Learning through 'guided' play can be as effective as adult-led instruction up to at least age eight

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Teaching younger children through 'guided' play can support key aspects of their learning and development at least as well, and sometimes better, than traditional, direct instruction, according to a new analysis.

The research, by academics at the University of Cambridge gathered and assessed data from numerous, widespread studies and information sources, which collectively documented guided play's impact on the learning of around 3,800 children aged three to eight. Guided play broadly refers to playful educational activities which, although gently steered by an adult, give children the freedom to explore a learning goal in their own way.

Overall, the study found that this playful approach to learning can be just as effective as more traditional, teacher-led methods in developing key skills: including literacy, numeracy, social skills and essential thinking skills known as executive functions. The findings also suggest that children may master some skills—notably in maths—more effectively through guided play than other methods.

The relative merits of play-based learning compared with more formal styles of instruction is a long-standing debate in education, but most of that discussion has focused on 'free' open-ended play.

The new study is the first systematic attempt to examine the effects of guided play specifically, which is distinctive because it uses games or playful techniques to steer children towards specific learning goals, with support from a teacher or another adult using open-ended questions and prompts.

This may, for example, involve creating imagination-based games which require children to read, write or use maths; or incorporating simple early learning skills—such as counting—into play. Such methods are common in pre-school education, but are used less in primary teaching—a deficit which has been criticized by some researchers.

The analysis was carried out by academics from the Play in Education, Development and Learning (PEDAL) Center at the Faculty of Education, University of Cambridge.

Dr. Elizabeth Byrne, a co-author, said: "It's only recently that researchers have started to conceptualize learning through play as something that exists on a spectrum. At one end you have free play, where children decide what to do with minimal adult involvement; at the other is traditional, direct instruction, where an adult tells a child what to do and controls the learning activity."

"Guided play falls somewhere in between. It describes playful activities which are scaffolded..."
around a learning goal, but allow children to try things out for themselves. If children are given the freedom to explore, but with some gentle guidance, it can be very good for their education—perhaps in some cases better than direct instruction."

Paul Ramchandani, Professor of Play in Education, Development and Learning at the University of Cambridge, said: "The argument is sometimes made that play, while beneficial, adds little to children's education. In fact, although there are still some big questions about how we should use guided play in classrooms, there is promising evidence that it actively enhances learning and development."

Guided play has rarely been systematically studied in its own right, but the team found 39 studies, undertaken between 1977 and 2020, which had captured some information about its value compared either with free play or direct instruction, usually in the course of wider research.

By combining the results of studies which looked at similar types of learning outcome, the researchers were able to calculate how much of an overall positive or negative effect guided play has on different aspects of numeracy, literacy, executive functions or socioemotional skills, compared with other approaches. These effect sizes were measured using Hedge's $g$; a widely-used statistical system in which a result of 0 represents no comparative gain, and 0.2, 0.5 and 0.8 represent small, medium and large effects respectively.

The results offer significant evidence that guided play has a greater positive impact on some areas of children's numeracy than direct instruction. For example, guided play's comparative effect size on early maths skills was 0.24, and 0.63 on shape knowledge. There was also evidence that guided play better supports the development of children's cognitive ability to switch between tasks.

Alongside other positive findings, there was also no statistically significant evidence that guided play is less effective than direct instruction on any of the learning outcomes studied. In short, guided playful activities tend at the very least to produce roughly the same learning benefits as more traditional, teacher-led approaches.

The researchers offer various possible explanations about why guided play may improve numeracy in particular. One possibility is that the gentle prompting that guided play entails may be a particularly effective way of teaching children to work through the logical steps that maths-based tasks often involve.

Equally, the fact that guided play often involves hands-on learning may be important. "Children often struggle with mathematical concepts because they are abstract," Byrne said. "They become easier to understand if you are actually using them in an imaginary game or playful context. One reason play matters may be because it supports mental visualization."

More broadly, the authors suggest that guided play may influence other characteristics which have a positive, knock-on effect on educational progress—enhancing, for example, children's motivation, persistence, creativity and confidence.

Dr. Christine O'Farrelly, a Senior Research Associate at the Faculty of Education, said: "It's likely that playful activities have the sort of positive impact we saw in our analysis partly because they are acting on other skills and processes which underpin learning. If we can understand more about how guided play shapes learning in this way, we will be able to identify more precisely how it could be used to make a really meaningful difference in schools."

The study is published in the journal *Child Development*.


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