Computers & Education 59 (2012) 30–37

Contents lists available at SciVerse ScienceDirect

Computers & Education

journal homepage: www.elsevier.com/locate/compedu

Preschool children's learning with technology at home

Lydia Plowman [a,*], Olivia Stevenson [b], Christine Stephen [a], Joanna McPake [c]

[a] School of Education, University of Stirling, Stirling FK9 4LA, United Kingdom
[b] University of Glasgow, United Kingdom
[c] University of Strathclyde, United Kingdom

ARTICLE INFO

Article history:
Received 10 May 2011
Received in revised form
14 November 2011
Accepted 15 November 2011

Keywords:
Preschool
Family
Home
Toys
Technology
Learning

ABSTRACT

We produced case studies of fourteen families based on nine rounds of data collection during the period from June 2008 to October 2009. We focused on fourteen children who were three years old when our visits started and used an ecocultural approach to examine their experiences of learning and playing with technologies at home. The study describes i) which technologies children encounter at home, ii) how family practices influence children's encounters with technology, and iii) what children are learning through their interactions with technology. We present a framework of four areas of learning that could be supported by technology: acquiring operational skills, extending knowledge and understanding of the world, developing dispositions to learn, and understanding the role of technology in everyday life.

© 2011 Elsevier Ltd. All rights reserved.

1. Introduction

The role of the family in supporting young children's learning seems obvious when we consider that three- and four-year-old children in the United Kingdom spend most of their time at home and parents exercise considerable control over their children's activities and the resources to which they have access. Research that provides information about the role of the family in supporting young children's encounters with technology at home has been limited, with the emphasis so far on surveys that measure technology use in hours per day. The study reported here focuses on a limited number of families to provide a more nuanced understanding of children's access to and use of technology than is possible for large-scale surveys conducted by telephone. We look in particular at the ways in which a range of technologies can support children's learning at home and how this is influenced by family practices and attitudes.

Originally associated with assessing the impact of television, surveys that measure use have since been extended to encompass the effects of a range of digital technologies. They can have considerable influence, especially as their headline findings may be enlisted by media effects studies to make connections between exposure to technology and what are seen as undesirable outcomes, such as obesity or a decline in book reading. The American Academy of Pediatrics (2011), for instance, 'discourages' exposure to television and other forms of screen viewing for children under the age of two. Elsewhere, it would restrict other children and adolescents to 2 h per day of exposure to entertainment media (American Academy of Pediatrics, 2010). Funk, Brouwer, Curtiss, and McBroom (2009) investigated the reach of such guidelines by surveying 94 parents of children under five, calculating that preschoolers were exposed to an average of 12 h of screen media in a typical week. Parents stated a belief in the potential negative effects of screen exposure but had a low level of familiarity with the relevant guidelines. This led the authors to conclude that researchers may be more concerned than parents about the potential influence of screen media on children, in line with our finding (Plowman, McPake & Stephen, 2010) that parents were not worried about negative effects as they believed that they had the right balance of technological activities for their family.

Oakes (2009) provides a critique of media effects studies, pointing out that they tend to focus on age and gender but rarely look at outcomes for different social groups and do not take full account of the context of use. Further, the task of measuring exposure has recently become increasingly complex as the shift from analogue to digital media has resulted in simultaneous use of multiple platforms at home.

* Corresponding author. Tel.: +44 01786 467619.
E-mail address: lydia.plowman@stir.ac.uk (L. Plowman).

0360-1315/$ – see front matter © 2011 Elsevier Ltd. All rights reserved.
doi:10.1016/j.compedu.2011.11.014

It is difficult to make judgements about patterns of use if a family member can watch a television programme in real time or as 'catch up' on a television, computer or handheld device, or watches television while sending a text message. These developments have led Vandewater and Lee (2009: 2) to conclude that the measures used so far have been 'singularly unsatisfying' in terms of highlighting the extent and content of media messages. Rideout, Foehr, and Roberts (2010) accounted for multi-tasking in their survey of 2000 eight- to 18-year-olds but the associated press release has headlines typical of the alarm that can be engendered by media effects research: 'Big increase in mobile media helps drive increased consumption' and 'Most youth say they have no rules about how much time they can spend with TV, video games, or computers' (Kaiser Family Foundation, 2010).

Most of the recent research on children in the early years has taken place in the United States and covers a broad age range: Takeuchi (2011) combined case studies with a national survey of 800 parents of children aged from three to ten and Gutnick, Robb, Takeuchi, and Kotler (2011) synthesised a number of studies of children ages nought to 11. Rideout's (2011) survey of 1834 parents of children between the ages of nought and eight is explicitly aimed at those concerned with promoting healthy child development by providing data on a range of screen technologies, such as computers, games consoles, tablets, smartphones and television. It finds that among two- to four-year-olds, 12 per cent use a computer every day, with another 24 per cent doing so at least once a week, and television still dominates, with 73 per cent of two- to four-year-olds watching television at least once every day. Across nought- to 8-year-olds activities vary significantly by race and socioeconomic status but not by gender, the only substantial difference being in use of video games. Reports such as this provide a useful baseline for noting trends and informing debate but, for a more complete picture of use, benefit from being supplemented with situated studies.

These more detailed studies of play and learning with technologies at home tend to focus on children aged five and over. Marsh (2010) draws on data from 17 children in the UK aged five to seven to investigate their play with online virtual worlds at home and Chiong (2009) describes intergenerational gameplay for children aged six to nine. Much less is known about younger children's encounters with technology at home, in part because of the challenges in involving preschoolers as active research participants and gaining access to family homes for repeated visits.

This scarcity is surprising given that government and policy makers have a growing interest in the preschool years. Aware that the trajectories of children's futures are mapped out when children are very young, the home is seen as a key site of learning (Plowman, Stevenson, McPake et al., 2011). However, while parents and preschool staff are well aware of ways in which literacy, numeracy or topics such as healthy eating might be supported at home, the learning that can ensue from interactions with technology has not yet been fully recognised and little attention has been paid to the ways in which children's emerging competences with technology are supported and can flourish. The study reported here, *Young children learning with toys and technology at home* (2008–2011), was designed to address some of these omissions. It does not claim to measure use but to describe it. Rather than conducting large-scale surveys, it focuses on case studies as a means of understanding more about the context in which children's encounters with technology may lead to learning. The study refers to three- and four-year-olds as children generally start school at about the age of five in the UK. The early years are characterised by shifts in what children like to do, where they go, and with whom they spend time, making it difficult to report on patterns of use across an age range of several years, especially when it includes a transition to formal schooling.

Its aim was to use household case studies to produce a richly detailed account of young children's encounters with leisure and work technologies at home, including technological toys. The key research questions it set out to answer were:

- Which technologies do children encounter at home?
- How do family practices influence children's encounters with technology?
- What are children learning through their interactions with technology?

We consider these questions in sections 3, 4 and 5.

2. Design of the study

Our study draws on an ecocultural approach (Tudge, 2008; Weisner, 2002) that highlights the interactions between people, places and things. This enabled us to think not only about the role of the people involved, such as family members, and the things, such as the toys and the technologies in which we were interested, but also to give more analytical attention to the spaces in which these interactions occurred. These people, places and things are interwoven with the values and practices that permeate family life and everyday activities. We tracked changing patterns of use and attitudes over eighteen months and explored the particularities of everyday lives as described by Tudge (2008: 5):

> It is by engaging in practices - activities and interactions in which we engage alone and with others - that we both recreate the culture of which we are a part and help to change that culture. To see this process, it is thus important to examine how people, particularly young children, engage in their typically occurring activities and interactions with others.

Consistent with an ecocultural approach, the emphasis here is on the children, their families, and the values and practices that influence how the toys and technologies are integrated into family life. This is important because beliefs about the value of education, whether technology is seen as beneficial or detrimental for young children, and whether children should find things out for themselves or receive explicit instruction all shape, recreate and transform the cultures in which the toys and technologies are situated. Tudge (2008: 103) points out that parents' experiences during their own school days and employment influence the ways in which they raise their children. We found that parents' previous experiences with technology and their views about its educational potential were particularly significant (McPake & Plowman, 2010): these experiences shape values and attitudes and so influence practices.

For Tudge (2008: 89), an ecocultural approach requires no artificial separation of the participants from the contexts in which they are situated (i.e. laboratory experiments) or separation of the researchers and the researched. We were not able to fulfil this second condition completely as conducting ethnographic research in the families' homes would have been intrusive, but we were able to make use of a number of techniques to ensure that we obtained a range of perspectives on their actions, interactions, values and practices.

Download English Version:

https://daneshyari.com/en/article/348867

Download Persian Version:

https://daneshyari.com/article/348867

Daneshyari.com