

A Puzzling Learning Tool

Understanding Technology as a Learning Tool

by Selena Fox

Learning tools abound in early childhood classrooms around the world. We don't have to look too far these days to

see the impact that rapidly advancing technology has on all of our lives.

Computers in particular, offer new and exciting learning possibilities for children and teachers. However, any old computer won't do. The technology used must be age-appropriate and work well.

All learning tools — computer based or otherwise, are dependent on the essential pieces that sync together to complete them. No puzzle is complete with a missing or

inappropriate piece. Let's take a look at the essential puzzle pieces that join to offer optimal learning opportunities for children interacting with computers.

The computer puzzle

Is there a place for advancing technology in children's daily experiences?

Computers and the Internet are now an established part of a child's world for communicating, seeking information, learning, and entertainment. At home, in the community, and in early childhood centres, computers and advanced tools of technology in all forms, sit comfortably next to age-old learning tools. They may make education a fun filled experience; but it is vital to remember they are just another essential tool similar to building blocks, number puzzles, storybooks, arts and crafts, or any other learning resource. They do not replace traditional play-oriented experiences.

Today the question is not "*Will I embrace computers and technology into my teaching program for children?*" but it is more often "*How will I?*"

Children learn, practice skills, and develop experience and understanding through active exploration. By being flexible to change and open to challenges, children develop a positive image of themselves as capable and confident learners. Computers — more so than tra-

ditional books, blocks, and puzzles — guarantee change. Here the challenge begins as teachers can be guaranteed that children will want to explore, design, interact, and master this tool of challenge and change.

A fearless puzzle piece — children

The easiest puzzle piece to bring to computer learning is children.

Children migrate towards computers; they have an openness and a real zest for interacting with them. As with many learning tools new and often unmastered, children lead the way for adults, often leaving them in their wake when trial and error is the best method of learning, and exploration and time are essential.

Children's openness for challenging new opportunities has, in many instances, lead them to become more comfortable within the computer environment than adults. Children tend to carry fewer inhibitions, they love to explore, and do not fear making mistakes. Their interests often push learning boundaries beyond teachers' programs.

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Their interest in technology alerts us to the need for teacher involvement to ensure that interactions and learning are positive and appropriate.

A key puzzle piece — teachers

The words of Professor Yamamura, at the 2000 World Forum on Early Childhood Education in Singapore still pose us with a relevant challenge in 2003, "Early childhood leaders need to recognise rapid change and advances. They can opt out, be forced out, or if they wish, they can jump on and be challenged." Teachers who work with children and computers the world over see a fresh, unabashed eagerness to explore a new environment without apprehension, embracing the new, the uncertain, and the unknown. In contrast, many early childhood personnel declare hesitancy at best. So how then can teachers support the positive inclusion of computers and new technology that will undoubtedly grace our early childhood centres in the future?

Accepting that we are learners at any age enables us to embrace exciting developments of the future. To achieve positive results, teachers should know the children and the software program. As they become more confident in using the technology, they can then use it to extend the child's language development, encourage problem solving, and share the learning experience. The child will then feel in control and actively involved in his own learning.

Shared learning between the teacher and child and discovering together is real and valuable in every sense.

Children surprise, amaze us, and behave unexpectedly when interacting with the computer. As with all learning tools, it is essential to choose appropriate software and to establish clear goals on how computers will be used to support the curriculum.

A puzzle of many pieces — software

The software piece of the learning puzzle determines the types of experiences that children are able to participate in.

When choosing this vital piece of the puzzle consider:

- **Learning features** — How does the software program support children's learning? Is it culturally appropriate?
- **Interactions** — Does the program encourage child participation and problem solving? Does it invite children to interact with or be a passive recipient of information?
- **Design** — Does the program change and develop to adjust to children's growing knowledge or does it remain static?
- **Challenge** — Does the program offer challenges and extension experiences? Does it support various levels of ability and children's understanding?
- **Child as learner** — Does the program allow the child to set the pace? Does it support the child in initiating her own learning or does she need to rely on teachers to manage it for her?
- **Play** — As play is a vital median for children's learning, is the program inviting, inspiring, and interesting?

Learning is a highly social experience for both children and adults. Programs that encourage problem solving, active participation, and interaction with others, promote exploration, risk taking, and shared learning.

Positive puzzle pieces — attitudes

Teachers' attitudes determine a child's learning. Those who share a joy of learning themselves will impart a positive attitude towards new and challenging opportunities.

Negative attitudes towards children interacting with computers are addressed when all pieces of the computer puzzle are in place. Common concerns include:

- **Children who spend long sessions in front of a computer and miss out on exercise can become overweight:** *If used appropriately children will be introduced to computers for a particular length of time — 30 to 40 minutes.*
- **Children do not interact with others when they sit in front of a computer:** *When children work in pairs, small groups, or with teachers, active communication and learning thrives.*
- **Children will be introduced to inappropriate material when using the Internet:** *Software exists to prohibit access to inappropriate Internet sites. Using appropriate CD programs is an alternative to the Internet.*

Sharing puzzles — time together

Simply adding a computer or any piece of technology to an early childhood classroom will not automatically result in children learning. Computers do not miraculously bring about learning in a meaningful way. Teachers must be an integral part of the educational process.

Computers offer the opportunity for teachers and children to learn together, play together, and grow together. Social interactions, communication, and language abound when the computer *sharing* puzzle piece is soundly in place. Good programs encourage communication including taking turns, problem solving, negotiating, asking

questions, explaining to others, listening to others, participating in reflective discussion, planning, and observing. Children also develop their spoken communication, social/emotional development, and cooperation by working in pairs.

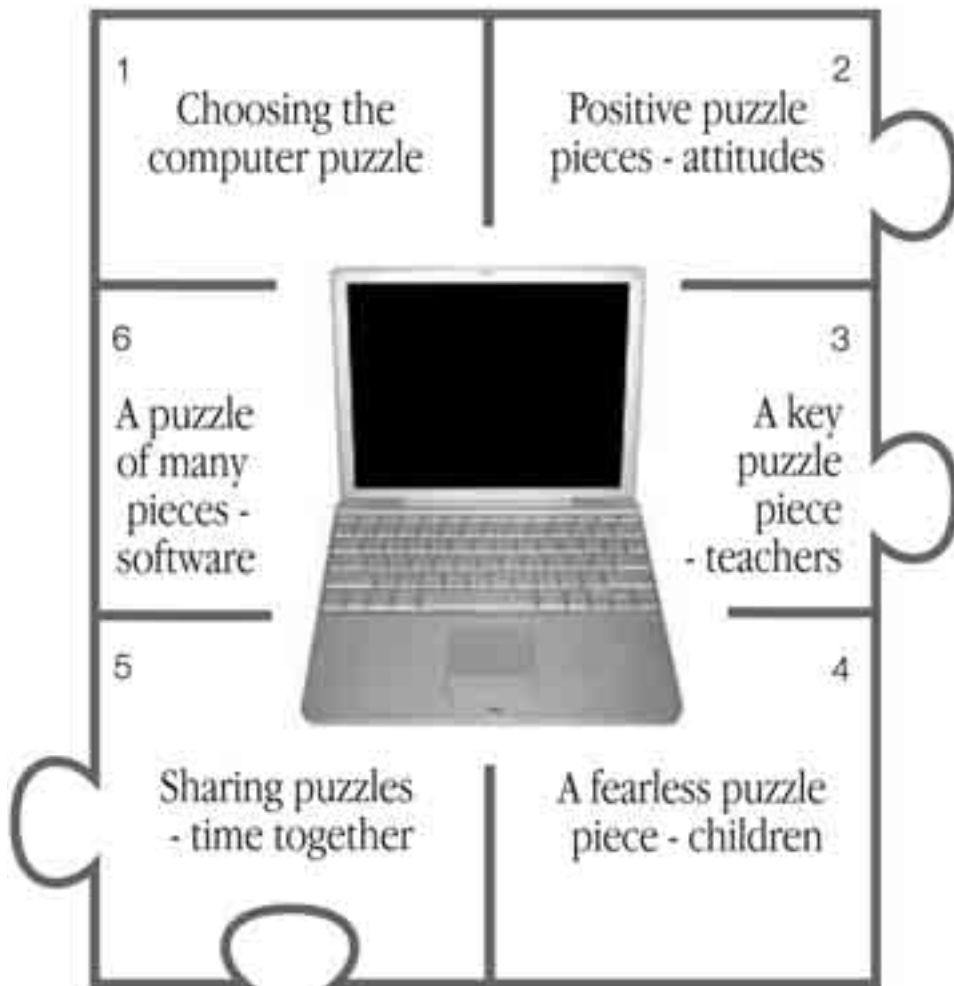
Build the puzzle pieces together . . .

Today's children are constantly exposed to advanced technology. Many believe that to not support children's awareness of computers is to ignore a tool that impacts positively on our lives.

- Be open
- Be willing
- Be positive

Experience the excitement on the faces of young children when they leap in, undaunted to a new environment of learning. Teachers' critical and divergent thinking in the use of technology in all of its changeable forms will bring to the classroom new challenges, new teachable moments, and an excitement for learning that children will carry with them as they grow.

A learning tool is only as good as the teacher who knows how to use it with children. Computers, like all learning tools, have the potential to be positive and also negative in the lives of chil-



dren. If computers are an option for the children in the early childhood classrooms, optimal experiences will abound when the key puzzle pieces are in place. As "when used appropriately, with good software and teacher guidance, computers can be more active than television, less static than picture books, and as open-ended as crayons" (Yelland, 1995, p. 25). No

puzzle, with a piece missing is a valuable learning tool — computers are no different.

References

Yelland, N. (1995). "Young children's attitudes to computers and computing." *Australian Journal of Early Childhood*, 20(2), June 1995 p. 20-25.

Buyer's Guide to Educational Software

This directory is a partial listing of companies providing educational software products and services. Inclusion does not imply endorsement by *Child Care Information Exchange*. To request free information from these companies, visit www.ChildCareExchange.com or circle the number for each company of interest on the Product Inquiry Card located between pages 56 and 57.

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Colorful World

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