

Computers in child care

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Computers in children's daily lives

Computer use continues to grow in today's society. In keeping with this, research indicates that the number of families and children who have access to and use computers in the home is growing. Children are increasingly showing an interest in using and gaining access to computer technology at an earlier age than ever before.

Supporting children's natural curiosity for digital technologies in child care settings, to complement home experiences, can have significant benefits for all stakeholders. Importantly, allowing children regular access to technology will help to develop their computer literacy, which is a beneficial skill to acquire.

Each child's experiences of computer culture are different. Therefore, careful consideration has to be given to ways to incorporate computer use into child care programs. These experiences are dependent on a variety of factors, including family views and their knowledge of computer technology, how computer technology is used and monitored in home environments and families' socioeconomic status and social experiences.

The individual experiences that children and families have regarding computer technology have implications for child care professionals. These implications should inform the learning environments that are provided for children. Computers can be extraordinarily powerful tools because they have the capacity to encourage

This article relates to:

FDCQA Principles: 3.1, 3.2, 4.2, 4.3, 5.1, 5.3 and 5.4

OSHCQA Principles: 2.2, 3.1 and 3.4-3.7

QIAS Principles: 2.1, 3.3, 4.1 and 4.3-4.6

young children to learn in new and dynamic ways (Clements, Nastasi and Swaminathan, 1993; Yelland, 1999 in O'Rourke and Harrison, 2004).

Consulting with families to find out about their views, their exposure to computer technology and their children's use of computers in the home is important. This information will assist child care professionals to incorporate computer technology into programs and learning experiences in ways that best meet the needs of all stakeholders, including children, families and the service.

Responding to children's interests

Children are active and comfortable participants in virtual worlds. It is important that child care professionals also familiarise themselves with media and computer technology. The challenge for child care professionals is to use digital media to support and build on children's learning and to inspire the ongoing and enthusiastic acquisition of knowledge.

Making computer use a regular part of children's learning environments will support the development of skills that will help individuals become competent users of digital technology. This will benefit children both in the present and in their future life course.

Using computers with children can provide additional ways to explore and record current interests and discuss elements of popular culture that are important and meaningful to children. Using digital technology to build on project work, and/or document children's learning can also provide an additional avenue for child care professionals to share children's work with families and to help families to gain knowledge about children's cultures and child care learning environments.



Computer technology: the benefits for children

Computer use in child care services has many potential benefits for children. Some of these include:

- building on their interests by researching issues via the internet;
- encouraging them to solve problems and to use logical reasoning;
- leading them to make decisions and choices, and to multitask;
- encouraging them to practice taking turns and negotiating with peers; and
- assisting them to use computer software competently.

Computer and internet use can also encourage communication between children and adults. Ways to encourage this could include asking children about the computer programs they are using at home so that these can be considered for inclusion in service programs and by discussing topics children would like to research on the internet and ways to do this.

To enhance children's communication and social skills, older children can be encouraged to assist younger peers to use and access computer software and to find information on the internet. Children's imaginative exploration can also be encouraged by adults assisting children to use software. Computer software for children is often designed to involve many senses to stimulate their learning and interests, such as sound, music and voice.

When used effectively, digital technology is a learning tool that can link children and child care professionals to information in multiple ways. It can also provide insights into people and places, local and diverse communities, and others' perceptions about the world and their diverse experiences. It can also provide avenues for children and adults to work together and learn collaboratively.

Potential risks of computers

Ongoing concerns have been documented regarding children's use of computers and digital technology. Some of these include: ergonomic issues; the reduction of physical activity undertaken by children who spend extended periods of time using computers; and the content of computer game software and website destinations.

To support the use of computer technology, consider the following reflective questions:

- What are the current skill levels of child care professionals and children and how may these be extended to support computer literacy?
- How knowledgeable are child care professionals about current computer technologies? What could be done to provide professional development opportunities to support child care professionals to extend upon their own and children's computer literacy?
- How can computer technology be used to enhance current learning outcomes for children, while supporting the culture of the service and children's individual cultures?
- What are individual child care professional's personal views and understanding about what growing up immersed in virtual worlds means for children?
- How can families be consulted with, and kept informed about the use of computers in the service?
- What strategies can the service use to ensure that the use of computers complement and enhance children's learning and development in all areas?

It is important that child care professionals supervise children's access to computer software and the internet, and that they monitor the amount of time individuals spend using computers in child care.

Ideally, computer use should support other forms of learning and be balanced with other program projects and experiences.

It is important to discuss these issues with families and, where appropriate, children to develop and support a collaborative approach to using computer technology in services.

Strategies for supporting the appropriate use of computers in child care services:

- Access information from recognised authorities to choose relevant software and website destinations. Sharing this information with families is also beneficial.

- Educate child care professionals about appropriate software to use and how to use it to enhance children's learning, based on their interests. Appropriate software should encourage creativity and the exchange of ideas, for example, drawing and story writing programs. Less appropriate software can encourage competitive behaviour and is less beneficial to children's learning.
- Develop policy guidelines in consultation with stakeholders about how computers will be used in programs to support children's interests and to extend their learning.
- Find out to how to set up computer work stations in ergonomically appropriate ways. Ergonomic issues to consider include: positioning computers so that screens are on a slight angle; seating children comfortably with back and feet support; and ensuring that the lighting in work areas reduces the risk of eye strain occurring.

Strategies for incorporating computer technology in children's programs:

- Ask children about interests they would like to research on the internet or explore using computer software.
- Ask children about how they use computers at home. Use this information to develop strategies for supporting their knowledge and building on their skill levels and interests.
- Use software that is developmentally appropriate and open ended. This gives children opportunities to explore concepts, discover information, and make choices about their learning experiences. Share this information with families to support children's computer use at home.
- Make computer technology part of the everyday learning culture of the service ■

References and further reading

- Arthur, L. Beecher B., and Downes, T. (2002). The Internet and young children. *Rattler*. (62), 27-29.
- Arthur, L., Beecher B., Downes, T. & Grossi, J. (2001). *The Internet and young children (0-5)*. *Every Child*. 7(4), 6-7.
- Australian Government. (n.d.). *NetAlert: advice about protecting children online*. Retrieved 12 June 2008, from <http://www.netalert.gov.au/>
- Children and Youth Health. (n.d.). *Children and the Internet*. Retrieved 5 June 2008, from <http://www.cyh.sa.gov.au/HealthTopics/HealthTopicDetails.aspx?p=114&np=301&id=>
- Clayton, B. (2003). Parental perceptions of computer-based gaming technology: an evaluation of children's leisure pursuits in the computer age. *Australian Journal of Early Childhood*. 28(3), 37-43.
- Early Connections. (n.d.). *Selecting Software for Young Children*. Retrieved 5 June 2008, from <http://www.netc.org/earlyconnections/kindergarten/software.html>
- Edwards, S. (2005). The reasoning behind the scene: why do early childhood educators use computers in their classrooms? *Australian Journal of Early Childhood*. 30(4), 25-33.
- Gibbons, A. N. (2006). The politics of technology in early childhood in Aotearoa/New Zealand: fitting early childhood educators in the ICT grid. *Australian Journal of Early Childhood*. 31(4), 7-14.
- Australian Early Childhood Association. (2001). Good computer ergonomics for children. *Every Child*. 7(4), 14.
- Long-Breipohl, R. (2000). Computers for children – a jump start for the future? *Rattler* (56), 21-24.
- Australian Early Childhood Association. (2001). New learning landscapes: expanding horizons with computers. *Every Child*. 7(4), 10 -11.
- O'Rourke M. (2004). The introduction of new technologies: new possibilities for early childhood pedagogy. *Australian Journal of Early Childhood*. 29(2), 11-18.
- Raising Children Network. (n.d.). *Computers: preschoolers (by pbsparents.org)*. Retrieved 5 June 2008, from http://raisingchildren.net.au/articles/computers_preschoolers.html/context/480
- Wellisch, M. (2000). Games children play: the effects of media violence on young children. *AECA Research in Practice Series*. 7(2). ACT: Australian Early Childhood Association.
- Young Media Australia. (n.d.). *Factsheet: The internet – benefits, dangers and strategies*. Retrieved 6 June 2008, from www.youngmedia.org.au
- Young Media Australia. *What is the internet?* Factsheet retrieved 6 June 2008 from www.youngmedia.org.au
- Zevenbergen, R. (2008). Computer use by preschool children: Rethinking practice as digital natives come to preschool. *Australian Journal of Early Childhood*. 33(1), 37-44.