Immigrant Family Perspectives on Information and Communication Technologies use in Homes, Kindergartens and Schools in Basel Switzerland: A Case Study.

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Abstract

This paper reports on preliminary findings from a work in progress in Basel, German Speaking Switzerland. The study explores ICT use in immigrant families and their children's kindergartens and primary schools. Findings on technology use in 40 immigrant families and the kindergartens and schools that their children attend are given. Themes arising out of the data include the digital divide, equality in education as well as pedagogical discourse. Given the range of technologies available, parents should not be isolated in their efforts to use technology as one tool of many to maintain home language with their children.

Introduction

Differences in approaches in pedagogical theories, practice and resources all play a major role in determining whether teachers are able and/or willing to integrate computers into their classroom curriculum. Research shows that computers can be beneficial in young children's education, (Haughland 2000). Use of technology in young children's education could be a priority on the curricula agenda in schools and kindergartens today (Elliott 2000). As 2005 approaches and the digital divide is a burning issue, a more thorough consideration of computer and Internet use in kindergartens and primary schools in Basel, which has a high number of immigrant children, is needed.

In the home children use computers (Rogoff 2003) for a range of activities including playing multimedia and interactive games, drawing, writing and receiving letters per email and gathering information. Computers are found in all work places. They play a major role in people's working day as a tool for gathering information, writing, managing data, designing, organising and perhaps most importantly communicating in various languages. Yet little attention has been paid to provision of ICT in primary schools and kindergarten. Swaminathan and Yelland, (2003) contend "schools, faced with the challenge of preparing students for life in a changing society need to provide opportunities for children to incorporate new technologies as a natural part of their play and learning. (p.259). "When using technologies, it is apparent that we need to consider the home experiences of children and build on these within the classroom." (p.260). Unequal access to technology, (Kalinowski 2001) is a major concern around the world yet according to Hegg (2001) "Switzerland ranks number one in the world on a per capita basis and is one of the most computerized countries in the world." (p.1).

According to the Swiss Federal Statistics Office (SFSO), (2003) 82% of Swiss Public Schools possessed a computer infrastructure in 2001 however only 3 out of 4 primary level schools had computers. On average, 13 students were sharing a computer at public secondary schools, with 16 at the primary level. According to Betschart (2003) " the schools are on their way towards the information society" (p.16). The SFSO reported in the year 2000, approximately 64% of Swiss households own a computer compared with Sweden, 59% and the US 51%. A more recent study by Niederer, Greiwe, Pakoci and Aegerfer, (2002) found 86% of students attending primary and secondary schools have access to at least one computer at home (p.50). According to Huber in Niederer et al, "the use of ICT in schools is still in its infancy." (p.3). (My translation).

Research Site

Basel is a centre for innovation in life sciences, pharmaceutics and technology and is home to major multinational companies. Basel City has Internet access in all schools and the Education Department has an education server. Children in Basel attend two years of kindergarten (one obligatory) from the age of 4 to 6 years. A total of 50 % of children who attend kindergarten are from immigrant families whose first language is other than German. First language (L1) development is critical for cognitive development, (Cummins 1986) as well as supporting second language (L2) learning. The local majority language is spoken: Swiss German, (the spoken dialect) and written standard German. Some immigrant children are categorised as socio-economically disadvantaged (Ilg and Küng, 2003) and do not have access to computers at home. Proponents of computer use (Feldman, 2000; Haughland, 2000; and Elliott, 2000) all claim that if used effectively computers can be a good tool for developing emerging literacy skills in L1 and L2.

Technology coordinator for Basel City kindergartens, Kathy Bissegger, stated that 160 Kindergartens in 2004 share a total of 30 computers (Personal communication, January 2004). Professional development is available to all teachers in Basel in technology use and special courses are offered through the 2BITS (2003) initiative. I visited two major ICT fairs for primary schools and kindergarten curriculum resources. Very little appropriate software apart from basic skills and drills oriented for kindergarten and primary school was found.

An important issue connected to children whose L1 is other than German concerns the Organization for Economic and Cooperation and Development's Programme for International Student Assessment (OECD PISA) results that compare 30 different countries around the world. Moser (2003) contended: " Switzerland together with France, Germany and USA belong to the countries with above average inequality between socioeconomic groups."(p.15) Switzerland ranked only 17th in reading. Moser stated that 20% of 15 year olds reach basic reading skills and are not able to read so that they can learn (p.15). Moser goes on to state that "there is no question that language and school integration of immigrant children must be examined and improved. (p. 16). It is therefore the aim of this paper to report on parent perspectives in immigrant families and their children's computer use at home as well as kindergarten and primary school teachers' approach to computer use. The study focuses on the relationship between home languages and the use of technology to support the goal of literacy learning.

Method

Interviews were carried out in 2003 with 40 immigrant parents from Basel and the region. In this study families are from a range of socio-economic backgrounds. Participants were located through the Basel City Department of Education. I was invited to introduce the project at two kindergarten teacher conferences. I also made direct contact by telephone with home language teachers in order to distribute letters and information to access voluntary families for participation. An interview guide was designed and piloted with several families and translated into the six participating language groups from Kosovo, Serbia, Croatia, Latin America, and Turkey including Kurdish. All interviews were conducted by me and were recorded on a minidisc player with microphone. The interviews lasted approximately 90 minutes and were carried out in German, thereafter transcribed and translated into English. Questions on background demographics, relating to home language use, technology use and the home school connection were posed. (Some questions are listed in table One below). Half the families had at least one child attending Kindergarten and the other half had at least one child attending primary school (grade 1 to 4). Six teachers were also interviewed about home language support, technology use and home school communication. Using both qualitative and quantitative data and to add depth to the findings, I draw on discourse analysis to describe parent and teacher responses.

Teacher Findings

In two kindergartens computers are not used at all and in the third kindergarten a computer was used for a two month limited project and thereafter not used. Other forms of technology such as cassette recorders and CD players were used on a regular basis. When teachers elaborated on the reasons for not using computers they stated that they believe that there are more important aspects relating to child development such as practicing fine and gross motor skills and coordination. Secondly, teacher beliefs play a significant role in technology rejection. The teachers also explained that they do not have computers in the classroom

because: *you have to get one yourself, it all depends on your own initiative and there is no money budgeted for this purpose.* Internet is also generally not available for kindergartens in the city. Fax machines have been issued to all kindergartens.

A slightly different picture emerges from the primary school interviews. One teacher stated that her school has 400 children from grade 1 to 4. It has a computer room containing six computers all with Internet access. This primary school has a ratio of students to computer with Internet access at 1:66. (For a comparison with another OECD country, USA children in public schools have a ratio of 1:4.8 (US Department of Education, 2003). The teachers have Internet access in a computer room or in teacher resource rooms. One teacher is responsible for computers as an extra duty. Overhead projectors were found in most classrooms. The school also shares a beamer, DVD player and television. The classrooms have no Internet access and the present computers found in classrooms are supplied through personal initiative. This teacher said that she had graduated three years ago and had attended two years of classes of ICT in her teacher training. The teacher stated that there is no Internet access in the classrooms and there is no budget for that purpose. Computers were personally organised by the teacher and used for teaching basic skills and theme work.

All three teachers interviewed claimed that general use of media and technology is a problem in the children's homes (based on classroom discussions with children). Major concerns were related to too much screen time (television and computer) and violent games that are played on play stations. The second primary school teacher stated that she is not a fan of computers and prefers not to use them and therefore does not have a computer in the classroom or use the computer room. The third teacher stated that she does not have a computer in the classroom or Internet access however the children enjoy using a typewriter to practice their writing skills. A computer room was available if booked but she never used it.

Parent findings

Language spoken at home	**Albanish**	**Spanish (Latin American)**	**Kurdish**	**Turkish**	**Serbish**	**Total**
Number of Families	8	10	10	10	2	40
Number of Children	21	25	20	23	6	95
1. Own a computer	7	10	5	6	2	30
2. Don't own a computer	1	0	5	4	0	10
3. Have Internet access	5	10	3	4	2	24
4. Do not have internet access	3	0	7	6	0	16
5.Use internet with children.	1	5	2	4	2	20
6. Don't use internet with children	7	5	8	6	0	20
7.Use web site in first language.	4	7	3	3	2	20
8. Don't use web sites in first language	4	3	7	7	0	20
9.Have software in first language.	0	5	2	1	1	15
10. Do not have software in first language.	8	5	8	9	1	25
11. Family uses email.	5	8	5	5	2	25
12.Family does not use email.	3	2	5	5	0	15
13. Children use email.	4	3	2	2	1	12
14. Children do not use email.	4	7	8	8	1	28

Table 1 Technology use according to language groups

ICT use in homes contrasted with the findings in kindergartens and primary school use. Families are listed according to language groups and the number of children is given. Table one above shows that 75% of families own a computer and more than half the families have Internet connections. Three families that do not have a computer intend to buy one. More than half the families have Internet access and use it for a variety of reasons. The main computer use by those families with Internet access was for email to communicate with family and friends in their home countries. Two families stated that they use a web camera so that the grandparents in the home country can see the children via Internet regularly. The families that do not have Internet access stated that either they could not afford it or they had not organised it yet. One family with three children said that their nine-year-old boy is taking weekly lessons in Information and communication technologies. This father expressed his concern because he believed the course was expensive at 250 Swiss Francs for four two-hour sessions. His son does not learn to use a computer at school (in grade four) or use a computer in the school curriculum. Both father and son believe that technology is an important part of education.

Comments about software were often that the *old* software is not compatible with new computers so their children can no longer use their favourite programs. Two parents also stated that their computer does not work at the moment because of a virus. Two families with children attending kindergarten stated that they don't want a computer for their children.

Discussion

Findings show that 75% of families use computers for a variety of purposes for play, communication and using the Internet for first languages that indirectly supports the children's L1 development. Some families also used German language CD ROMs. 15% of the families do not own a computer therefore kindergartens and schools are the only place to equalize access for all children Secondly does such a low ratio of computers to students make a difference in literacy and language learning? One possible approach would be to analyse how other OECD countries have integrated computers into their kindergartens and primary schools to learn about the contributions that technologies as a tool contribute towards language and literacy learning.

In a similar study in an English nursery school (Brooker & Siraj-Blatchford 2002), some children were found to have computers in their homes and computers were being used to teach computer, literacy and numeracy skills. (p. 259). Computer use was also observed in the nursery schools that the children attended and software was found to support a *collaborative and language enriched multicultural learning environment.* (p.269). Many opportunities were shown to connect children with different languages through computer and dramatic play which involved both *on-screen and off-screen activities*.

Does a high number of computers support learning and what are the implications in 2004/5 for a country that does not actively support a policy of technology integration in kindergarten and primary schools?

Haughland (2000) stated, "inequality of children's access to computers outside the classroom is a serious issue." (p17). Children from 10 families in the study do not have access to computers at home or at school and related technology until they reach secondary school. The question to pose then is how is equality guaranteed when children in the other 30 families have computers in their homes? According to Kalinowski (2001) "many young children are at a disadvantage because they are denied access at kindergarten and school (p.285). Riel, Schwarz & Hitt (2002) reiterate "good home access to technology is one important contribution to reducing the digital divide." (p.29).

Apart from the 30 computers that are currently in use in Basel City kindergartens there are no new computers or funds for kindergarten use. Kathy Bissegger stated that no official statement is given on this issue although strong voices are heard at teacher conferences calling for a moratorium on computers in kindergartens. (Personal communication, January 2004).

How can children learn to critically work with the latest technology when they are not given the opportunity to learn at school under guided participation from freshly trained and knowledgeable teachers?

Further barriers to computer and Internet use in kindergarten and schools are related to negative press in the media, (Spirig 2000). Quigley & Blashki (2003) argue:

> instead of investing all of our energies into their protection, we should also be considering children's rights as emerging citizens in an electronic society. Those include their rights to be

consulted, educated, and prepared for the new multimedia experiences in the increasingly mediated world inside/ outside the mythical walls of childhood's "sacret garden" (p.315).

Bowman (1998) claimed pertinently that "young children share their community's perceptions of the place of math, science and technology in the social world and individual's relationship to them…. Young children can learn which skills are socially desirable and expected of them or conversely what knowledge is exclusive and more available to some people than to others." (p. 14).

Conclusion

To sum up, this study provides an insight into the contradictory reality between technology use in the home and use at kindergartens and primary schools. If parents are to be supported in their efforts to educate their children to become technologically and critically literate they need dialogue with and guidance from educators. Every effort should be made towards the common goal to support, maintain and assist with home language learning, which is critical for cognitive development and learning the second language. An obvious limitation to this support is some teacher's unwillingness to accept modern forms of technology as a tool for learning in a highly technological world. The policy implications are significant, no computers in kindergartens and primary classrooms equals huge savings but at what cost? When teachers argue that children get enough technology at home, parents do not have the possibility to begin a dialogue on important issues relating to children and technology use. New teachers need to be supported in their efforts to use technology in the curriculum. 'Restriction and protection' is a one way narrow dialogue in education. As Micheline Calmy -Rey (2003), the foreign minister of Switzerland speaking at the ICT for development summit in Geneva proposes: "Bridging the digital divide calls for open and innovative minds, with people who are ready to find new ways and to take new action." (p.1) Collaboration and dialogue between parents and teachers on ICT use could be a good starting point.

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