Making **play** work for education

Research demonstrates that guided play can help preschool children prepare for reading and math better than free play and direct instruction alone.

By Deena Skolnick Weisberg, Audrey K. Kittredge, Kathy Hirsh-Pasek, Roberta Michnick Golinkoff, and David Klahr

In 2014, New York City implemented a badly needed and bold initiative: It vastly expanded its prekindergarten offerings, with the promise of serving every 4-year-old in the city. The goal is to boost every child's academic and school-readiness skills by using guided play. This initiative provides the perfect opportunity to consider the relationship between play and learning, and the way in which guided play intrinsically links them. Research on guided play demonstrates how it is possible to couple a curriculum-centered preschool program with a developmentally appropriate pedagogical approach to classroom teaching.

The notion of guided play was first introduced to the literature in order to bridge the oft-discussed yet false dichotomy between play and learning (Hirsh-Pasek & Golinkoff, 2011). Children, especially in the preschool years, learn a tremendous amount through play. However, to fully test this claim, we need a clear definition of "guided play" so we can distinguish it from other types of play. This article does that. It also explains how learning through play occurs and why guided play is

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most effective for achieving specified learning goals in areas such as reading readiness and number sense.

Guided play defined

When we think of play in young children, we usually think of free play, where children can do anything they want with any materials they want, without intervention from adults. There is mounting evidence that free play is highly beneficial for various aspects of children's development (Hirsh-Pasek et al., 2008; Singer, Golinkoff, & Hirsh-Pasek, 2006). Children who play more have better social skills (Singer & Singer, 2009), demonstrate better self-regulation (Diamond & Lee, 2011), and are more creative thinkers (Dansky, 1980). Although these links are largely correlational (Lillard et al., 2013), they suggest that play has value for the development of well-adjusted, creative individuals who will be prepared to solve challenging problems.

But not all play is created equal. While free play is a wonderful realm for children to explore their social and self-regulatory skills, research suggests that it might not be the best way to achieve educational outcomes (Fisher et al., 2010). It's easy to see why this is the case: Although children engaged in unfettered exploration could potentially stumble on the information that a teacher is trying to impart, it would lead to haphazard success at best. Guided play is the best way to incorporate play into early curricula without compromising educational goals, while allowing children to enjoy school.

What's the difference between guided and free play? To help characterize this distinction, we offer a two-by-two grid (see Table 1), that categorizes types of play according to who initiates them and who directs them. Free play is both child-initiated and child-directed; children decide what to play and how. When play is both adult-initiated and adult-directed, it's really a form of direct instruction, where adults are telling children what actions to take. When play is child-initiated but adult-directed, this is co-opted play: Children start out in charge, but adults take over and begin to set the agenda for the scenario, without providing space for children's autonomy. Finally, guided play is a blend of adult initiation and child direction.

TABLE 1.
Types of play

	Adult-initiated	**Child-initiated**
Adult-directed	Instruction	Co-opted play
Child-directed	Guided play	Free play

In guided play, it's crucial that children direct the action because it gives them the autonomy to make decisions about what to do in any given moment. They are in control of what happens next and in what they wish to explore and how. Children do not just perceive that they are in control; in guided play, they truly can decide what to do next and how to respond. This is an important feature of guided play because even children are sensitive to the difference between circumstances where they lead and those where they are given an educational experience dis-

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guised as play — what one might call "chocolate-covered broccoli." On this point, free play and guided play are the same in their focus on the child as an active participant and leader. Guided play crucially incorporates an element of adult structuring of the play environment, but the child maintains control within that environment.

Guided play can lead to dramatically better learning outcomes than didactic situations.

Within the learning context, adults guide play in one of two ways: by carefully preparing the environment beforehand and by scaffolding children's actions as the play unfolds over time (Fisher et al., 2010). Environmental preparation occurs frequently, as when a teacher chooses which toys will be available for a given play session in a Montessori classroom (Lillard, 2013), or when a museum exhibit offers interactive elements as part of a child visitor's self-paced exploration. There are also multiple ways for adults to guide play on the fly while maintaining the crucial element of child control. For example, adults could ask open-ended questions while children are playing. Phrases that invite children to think more deeply about their activities, such as "What do you think would happen if . . . " provide a gentle nudge toward a learning goal while allowing children to absorb the necessary information at their own pace. Adults also could incorporate objects that children might not have noticed on their own: "I wonder what would happen if you try using this one?" Again, this allows children to maintain control because it gives them the option of rejecting this suggestion. It also allows the teacher to inject helpful hints about different ways to explore as the child moves toward the learning goal. The key idea is that the adult should be relatively unobtrusive and respectful of children's choices.

Guided play takes place in a structured environment with some form of adult scaffolding, allowing a teacher's expertise to inform how children should approach the situation. Yet guided play leaves the locus of control with the child, making room for self-directed exploration. This kind of subtle attentional focusing takes advantage of children's sensitivity to the mise en place: the situational factors that prepare them for particular kinds of actions within the environment (Weisberg et al., 2014).

Balancing freedom and structure

A growing body of literature suggests that this balance between freedom and structure is what makes guided play a successful teaching tool for a range of educational outcomes (Weisberg, Hirsh-Pasek, & Golinkoff, 2013; Weisberg et al., 2013). For example, a recent study found that children who explored the meanings of new words in an adult-guided play session learned those words better than children who engaged in free play (Dickinson et al., 2013). In this study, children heard new vocabulary words used in a story that were defined by an instructor and then had the opportunity to play with replica toys related to that story. Some children engaged in a free-play session with these toys for 10 minutes while the instructor merely observed. For other children, the instructor took a more active role, either working with children to re-enact scenes from the book or engaging children in conversation about the words in the context of their play actions. Children in the free play condition learned the words markedly less well than children in the other two adult-guided play conditions.

To take a second example, another study taught children the meaning of new words directly or engaged them in a playful activity in which they had to actively determine a relationship between the new words and their referents. In a test of retention, children who learned in this playful context outperformed those who were directly taught the word-object pairing (Zosh, Brinster, & Halberda, 2013). In addition, parents who engage in guided play with their children use more spatial terms like "over" and "between" (Ferrara et al., 2011), potentially helping children learn these difficult words better. And children who play board games with adults that involve numbers show marked growth in their early math skills. These studies provide good evidence that guided play situations help children learn as well as traditional didactic situations.

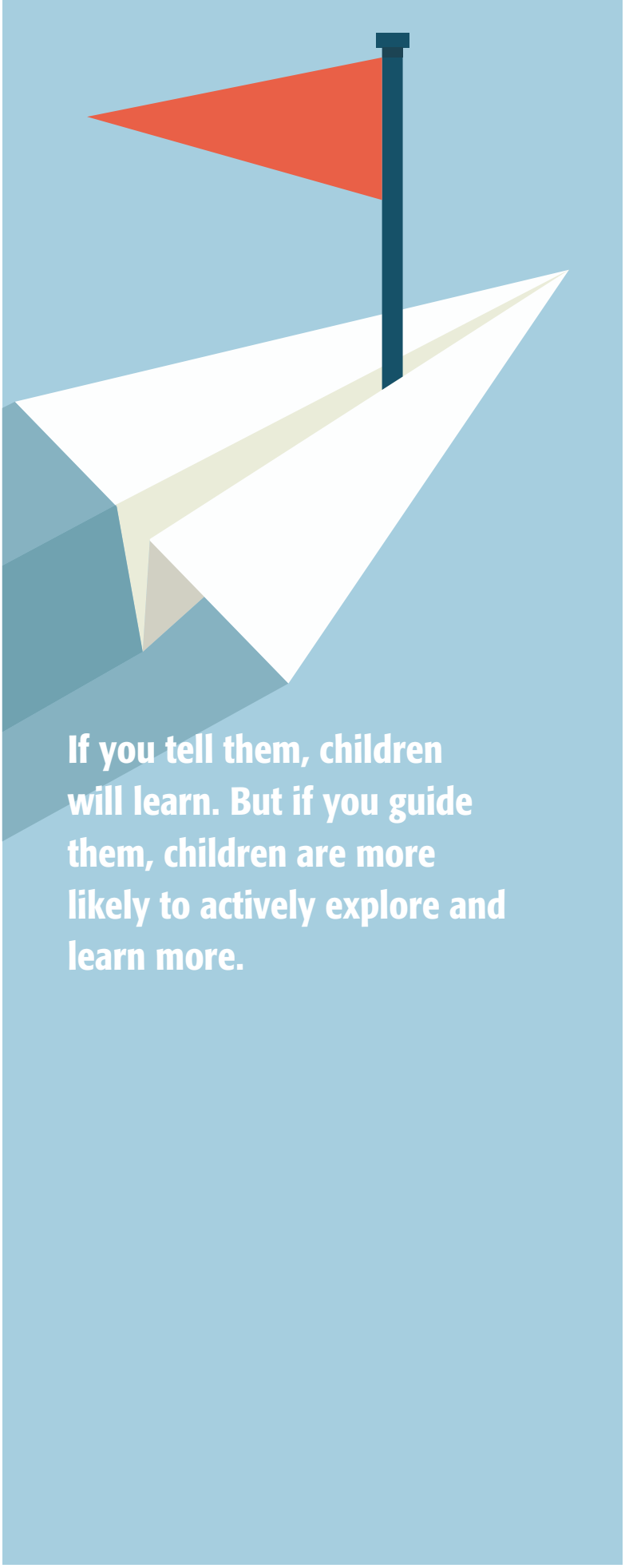
More interesting, guided play can lead to dramatically better learning outcomes than didactic situations. For example, one recent study found that children learn the properties of shapes, like triangles, regardless of whether they were taught directly or through guided play. However, children who learned through guided play were better at extending the concept of "triangle" to less typical instances of triangles, like those with large internal angles (Fisher et al., 2013). This suggests that in guided play, though not in direct instruction, children learned the distinguishing features of the shape (i.e., a triangle has three sides and three angles) and could transfer that knowledge.

Another clear illustration of this contrast between direct instruction and guided play comes from a study that showed preschoolers a new toy (Bonawitz, et al., 2011). For some children, the toy was described as part of a teaching demonstration, creating an adult-initiated, adult-directed situation. The adult said, "I'm going to show you how my toy works," and then

pulled out one of the tubes, which made a squeaking sound. The adult did not demonstrate three other hidden functions of the toy. When these children were given a chance to play with the toy, they pulled the squeaker but didn't tend to discover the other three functions. For other children, the situation was set up as guided play: adult-initiated but child-directed. The experimenter pulled the squeaker as if by accident and said, "Did you see that? Let me try to do that." In contrast to the first group, children in this group not only pulled the squeaker but also explored the toy further and discovered more of the other functions. These results illustrate that direct teaching can work; if you tell them, children will learn. But guided play works better; if you guide them, children are more likely to actively explore and learn more.

But what if a teacher wants to focus children's attention on a specific learning goal without suppressing their exploration? In the study with the toy, children in the guided play group didn't spend as much time pulling the squeaker as children who were directly taught. This suggests that their exploration may have come at a cost to learning about the function that the adult wanted the children to learn. A new study suggests this tradeoff may not always be necessary. When children are shown just one way to find toy animals in a miniature forest ("here's how you can find animals"), they focus on the demonstrated strategy and find fewer animals in different hiding places. But when the demonstration is followed by a hint — "here's how you can find animals…but there could be lots of other ways to find animals" — children not only use the demonstrated strategy but go beyond it, exploring and discovering more animals in different hiding places (Kittredge, Klahr, & Fisher, 2014, 2015).

These results suggest that if teachers implement this method, which combines elements of direct teaching with guided play, they would reap the benefits of both approaches. Specifically, this situation illustrates one of many ways to implement the adult-initiated, child-directed formula for guided play. Giving children a nudge in the right direction and letting them choose their actions from there can be a productive strategy for teaching.



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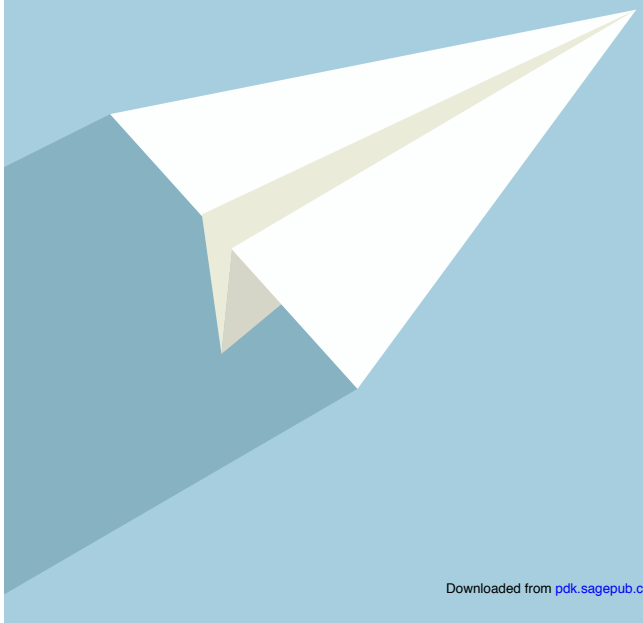
Effective learning accelerator

The work reviewed here demonstrates that guided play can be used for teaching preschool children. By melding elements of unstructured exploration with teacher-led instruction, teachers can harness the appeal of play in the service of learning, allowing for the transmission of new skills and information in a child-led and genuinely enjoyable context. Guided play, by respecting children's self-direction in an

adult-initiated environment, allows for a strong curricular foundation with developmentally appropriate pedagogy. As S.L. Kagan writes, "The literature is clear: Diverse strategies that combine play and more structured efforts are effective accelerators of children's readiness for school and long-term development" (Kagan & Lowenstein, 2004, p. 72).

It also is important to consider how guided play might be implemented for children at a variety of ages and for a variety of learning outcomes. More research is needed on these issues to determine how it might be feasible to incorporate the principles of guided play in educational settings outside preschools. This research should include closely matched control groups engaging in play-based interventions that are not guided or that involve different kinds of guidance, as well as no-play controls, to determine the full extent of guided play's utility. Pedagogical choices might also vary across content areas and across age groups. For instance, in certain kinds of learning contexts, such as those in which the environment provides few if any clues about the underlying structure of the material to be learned, some have argued that a more directive pedagogy might be needed (Klahr & Nigam, 2004). But, as noted earlier, engaging children in guided play and ensuring that they learn key concepts are not mutually exclusive, especially since the guided play framework can provide the right amount of such structure.

Play has value for the development of well-adjusted, creative individuals who will be prepared to solve challenging problems.



Conclusion

The results reviewed here should lead us to ask how the principles of guided play might be useful in educating people of all ages and in a variety of contexts. Exploration within a controlled environment and self-directed activities in partnership with a more knowledgeable peer could benefit not only children's learning throughout the school years, but also adult productivity. We can see the promise of this kind of suggestion if we use the idea of play as a metaphor for any kind of activity that engenders active, engaged participation (Chi, 2009). For example, elementary school and college students who engage in exploratory problem-solving before a lecture on that topic learn better than those who get the standard lecture-then-practice form of instruction (Schwartz, Sears, & Bransford, 2005). Adults might also benefit from situations that are set up playfully but with some particular constraints. Much of the recent interest in "gamification" — adding game-like features to educational and productivity software — falls into this category. However, not many studies have carefully examined whether learning through games provides long-term benefits. Additional research is needed to understand how instructional

games and learner activity leads to both short- and long-term learning and transfer.

Despite these current limits to our knowledge, the evidence reviewed here strongly suggests that guided play is a powerful tool for enhancing young children's learning and is a key component of successful early education curricula. We thus applaud New York City's endorsement of guided play as a teaching strategy. Using this developmentally appropriate pedagogy can support a strong curriculum. As Lillard et al. note, "hands-on, child-driven educational methods . . . are the most positive means yet known to help young children's development" (2013, p. 27).

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