the topic to expand the children's knowledge, thoughts and language in a particular area.

Suggestions for further reading

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PEDAL Hub: <https://www.educ.cam.ac.uk/centres/pedal/>

Tanya M. Paes and Janina Eberhart are both PhD candidates at the University of Cambridge Faculty of Education. Tanya's work focuses on play and cognitive development in early childhood. More specifically, she investigates the efficacy of a pretend play intervention on executive function, language, and pre-literacy skills of children with English as an additional language. Prior to pursuing her PhD, Tanya completed her MSc in Child Development and Education at the University of Oxford which explored the representation of play within the home learning environment of children from South Asian families. Janina's research interest concerns children's self-regulation development in a classroom context. She aims to understand better whether specific pedagogical approaches are more beneficial for children's self-regulation development. Before starting the PhD, Janina was working at the German Youth Institute in the International Centre Early Childhood Education and Care (ICEC) at an intersection between research and policy. Her work concerned quality in early childhood education and care settings. Janina completed her MSc in Psychology at the Ludwig-Maximilians-University of Munich and focused on the influence of stress on children's performance in executive function tasks.

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Appendix

1.1 Children's emergent literacy development in a classroom setting

In addition to word learning, play also stimulates emergent literacy development. Saracho (2011) also explored five-year-olds' literacy development through play by focusing on play centres specifically. An intervention was conducted during which the play centres in the kindergarten classrooms were filled with materials for reading and writing that would allow for literacy-enriched interactions. The children could choose to engage in the various play centres during play time that included sociodramatic play areas that were filled with props and dress-up materials with themes that were familiar to the children (beauty shop, fire and police departments, kitchen and bakery), which were also intended to improve children's vocabulary by providing them with the visuals of the objects. In addition, children had access to a number of manipulatives and games such as building blocks, geoboards, parquetry pattern blocks, picture bingo, and sequence cards.

The results of Saracho's (2011) study demonstrated that young children benefit from the provision of play experiences that motivate them to become active learners. The structure of the classroom environment plays a major role in children's literacy development. Display boards decorated with children's work and other stimulating learning material and the teacher's interaction with the children provide motivation for children to participate in literacy activities. Play centres that are well labelled also promote literacy development, particularly in connection with children's listening, reading, speaking, and writing skills. One key aspect of the children's engagement with the play centres was that the teachers provided the children

with an explanation of all the materials and activities that were available at the various play centres. Thus, during play time, the children were able to make informed choices about the activities they participated in and were also able to collaborate with their peers on the activities.

To summarize, play supports the development of children's emergent literacy skills. Practical considerations when utilizing early literacy approaches in the classroom include providing small group support for disadvantaged children in areas that they may have difficulties in (Education Endowment Foundation, 2018). Additionally, it is beneficial if early literacy strategies support the development of children's skills and knowledge, as well as their understanding.

1.2 Example of a curriculum for enhancing self-regulation

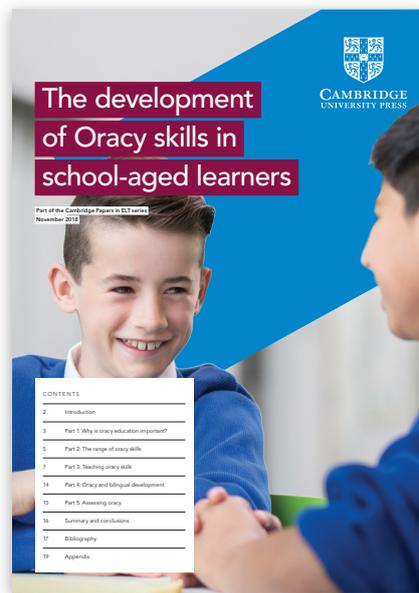
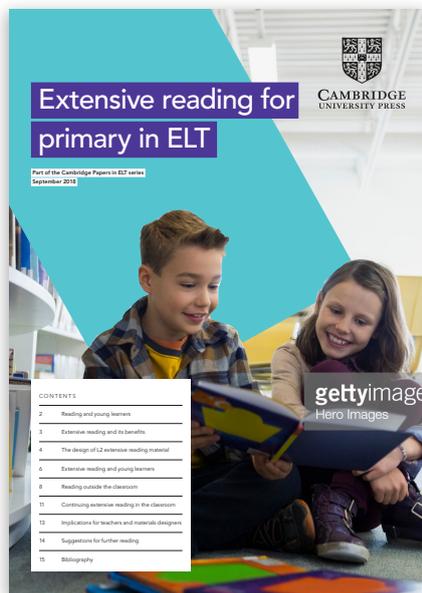
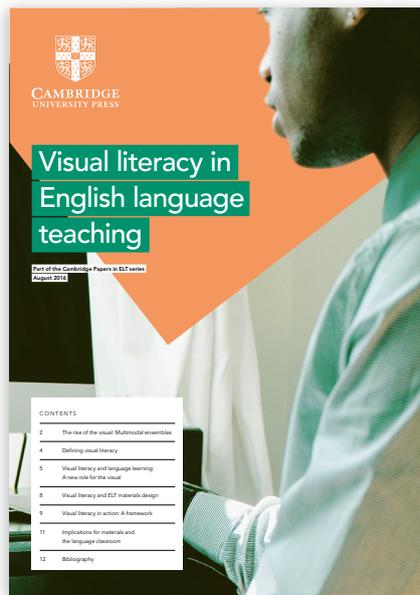
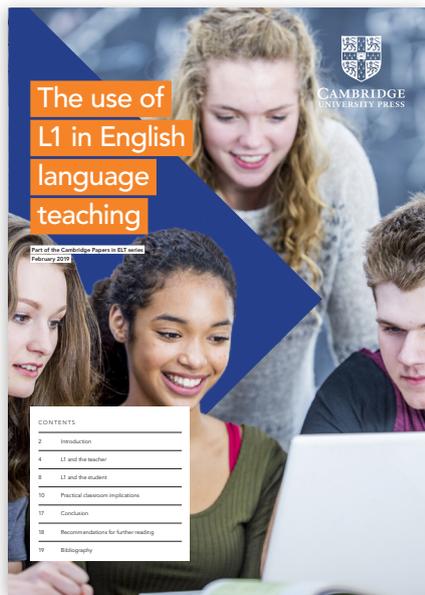
In the following, another curriculum that was developed to enhance children's self-regulation will be described. This curriculum is called Tools of the Mind (from now on referred to as Tools) and has been widely evaluated regarding its impact (Barnett et al., 2008; Blair & Raver, 2014; Diamond, Barnett, Thomas, & Munro, 2007; Farran & Wilson, 2014). Tools emphasizes sociodramatic play, partner activities, and language use (Bodrova & Leong, 2007). Sociodramatic play in Tools includes play planning where children write or draw what they want to play, who they want to play with, and which role they want to take before they start to play. Young children typically act out everyday situations; whereas older children dramatize stories from book chapters. The Tools curriculum also emphasizes partner activities, such as buddy reading, which include turn taking. Finally, children

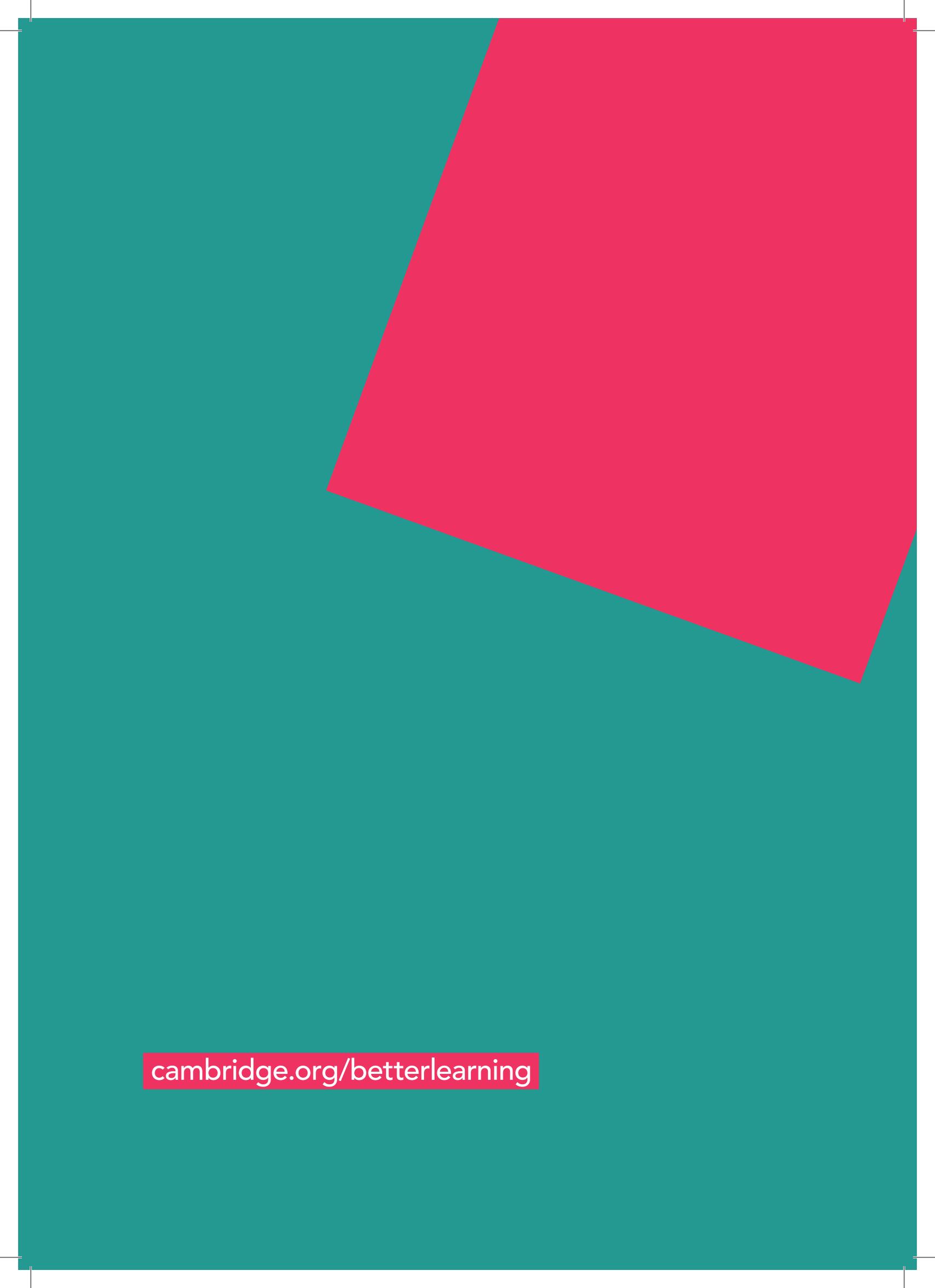
are strongly encouraged to use as much language as possible. As children are only in the process of acquiring self-regulatory skills, they still need support in their self-regulation. Therefore, the curriculum gives children 'tools' to support their self-regulation skills. For instance, when doing buddy reading, children who struggle with turn-taking are given a picture of an ear or mouth making their role as 'speaker' or 'listener' explicit. These 'tools' help children to remember which role they are taking. Furthermore, children are encouraged to use language to regulate their behaviour (e.g. when struggling with a rhythm it is helpful to speak along to it) (Bodrova & Leong, 2007). The results of the

studies that examined Tools are mixed with some studies finding a positive effect of Tools on children's cognitive self-regulation (Barnett et al., 2008; Blair & Raver, 2014; Diamond et al., 2007), whereas other studies did not find an effect (Farran & Wilson, 2014; Lonigan & Phillips, 2012). Even though there are mixed findings, it seems as if children from low socioeconomic backgrounds in particular benefit from this curriculum. However, it also needs to be acknowledged that play is only one part of the comprehensive curriculum.



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