Integrating Computer Technology in Early Childhood Education

What is this research about?
Preschool children today, are increasingly exposed to computer technology; however, there is much debate about the value and impact of this exposure on the skill development of young learners (Plowman & Stephen, 2003).

This research study examined the perceptions of early childhood educators regarding integrating computer technology into pre-school classrooms. Specifically, this research focused on educators’ perceived advantages and disadvantages of such computer use and the barriers and supports that exist for pre-school educators in teaching computer technology curricula.

What did the researchers do?
The researchers hosted a focus group with 50 early childhood educators from 10 early childhood centres in Ontario. These centres represented a mix of small, large, private and public settings. At the time of the study, all educators were working with children from ages 2 to 5. The early childhood education experience of these educators ranged from 1 to 29 years. The purpose of the focus group was to gather data on the extent to which computers were being used in pre-school centres and explore the participants’ thoughts on the use of computer technology in pre-schools.

What you need to know:
This study examined the perceptions of 50 early childhood educators to the integration of computer technology in their pre-school. The researchers found that these educators generally supported the integration of computer technology in pre-school and believed that technology supported improved learning outcomes for students. However, teachers did report some concerns, including their own lack of training on how to use computers effectively to teach young children.
At the beginning of the focus group, each participant completed a two-page survey. This survey included a closed-question section that asked educators questions about the theory of learning and methods of teaching used at the learning centre where they worked, whether the centre supported the integration of computers in early childhood education, and what the personal views of the educators were. For examples, the survey asked educators questions, such as:

- Does the introduction of computer technology “fit” in the theoretical frameworks, approaches and orientations of your centre?
- Do you support the introduction of computer technology in early childhood education?

In this section, educators were able to answer questions by choosing from a list of pre-set responses.

The survey also included a section of open-ended questions in which participants were asked to elaborate on their responses to the close-ended questions and add additional comments.

**What did the researchers find?**

Results from the survey indicate that:

- 80% of early childhood educators in the study were supportive of the integration of computer technology but felt that attention needed to be paid to: the age of the child (educators felt that computer technology was better suited to children ages 4 and up); the amount of time a child spent using the technology; and the kinds of programs the child was using.

- 89% of educators indicated that their centre supported computer use amongst young learners. However, funding to support the integration of computers was cited as a constraint. Determining how to best use computers in their classrooms was also a concern for some participants.

- 66% agreed that integrating computers was a good fit with the theoretical and practical approaches of their centre because computer technology helped students develop skills such as problem solving, letter and color matching, social and independent learning skills. Also
educators believed it allowed students to access current educational resources and explore topics of interest;

- 4% of educators believed that integrated computer technology did not fit well with the theoretical and practical approaches of their centre. When asked why they did not support the use of computers in their pre-school, teachers reported that computers inhibited social interaction between children; that there were too few computers available for students; or that the lack of educator’s own computer skills prevented computers from playing a positive role in early childhood learning;

- another concern identified by many educators was the draw of computers — educators commented that it was sometimes difficult to engage students in activities that were not based on the computer;

- educators’ also reported their desire for better training on how to use computer technology more effectively to teach young children.

How can you use this research?
Teachers and administrators may wish to consider:

- the larger body of research that explores the integration of computers in early childhood education;

- opportunities to advance their knowledge and skills in using computer technology and advocating for increased professional development opportunities in this area;

- setting aside staff time to explore and become familiar with a range of computer technologies across subject areas.

Original Article:
To learn more about this research study, we invite you to read the original article:

[removed for peer review]

Other references:
About the researchers:
[removed for peer review]

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About this summary
The Ontario Education Research Exchange (OERE) is a project of the Knowledge Network for Applied Education Research, an Ontario network promoting the use of research in education. The OERE’s clear language summaries of academic research aim to support this mandate.

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