

# Children evaluate educational games

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One of the preschools who visited the Creative Game Workshop at the Science Festival was Björkdungen's parent cooperative from Björkö. The children were especially fond of the "big iPad", that is, Microsoft's Surface.

Is it possible to create suitable and amusing educational computer games? Can you use qualities from other types of games? And what do the children really think of these kinds of games? Wolmet Barendregt from The University of Gothenburg, conducts research on children's game playing, how we can support learning with design and include the children in the design process.

And Wolmet Barendregt certainly involves the [children](#) very much in her research. During the Science Festival's school program in April this year, over a hundred [preschool children](#) attended a creative game workshop to evaluate the game Fingu. Fingu is a mathematical game for [iPad](#) where players use their fingers to get a feel for the numbers and thus a better understanding of them.

"Working with children is both fun and challenging because you never know what will happen," says Wolmet. "It is difficult to find suitable

methods to use for children when evaluating. Children cannot verbalize, but they can draw. At the Science Festival, we tested a method of evaluation, [Drawing](#) Intervention, which some researchers advocate for children because they do not have to verbalize. Wolmet Barendregt however recognizes that it is problematic to know how much you influence yourself in what you say during the instructions and how much the different groups affect each other when they are in the same room. The children's past [experiences](#), what other games they have played, certainly affects the outcome as well."

"There were two main things that we learned about Fingu while testing this method. Curiosity and imagination could be improved," she explains.

Are educational games fun?

"Well, the kids think that some are funny," Wolmet answers. "Many games are about solving tasks, and then the developers have added stuff around it so that it resembles a game. Sometimes the kids see through that."

Wolmet says that in Fingu focus is more on how children learn basic arithmetic using their [fingers](#). She admits that there are some things to develop in order to create a really fun game and that the risk of so-called educational games in general is that they are either too educational and boring, or fun-filled but without any learning opportunities.

"It's a fairly limited game and therefore may not encourage a lot of playing, but many children still play it several times. I have noticed that the interest in the game sometimes returns when the children realize that they have become better at certain things and therefore can reach higher levels," Wolmet says.

At a recent conference, "Interaction Design and Children", a conference focusing on children's needs and how to design for them, Wolmet Barendregt presented another study of Fingu and children playing the game where the analysis was of their [development](#) in the game. At the same conference Wolmet also presented a research project that studies how parents and children are playing so-called cooperative video games together where collaboration is necessary to get ahead in the game.

– We have seen that game design affects the interaction between children and parents, especially when there is a difference in skills, something which is not uncommon. In some games, the player who is the best can help the other player who is not as good. In other cases, the player who is not so good restrains the more skilled player, and there are also games where both can explore things even if they are not equally skilled, says Wolmet. We seek a deeper understanding of how different game design affects how you play together and what mechanisms can and cannot be used for [educational games](#).

Provided by University of Gothenburg

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