

# Early Childhood Educators' Attitudes towards use of Digital Technology in young children's learning in Australia

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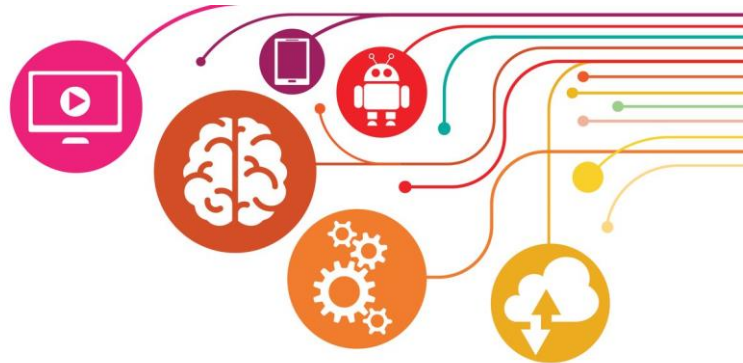


# Presentation

- Educational media and early childhood educators
- Digital play
- Touch Screen Technology, Gestural Interface and iPads
- Research Methods
- Results
- Discussion and Conclusion
- Questions

# Digital Technology and Early Childhood Educators

- Early Years Learning Framework
- Play-based learning
- Digital technology and Digital Play
- Early childhood educators



Early Childhood Australia  
**Statement on young children  
and digital technologies**

The just released ECA statement digital technology and the field of early childhood.

# Research Methods

Twenty early childhood educators in three child care centres in Australia participated in a questionnaire. Out of the twenty early childhood educators, 3 (15%) were male, and 17 (85%) were female. Seventeen participants provided their ages, ranging from 18 to 59 years old.

# Findings

The educators and directors agreed that (a) digital technology was an urgent priority; (b) digital technology should be integrated in child care centres; (c) educators' abilities to teach should be enhanced; and (d) digital technology should be used in the future. It was also noted that educators believed that there is not enough funding to incorporate digital technology into child care centres.

|   | Mean | SD   |
|---|------|------|
| educators and directors' view towards digital technology is an urgent priority                          | 3.35 | 1.18 |
| educators and directors' view towards digital technology's integration in child care centre             | 3.65 | 1.14 |
| educators and directors' view towards digital technology's enhancement of educators' abilities to teach | 3.85 | 0.75 |
| educators and directors' view towards funding to incorporate digital technology into child care centres | 2.65 | 1.04 |
| educators and directors' view towards future use of digital technology                                  | 3.65 | 0.75 |

*Note: The means were presented using a 5 point scale anchored (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree).*

# Findings

It was found that educators agreed that “familiarising children with the world of new technologies”, “the curricular and educational benefits” were the main reasons for integrating digital technology into child care centres, and they also agreed that “the recreational value to the child” and “parents expectations” were not the reason for the integration.

|   | Yes | No |
|---|-----|----|
| • familiarising children with the world of new technologies | 85  | 15 |
| • the curricular and educational benefits                   | 85  | 15 |
| • the recreational value to the child                       | 30  | 70 |
| • parental expectations                                     | 10  | 90 |

# Findings

Most educators thought that use of digital technology could be used to teach literacy, numeracy, science, and art, and physical education in early childhood education.

|                        | Mean | SD   | N  |
|------------------------|------|------|----|
| • numeracy/mathematics | 4.30 | .73  | 20 |
| • literacy/language    | 4.30 | .73  | 20 |
| • science              | 4.20 | .77  | 20 |
| • art                  | 4.10 | .91  | 20 |
| • physical education   | 3.40 | 1.14 | 20 |

*Note: (a) The means were presented in order, from highest to lowest, using a 5 point scale anchored (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). (b) A repeated measures ANOVA on the above means revealed a significant effect,  $F(4, 76) = 13.45, p < .01$ .*

# Findings

The percentages of educators' opinions attitudes towards the use of digital technology for teaching literacy, numeracy, science, art and physical education.

|                        | 1 | 2  | 3  | 4  | 5  |
|------------------------|---|----|----|----|----|
| • numeracy/mathematics | 0 | 5  | 0  | 55 | 40 |
| • literacy/language    | 0 | 5  | 0  | 55 | 40 |
| • science              | 0 | 5  | 5  | 55 | 35 |
| • art                  | 0 | 10 | 5  | 50 | 35 |
| • physical education   | 0 | 30 | 20 | 30 | 20 |

Note: (a) All above figures represents percentages within each item.

(b) 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree



# Findings

Most educators thought that use of digital technology could be used for children's cognitive development, fine motor skill development and language development, social development, and gross motor skills development.

|                                  | Mean | SD   | N  |
|----------------------------------|------|------|----|
| • cognitive development          | 4.40 | 0.75 | 20 |
| • language development           | 4.10 | 1.02 | 20 |
| • fine motor skills development  | 3.95 | 1.15 | 20 |
| • social development             | 3.65 | 1.14 | 20 |
| • gross motor skills development | 3.25 | 1.25 | 20 |

*Note: (a) The means were presented in order, from highest to lowest using a 5 point scale anchored (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). (b) A repeated measures ANOVA on the above means revealed a significant effect,  $F(4, 76) = 9.14, p < .01$ .*

# Findings

The percentages of educators' attitudes towards the use of digital technology for children's development in the domains of cognitive development, gross motor skills development, fine motor skills development, language development, and social development.

|                                  | 1 | 2  | 3  | 4  | 5  |
|----------------------------------|---|----|----|----|----|
| • cognitive development          | 0 | 5  | 0  | 45 | 50 |
| • language development           | 5 | 30 | 20 | 25 | 20 |
| • fine motor skills development  | 5 | 10 | 5  | 45 | 35 |
| • social development             | 5 | 5  | 0  | 55 | 35 |
| • gross motor skills development | 5 | 15 | 10 | 50 | 20 |

*Note: (a) All above figures represents percentages within each item.*

*(b) 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree*

# Discussion and Conclusion

- Educators agree that digital technology was an urgent priority, digital technology should be integrated in child care centre, educators' abilities to teach should be enhanced and digital technology should be used in the future (Hedberg & McNamara, 2002).
- Educators agreed it was important for educators to be trained in the use of digital technology. The present study is consistent with Orey et al (2009)'s conclusions that educators need practice to facilitate learning and improving their performance of using digital technology.

# Discussion and Conclusion -2

- Most educators agreed the use of digital technology could be used to teach literacy, numeracy, science, art and physical education.
- Most educators thought the use of digital technology could be used for children's development, in all domains.
- This **belief** is consistent with the statement from 1975 by the Australian Society for Educational Technology that...

*“digital technology can help with children to achieve effective outcomes and improve the process of human learning”*

# Thank you and questions?