

Science and technology for young children

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Understanding Science and Technology Learning: Young Children

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The importance of instilling science learning orientation in the early stages of children's cognitive development cannot be overstated. Another key consideration is that the current generation of children is growing up in a technological world which makes it likely that their future lifestyles and employment will be based on technology (Charlesworth and Lind, 2010; Taylor, et al., 2011). Science and technology is taking centre-stage in contemporary society as evidenced by strides and advances made in both fields, which thus places emphasis on getting it right for children at an early age. The importance of technology in supporting learning is exemplified by its role in promoting development of higher order skills such as critical thinking, analysis and inquiry which are of significant value to science learning (Roschelle, 2001). This study will analyse two sets of observations of relevance to young children's science and technology learning and discuss them based on literature. The first case analysed is an observation of a group of children being introduced to and playing a computer-based game known as Trap the Cat. A brief overview of the game indicates that the player tries to encircle a cat on an area of circles without letting it get out while the cat (computer-controlled) seeks to get out. The goal of the player is to entirely surround the cat by clicking on the circle while the cat's goal is to move to the edges. While the children were playing this game, a number of observations of relevance to science and technology education were discerned. First, the children were very inquisitive; their interest and attention in the game was high, listening to the introduction and observing a demonstration of how to play the game. Another element of importance is <https://assignbuster.com/science-and-technology-for-young-children/>

self-learning, where the children were observed to learn and perform new skills and tactics not covered in the introduction as they played the game repeatedly. A discussion of this case establishes several important aspects of children's learning that can be built on in science education. First, the highly inquisitive nature of children to occurrences around them is of high value to science. According to Aune (2008), one of the basics of science is the inquiry that sparks a scientist's interest in observation and thus the generation of knowledge from the world. This can be built upon among children to promote science education. Another aspect is the constructivism observed among children; constructivism is an important tool in science education (Matthews, 2001). This is further complemented by the weight given to current online education systems in promotion of constructivism (Carwile, 2007). Finally, the fact that the children can be agile at computer use supports the importance being placed on use of technology to promote important science skills such as active engagement, group participation and frequent interaction (Roschelle et al, 2001; Reinburg et al, 2002). The second case of observation was a group of children playing with objects and water. They were engaged in predicting and actually investigating which objects would float or sink in water. Whereas before the actual trial the children were split on whether an object would float or sink, even arguing about it; they were satisfied with the result and the argument decided. Important aspects of science can be discerned here although at a lower level- hypothesizing (arguing which objects would or would not sink), experimenting (trials) and conclusion-making alongside gaining of knowledge (Lee and Lings, 2008). Jackman (2010) states that promoting science education should respond to the needs of children to learn the world around them by doing, while <https://assignbuster.com/science-and-technology-for-young-children/>

Moursund (2011) argues that science and technology education can be promoted by creating an environment that emphasizes them. Conclusion The two case studies analysed here-in provide sufficient evidence of possession of a number of concepts and skills relevant to science and technology education that can be built upon by early childhood education system. Some of these include inquisitiveness and observation, active learning and experimentation, group work and interaction and constructivism in learning. The impact of technology in science learning is also noted to encourage children to take part in learning. It is thus prudent that early child science education brings forth an environment that promotes science learning at home and in school while at the same time encouraging the use of technology in science education as it promotes science learning. This study's findings are useful in development of a formidable and effective science and technology lesson plan as they are based on evidence and informed by literature.

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