Effects of One Laptop Per Child programs in the daily lives of people excluded from the community: The role of South European rural schools

Joaquin Paredes-Labra*, Universidad Autónoma de Madrid, Spain.
Inmaculado Tello, Universidad Autónoma de Madrid, Spain.
Alicia Kachinovsky, Universidad de la República, Uruguay.
*Corresponding author: Joaquin.paredes@uam.es

Abstract
The aim of this study was to learn how the One Laptop per Child (OLPC) program in rural schools of a Southern European country offers opportunities to children, helps parents to get information and creates links with families and neighbours. The methodology was qualitative, with deep interviews with teachers, principals, parents and students from five Spanish rural schools. Among the findings, we observed that schools have new opportunities to link with communities and to communicate with parents when the curriculum is open and narrative. The shortcomings of policies, the academic role of projects and the resistance and prejudice of parents are preventing a better rapport between schools and communities in their fight against exclusion.

Keywords: family, primary education, OLPC, ICT, exclusion, Europe

Introduction

Social and economic inequalities worldwide have increased during the 21st century. The economic crash of 2008 signaled the end of state welfare policies in many countries. As is shown in Figure 1, the people without social ties (social/included axis) and without work (work axis) (Cabrera, 2005) are those who experience exclusion from the community. Temporary workers or people who have lost their work do not have a salary every week to support their families. When those in the community do not have resources to support their lives, ties with community and family are imperative. Such situations are increased in rural areas, because rural communities are not well equipped to fight against problems such as isolation, under-development, poverty or low productivity (Cecchini, 2005).
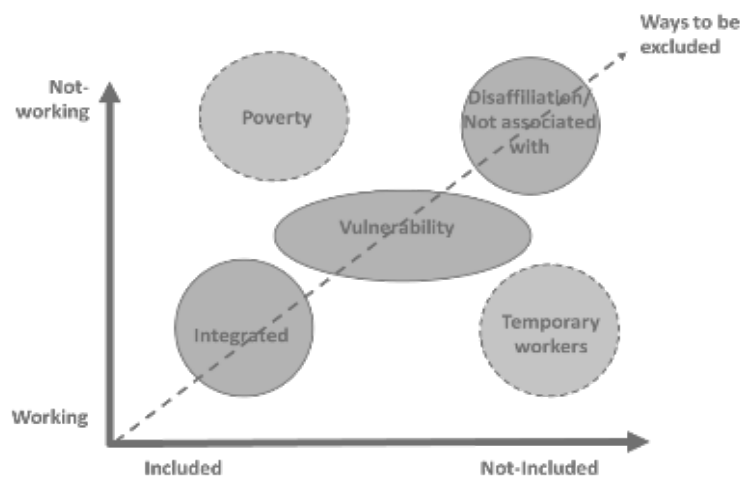
Figure 1. *The concept of exclusion (Cabrera, 2005)*

After the 2008 economic crisis—also known as the global financial crisis—Spanish society experienced several difficulties. An aging society, for example, needs human and economic resources to support retirement. As another example, the impact of multiculturalism seems to be an unresolved problem, with 5 million of the 48 million inhabitants of Spain coming from other countries (Instituto Nacional de Estadistica [INE], 2017). In this context, it is necessary to develop policies of reception, education and work guidance.

Additionally, the rural population of Spain has decreased during the last decade, from 23.5% to 20.6% of the total population (World Bank, 2016) and there is an increasing unemployment rate, from 10% in 2008 to 25% in 2015 (INE, 2017). These result in a loss of purchasing power. There has also been a strong increase in the population at risk of poverty, from 10 million to 14 million people in a decade (EUROSTAT, 2015) and from 14% to 16% on the material deprivation index (INE, 2017). Moreover, the Gini Index, a well-known poverty index (Organisation for Economic Co-operation and Development, 2014), has increased for Spain from 33.4 to 35.9.

Education is one of the policies that would usually be implemented to overcome problems such as these. Neverthless, the Spanish Government has lowered the spending for education, from 4.9% to 4.31% of GDP in the last decade (Ministerio de Educación, 2017). ICT is also essential for economic success, connections with the outside world, access to good prospects for study and sociability, and feeling included in society (Finquelievich, Martínez, Jara, & Vercelli, 2004; García Canclini, 2005; Kliksberg & Novacovsky, 2013). In fact, ICT has a strong presence in Spain. Only 15% of the people have never used a computer and, furthermore, eight out of 10 people have a computer at home (United Nations Development Programme, 2016).

In developing countries, One Laptop per Child (OLPC) policies are an educational promise to bring these possibilities to students and for future citizens to have great success (Warschauer & Ames, 2010). Many Latin American countries have implemented these programs during the last ten years and laptops are distributed free of charge to every child (Richardson, McLeod, Flora, Sauers, Kannan, & Sincar, 2013).

The OLPC Program in rural areas in Latin America

There are different ways to enhance ties within families and with schools through OLPC. Through the project that supported the current study, we learnt about ties in Uruguay, Paraguay, Peru and Argentina. Students' parents in Uruguay are taking part in a "classical" OLPC project. The

daily lives of people excluded from the community could change, as expressed in testimonies collected by *Flor de Ceibo,* a unique program of support with volunteers to the implementation of *Ceibal*, the Uruguayan program of OLPC (University of the Republic, 2009). The Ceibal Program plans to change the reality of schools by transforming the ways schools work and the daily lives of parents. *Ceibalitas* (laptops) are travelling from school to home. In the evening, students and their parents go to the school to access a wi-fi connection. They surf the net, build webpage to support the arts and crafts businesses of the parents, and so on.

In other countries, the number and the aims of computer programs that help people to master ICT and to develop their skills vary. Adults at tele-centres in Paraguay are having an opportunity to work in a classical computer room in a library or similar town facility. They learn to help people around them or their family by connecting their cellular phones. In a poverty context at rural schools in Peru, computers await students every morning in a computer room in their village. It is a very distant place to live, with teachers living in a nearby school building. In Argentinian schools, the goal of the programs is to enhance mastery of curriculum contents for secondary school students. The use of ICT could lead to the acquisition of skills and facilitate links between the school and community, thus enabling individuals to participate in the community in different ways.

Flor de Ceibo volunteers collect testimonies about the empowerment of the people involved in the OLPC program. A strong example is mentioned: a child who sleeps with their possessions (among which is the laptop) so that they are not stolen (University of the Republic, 2009). There are examples of inclusion through communication (family, social). Children carry their laptops to home and work with them. Families discover opportunities and learn to use them too. In Artigas, a rural area in the north of Uruguay:

> *Some families have United Nations soldier parents in military operations in Haiti and Congo. They can communicate directly with them through the chat. Another singular use of the laptop is to see on the Internet the advancement of the soap opera chapter in Brazilian television.* (University of the Republic, 2009, p. 88)

Other examples show that learning can be intergenerational. At Estación Las Flores, volunteers in Maldonado (a rural area near to the second largest urban area of Uruguay) say that "the grandmother, who was intending to have maintenance on the granddaughter's computer done, finally ended up interested in learning. And she did it by herself" (University of the Republic, 2009, p. 87).

Finally, there are examples of OLPC benefits transferred to the community. In relation to articulation with everyday problems, perhaps the most significant example was the activity of adolescents attending the 7th, 8th and 9th years of a rural school. This occurs in an open, non-reproductive curriculum in Quiebra Yugos, Tacuarembó, in the north of Uruguay:

> *After several activities oriented with the Flowol Program and the robotic kit "Fisher", they are proposed to create a mechanism that they consider relevant for the rural environment where they live. As a result, they are able to implement a doorway mechanism that opens and closes according to the schedule created by the group, which add flashing lights of different color according to the open or closed state of the door.* (University of the Republic, 2009, p. 12)

However, not everything is positive in relation to the incorporation of ICTs in schools in rural contexts. There are individual dangers and policy failures. In some cases, it appears that media

consumption is increased (Ames & Rosner, 2014), or that the program is not focused on inclusion but on domestication, the integration of digital technologies into families' home routines (Aires, 2014). There were parents who thought that no one wanted the laptops distributed and, for that reason, they were given to modest Uruguayan families (University of the Republic, 2009). In addition, it was mentioned in the same report that the father of a large family pawned some laptops to survive. This suggests that it is necessary to have policies that will help to enhance everyday life.

There are testimonials in the *Flor de Ceibo* report (University of the Republic, 2009) from teachers who talked about the loss of school authority as a dispenser of knowledge. The study also talks about the fear of some schools relating to the presence of the community in the schools themselves through ICT. Some teachers and parents even expressed fear that ICT could affect the enjoyment of social relations and children's free time. All of these testimonies expressed the failure of the policies that came to empower the disadvantaged and isolated. They also speak of the failure of some school-community alliances through misunderstandings.

Part of the failure of the rapport between school and communities lies in the incompleteness of policies. In rural areas, there are challenges related to infrastructure, teacher training and skilled support staff (Kozma & Suria Vota, 2014) and some examples illustrate the importance of global policies. In some cases, Governments have paid the price of not including teachers in the design of policies. However, there are other problems, such as facilitating connectivity outside of schools and in the community. The *Flor de Ceibo* report tells about a conversation with a mother:

> She was asked if she used the computer. She said no, that when she got home from work it was late at night and she could not go to school. In addition, since she could not connect from her house, she did not use it. She was told that she could work with the computer in activities other than using the Internet. She said she could not think what she could do. She was asked what she worked for and where she lived. She worked in a factory for 10 hours a day. When she arrived she had to cook and she lived more than ten blocks away from the school, "it's far away," she said. (University of the Republic, 2009, pp. 83-84)

These examples raise questions about how an OLPC program can enable individuals to participate in a community and to build a rapport.

The OLCP Program in Spain

OLPC policies were also implemented in the poorest countries of Europe, as a way of enhancing teaching and educational results (Passarelli, Straubhaar, & Cuevas-Cerveró, 2016). These policies are linked to European policies of the Digital Agenda (European Union, 2014; Sánchez-Antolín & Paredes-Labra, 2014). Rural areas are targets for attempts to overcome poverty with ICT.

OLPC programs in Spain work in a very similar way to Uruguayan programs. In Spain different ICT programs at schools have been operating during the last 30 years. These started with a computer room with 20 computers for 600 to 1000 students. However, in 2009, the Government introduced the OLPC Program. Nowadays, there is no more money for this, so the OLPC programs are failed programs.

In a decentralised country such as Spain, failed OLPC programs (2009–2012) were named differently by different regions. These included *Tech Schools* in Madrid, *Digital Backpack* in Castilla la Mancha (in the centre of Spain) and *21 Network* in Castilla-León (in the north).

In Madrid, *Tech Schools* operated as a concurrent model, where the best 15 projects (from over 300 secondary schools and 1000 primary schools) were chosen to be financed. Participation in the program is part of a project prepared by a team of teachers who have a commitment to provide technology for a number hours in certain curriculum areas. There are noticeable differences between programs. In particular, the differences are found in the key principles of an OLPC program: computers are only in classrooms; high school students are involved; there is no regional connectivity plan for schools and homes; the program is organised with proprietary software on networked terminals anchored to the classroom floor and arranged in rows.

In Castilla La Mancha and Castilla-León, the program entailed the massive arrival of Netbooks to classrooms. Both regions have a huge rural weight. During 2009, all the students of the 5th grade received a laptop. Interactive whiteboards were installed in some classrooms, as well as video projectors and charging cabinets for Netbooks. This project was later extended to 6th grade (12 years old) and secondary school (13 and 14 years old). These endowments are somewhat battered but they are still used.

Evaluation reports inform us about the difficulties of enhancing learning in OLPC programs (Katz & Levine, 2015; Neuman & Celano, 2001). Reviews about OLPC programs show mixed results (Islam & Grönlund, 2016). However, some programs have been successful in improving test scores (e.g., in Peru, Cristia, Ibarraran, Cueto, Santiago, & Severin, 2012) and helping families to care for their children (Fullan, Watson, & Anderson, 2013).

We investigated survivor schools of failed programs in Spain. We asked them about the OLPC and exclusion, as part of a broad study grant provided by the Santander Bank. Those schools have laptops, ipads, tablets … because they ask parents to buy them. Students receive computer literacy. Students and parents use laptops and wi-fi from schools. They share their knowledge with other students and parents. Rural communities are thus knowledge generators and teachers are agents of agitprop or propaganda.

Methods/methodology

This research was built with five teams—one team from Spain and four from Latin America—but it focused on Spain. The methodology was qualitative, with deep interviews (Kvale, 1996) and several focus groups (Barbour, 2008) with teachers, principals, parents and students from five schools (Yin, 2009). The teachers were qualified informants who introduced parents and students from disadvantaged situations.

Using qualitative research, the study set out to understand and describe OLPC practices. It tried to understand how, in a context of exclusion and poverty in rural communities, an OLPC Program offered opportunities to children who helped parents to get information, to create links with families and neighbours and, then, to be included. In addition, we wanted to know about how communities learnt about themelves with ICT and how project supporters learnt about educational change.

Participant schools were from four different rural places and one urban location near Madrid, Spain, as shown in Figure 2. Access came from contact with the schools and the local authorities. We were looking for two schools with plenty of ICT use in classrooms and we invited several different schools to take a part in the study. Most of them accepted.

The school locations were:

- Alovera, which is a bedroom community outside the metropolitan area of Guadalajara;
- Trescasas, which is a bedroom community outside the metropolitan area of Segovia;
- Algete (in the neighbourhood of Santo Domingo), a residental area of a rural town;
- Sepúlveda, a rural location north of Madrid;
- A Segovian neighbourhood. The school is in an urban area with 30% of immigrant students from Bulgaria, Ecuador, Morocco or Romania.

The study had a flexible design. We conducted initial interviews (Taylor & Bogdan, 1984; Taylor, Bogdan, & DeVault, 2015), then the evolution of the interviews and visits to schools offered new opportunities to the researchers.
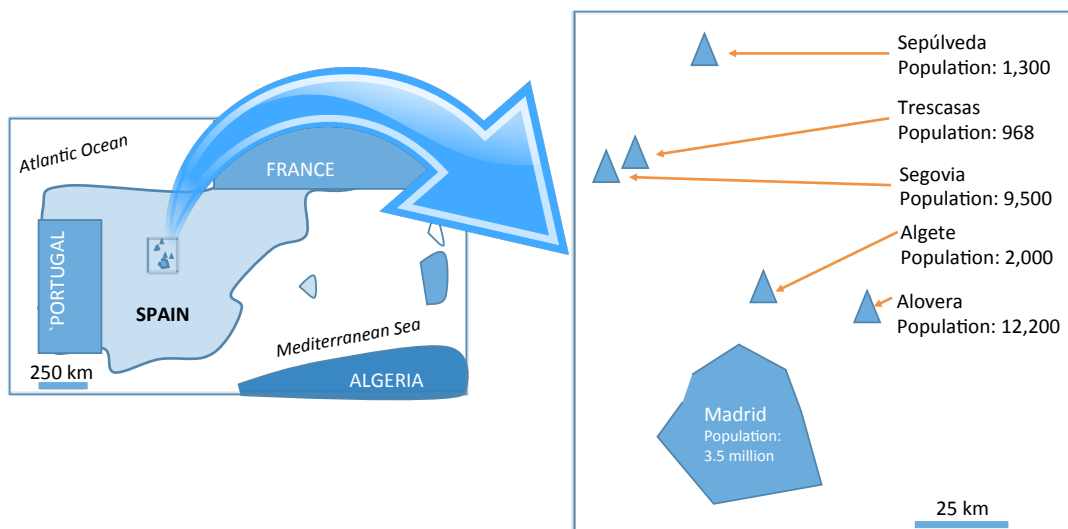

Figure 2. *Centres in Spain that took part in the study*

Data were gathered through interviews with teachers, principals, families and children, focus groups, the collection of documents, classroom observations and the taking of photographs. Table 1 shows the participants and data collection methods for each of the research locations.

School	Teacher interviews	Principal interviews	Focus groups	Family	Children	Documents	Classroom observations	Photographs
Alovera	5	X	5 mothers	AMPA	X	X	X	X
Trescasas	2	X	2 teachers, principal, 2 parents	2 parents		X	X	X
Algete	3	X	2 mothers	3 parents		X	X	X
Sepúlveda	1	X	5 teachers 4 mothers			X	X	X
Segovia	4	X	4 teachers, 2 principals	2 parents		X	X	X

Table 1. *Participants of the study and the data collection techniques applied*

Open and in-depth interviews about OLPC practices and home activities were conducted with teachers, principals and parents. Interviews were developed. With the parents, we wanted to understand the personal and social difficulties of the families, how ICT is managed, what the links are with schools, how they learn to use ICT, and what kind of ICT uses are developed at home (personal uses of information about life, rapport with family and others, work time, leisure). With teachers and principals, the interviews were focused on the goal of ICT projects, the perceived uses by children, and the links between schools and families.

The data analysis was conducted with a specific software, Atlas.ti. Transcribed interviews were returned to respondents for review. They were codified freely. The constant comparison and rereading of the transcripts allowed a redefining of the coding to occur and the emergence of categories. In addition, frequency tables and co-occurrence were used to understand the emergence of categories in the evidence collected (Flick, von Kardorff, & Steinke, 2004). A thematic diagram was constructed by showing categories in an artistic way (Ricoeur, 1990) and providing semantic maps that were useful. We used the evidence in the data to build a narrative about the uses and problems of ICT that appeared. Documents and photographs were also analysed. Because the interviews were conducted with different people with different techniques, this allowed for the triangulation of information (Cohen, Manion, & Morrison, 2007).

The final reports were shared with the participants. Their feedback was insightful. Some schools discovered some of the difficulties experienced by parents and the strengths of the program, such as the way they plan or do training at school. A work of this kind, which aims to understand what happens at home and in schools, has limitations, but it could be illuminative about the effects of OLPC on the daily lives of people.

Results

The results have been organised to offer understandings about how an OLPC program brings opportunities through school children to the parents and the community, to get information and more. It also shows how communities can learn about themselves.

Old ties: The role of traditional technologies linking parents and schools
Traditional technologies, such as textbooks and notebooks, are still part of the relationship between schools and communities. Some schools are now using digital textbooks. Parents need to follow the curriculum to help their children and text books are a very important guide for teaching (Apple & Christian-Smith, 1991).

> *With the parents, the project was explained to them, they were told how they would work, they asked for their collaboration ... In fact, we now, when we start any topic, what we do is send an outline to the parents by email of the topic we'll try. And ask them if anyone has knowledge on that subject ... now for example, plants. A father sent me a message: I have an orchard. Let's make an urban garden. Willing to collaborate in what you need. In the classroom, in the hall we have assembled.* (Teacher M.J., Segovia school)

Textbooks offer possibilities to support study at home. Some schools were doing an open curriculum, where students were producing digital content by themselves. In both textbook uses, parents were involved—in one case as consumers; in the another case as supporters. OLPC has children as ICT owners with digital abilities, who are showing their work at home. In an open curriculum, as in the Santo Domingo school, students were editing different projects. Their activity was shown at home. Children and parents were very involved:

> *In my case, students are so autonomous, they never tell me that someone helped. On the contrary, sometimes I receive messages from parents (where they say) who has just taught us what he has done. What I told you, the children ... you give it to them and they do a thousand things ... I do not need to ask for help.* (Teacher I, Santo Domingo school)

Parents were seeing and learning the ways of working used by their children. Some of them asked their children to help them with digital activities, such as sending or creating a CV or to solve an ICT problem. Thanks to the ICT mastery of their children, parents can learn about ICT themselves, especially those who are returning to school in the evening.

Creating links with families and neighbours
New links between schools and communities occur when schools are working through computers and other devices. ICT availability is very important to produce messages. With children as owners, as has been said, their work can be shown at home. That produces opportunities to talk about the work and about ICTs with parents. Also, it could be possible to understand new ways of communicating. In programs running for many years, many schools have developed family workshops. Only one of the five schools in this study was working to help parents to manage technology directly. That program was helping parents first to understand what happens in school and how to be in contact with school activities and student records. It then started to highlight new issues, such as Internet safety:

> *(At family workshops) we work about problems of digitization. We start with how digital books are, how they are used, what features they have. And then dangers of the Internet, responsible uses, responsibility of minors, of the elderly, use of images. ... Every day a new game code comes out and they ask what it is! And then, well, you explain the differences ... and how is it possible? They all come with a sticker on the camera, I do not know why they put*

a sticker in the camera first. But do not let him take the computer to the bathroom or his room. You do not need to put one ... The sticker is not worth it. But okay, the sticker serves as an indicator that we are aware that there is a danger and that we must do a surveillance. (Principal, Alovera school)

ICT introduces refined ways of ensuring communication between schools and parents. It is a way of inclusion through communication (University of the Republic, 2009). It is very important that the program includes instant messaging, webs and podcasts. The more technological the program is, the better the links between families and schools. Parents can be in contact with teachers about their children and teachers can offer information to parents. In Alovera, the school was running *Edmodo*, a platform to manage the class online. It had an instant messaging system where children and parents could chat about homework and about meeting in the evening to play football. In the Trescasas and Algete schools, parents knew how to manage the dangers of the Internet, through the school website that contained podcast materials about various topics. Also, in the Algete and Trescasas schools, they used a digital classroom management tool called *Classdojo* to share 'good' information about students' behaviours and performances.

We observed that the relationship between community and school is better in schools where OLPC programs have been running for many years. Schools are implementing some aspects: students are aware of ICT uses, and parents know how the school activities works. Principals and teachers can spend time in activities out of the curriculum, such as parents workshops.

Helping parents to get information
It seemed that the rapport between schools and community was sophisticated but incomplete. Parents were engaged in tracking school activities. They were also engaged in media surveillance about cyberbulling or non-appropriate content from the media. In many interviews, parents explained that they were living a dilemma: to support the future of children with an important competence, or to live in a digital world that threatens children with a range of digital issues.

> *Many parents use (games) with their mobile. But I think we have now to start convincing them that they have to work at school with more visual content, families ... are going to believe that you're playing when you play at home ... At home, the device is to play. Let them be able to (see) that here is not for play.* (Teacher focus group, Segovia school)

On the other hand, ICT skills were arriving in the life and work of parents. Unfortunately, in our study we observed that exclusion persists in the family. Poor and migrant people who were without work and had children in an OLPC program continued to be excluded.

At the same time, the OLPC Program offers opportunities to be included. As we have said, in an open curriculum children are developing new activities that are interesting and useful for parents in their daily lives. They asked their children for help. It appeared in interviews and focus groups that families had home uses for the ICT implemented by schools. These ideas are shown in Figure 3.

Parents spoke about opportunities to create links with families, to find a job, to support work activities, to find training or just to enjoy more leisure with ICT at home. This was similar to what we talked about in relation to Ceibal, the Uruguayan program of OLPC (Fullan et al., 2013; University of the Republic, 2009). The OLPC program was a way to support families and to be equipped to be included (Cechinni, 2005). Children were helping parents to manage that.
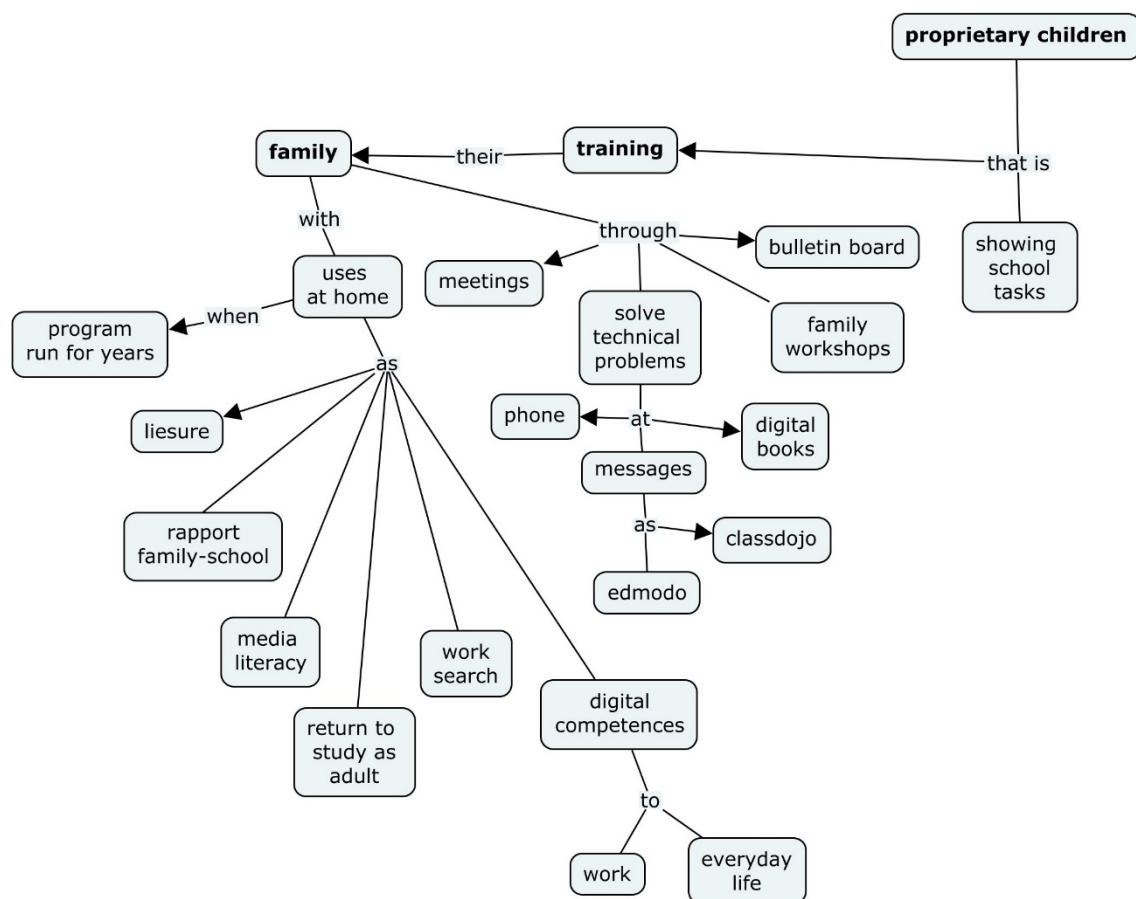
Figure 3. *Home uses transferred from schools*

Problems with the OLPC program

In contexts where schools are the main cultural centre of town, there are problems that are disrupting opportunities to enhance the rapport between schools and communities. There are structural problems, failure to empower, and the incompleteness of policies and principles. A second kind of problem is about the community-school rapport that includes problems such as the domestication of ICT technologies and free-time uses of laptops, feelings of loss of school authority, and fears about community presence in schools.

A shortcoming of policies was that parents have had to pay for computers. The government and regional authorities in Spain have never supported the provision of textbooks to public schools, although there are individual grants to support excluded people. In the context of economic problems within the country, principals decided to invite parents to support projects, as the only way to start projects. As one principal explained:

> *Buying the tablets has been a job of blood, sweat and tears. Until we came up with what we thought was the most convenient and, in quotation marks, we convinced the families, because it was an expense. Spending. It was an investment. That is why it is, an investment, not in the short term, in the long term.* (Principal, Segovia school)

Regional authorities supported education with infrastructure, including connectivity, repositories of content and software. However, in one of the three regions, there was a grant for computer tablets. At home, though, children and parents had to connect by their own. Without support, an

opportunity to enhance connectivity and inclusion was lost, as Kozma and Surya Vota (2014) underline.

Another inadequacy of policies is related to the school principals and the idea of equality. In interviews, the principals avoided talking about exclusion. Schools were meant to support the same opportunities for everyone, with the same educational resources for all without distinction to race, gender or other differences. Exclusion was regarded as a matter that should be handled privately. However, without a goal for inclusion, it was difficult to solve problems vigorously (Cabrera, 2005). Poverty is often invisible. However, principals were supporting "silent" actions to help excluded people, by handling that information in a private way.

Linked to the school principals is the social and academic role of the projects. Bringing ICT into schools is a very wide educational proposal. It is about autonomous children producing knowledge. The community must be a very important partner in the support of research (Fullan et al., 2013). However, there are very few provisions to attend to community needs. The ICT projects are focused on getting better student results and on students completing the school tasks. Most schools were open to answering questions about social life, but only one of them was producing outcomes such as videos, podcasts or web pages that talked about the community.

In general, the schools were working for themselves. This seemed a very limited way to serve the community. Only one school was supporting a social project, which was a centre for retired people. As we said earlier, a second kind of problem is about community-school rapport, that includes problems such as the domestication and uses of laptops, feelings of loss of school authority and fears of community presence at school.

Obstructive issues were the resistances and prejudices of parents who entered the program. Parents tended to have two different views: the "ICT dangers" or the importance of "the academic value of training" (i.e., they were awaiting 'good' students results). Both ways can be paralysing, because it is not possible to use ICT to try new ways of education. Parents safeguard school time (for study and homework) at home, Internet safety and information access. They act as "helicopter parents" doing surveillance of academic activities. Parents often accept ICT only as an academic tool and that supposes that they see the "academic value of training".

Another issue was that teachers were sometimes worried about the proximity of the community in school activities. This included concerns about the loss of school authority as well as fears about community presence in the school. This was also reported in Ceibal, the Uruguayan program of OLPC (University of the Republic, 2009). Many of the the teachers in the schools of the current study used the instant messaging system of their cellulars to be in contact with parents. Today, the quality of relationships is weak and a bit boring, as teachers say. A mother referred to how it worked:

> It is called "Classdojo" … That is instantaneous with the teacher. You want to talk whatever it is, and the teacher is in your house, he can answer or not. I have used it very little, because I do not like to bother. They send you what they have done in class, if they have any tests, whatever, and then if the children have behaved well, or they have behaved badly, if they have been positive or negative, that the children have. It is motivating, especially if they have been positive (A., a mother, Santo Domingo school).

Conclusions

Through this research, we tried to understand how schools helped communities and families to face exclusion and poverty. We wanted to know how an OLPC program in a Southern European country offers opportunities to children to help their parents to get information, to create links with families and neighbours and, then, to be included. In addition, we wanted to know how communities learnt about themselves with ICT.

In Spain, OLPC programs since the global financial crisis have been working in a fairly weak way in relation to their goals. This has happened because the schools' activities and participation are based on the ownership of ICT which is treated in a private way. We observed that rural Spanish primary schools were engaged with communities and families, but they fought against exclusion and poverty issues which are outside of the main goals of school work. However, it was evident that some principals, mainly those with experience of ICT projects and more time to plan other educational ways of doing things, are dedicated to connecting schools and families through workshops.

Correspondingly, schools have new opportunities to link with communities and to communicate with parents through web pages, local content related to curriculum, and multi-directional learning processes when curriculum is open and narrative (Lankshear & Knobel, 2003). There are both exceptional educators, who are open to detecting problems and finding solutions, and open curriculum operating in some schools. These are helping excluded people to have opportunities through OLPC programs.

On the other side, rural families have a supporter role to schools and are perceiving digital ICTs as both an opportunity for success and as an alien danger to children. In other words, technology is identified as a useful tool and as a menace. So, indirectly and in a low range, schools promote the benefits of ICTs through the children. Parents benefit from that. This means that parents have some opportunities to open their activity with the support of new uses and new spaces. Therefore, ICT users at schools are promoting that communities learn about themselves and about inclusion.

It could be essential to improve the weaknesses of OLPC policies. Some problems are linked to resources. Others issues are in the foundations of the schools: democratic values should be compatible with paying attention to those who are excluded. To change the goals of the projects is desirable and hopefully that will happen as experience of the programs grows. Also, a strong debate about the domestication of ICTs is probably necessary. With these policies and actions, it could be possible to create a better rapport between schools and communities and also to fight against exclusion and ensure that all parents are included.

References

Aires, L. (2014). From dissemination to the domestication of digital technologies in rural communities: Narratives of parents and teachers. *Mind, Culture and Activity, 21*(4), 337–352. doi: 10.1080/10749039.2014.947654

Ames, M. G., & Rosner, D. K. (2014). From drills to laptops: Designing modern childhood imaginaries. *Information, Communication and Society, 17*(3), 357–370.

Apple, M., & Christian-Smith, L. (Eds.) (1991). *The politics of the textbook*. New York, NY: Routledge.

Barbour, R. (2008). *Doing focus groups*. London, UK: Sage.

Cabrera, P. J. (2005). *Nuevas tecnologías y exclusión social: Un estudio sobre las posibilidades de las TIC en la lucha por la inclusión social en España (New technologies and social exclusion: A*

study of the possibilities of ICT in the fight for social inclusion in Spain). Madrid, Spain: Fundación Telefónica.

Cecchini, S. (2005). *Oportunidades digitales, equidad y pobreza en América Latina: Qué podemos aprender de la evidencia empírica? (Digital opportunities, equity and poverty in Latin America: What can we learn from empirical evidence?).* Santiago de Chile: Cepal.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). London, UK: Routledge.

Cristia, J., Ibarraran, P., Cueto, S., Santiago, A., & Severin, E. (2012). Technology and child development: Evidence from the One Laptop Per Child Program (IDB Working Paper No. IDB-WP-304). Retrieved from https://ssrn.com/abstract=2032444

European Union. (2014). *Digital agenda for Europe: Rebooting Europe's economy.* Brussels, Belgium: Author.

EUROSTAT. (2015). Income and living conditions. Eurostat (Online). Retrieved from http://ec.europa.eu/eurostat/cache/metadata/en/ilc_esms.htm

Finquelievich, S., Martínez, S. L., Jara, A., & Vercelli, A. (2004). *TIC, desarrollo y reducción de la pobreza: Políticas y propuestas* (ICT, development and reduction of poverty: Policies and proposals). Buenos Aries: Universidad de Buenos Aires. Retrieved from http://lanic.utexas.edu/project/laoap/iigg/dt37.pdf

Flick, U., von Kardorff, E., & Steinke, I. (Eds.) (2004). *A companion to qualitative research.* London, UK: Sage.

Fullan, M., Watson, N., & Andersen, S. (2013). Ceibal, next steps: Final report. Retrieved from http://beta.aalf.org/cms/?page=Research%20Art-%202013%20CEIBAL

García Canclini, N. (2005). *Hybrid cultures: Strategies for entering and leaving modernity.* Minneapolis, MN: University of Minnesota Press.

Instituto Nacional de Estadistica. (2017). Indicadores de estructura de población. (Population structure indicators). *INEbase* (Online). Retrieved from http://www.ine.es/dynt3/inebase/index.htm?padre=2077

Islam, M.S., & Grönlund, A. (2016). An international literature review of 1:1 computing in schools. *Journal of Educational Change, 17*(2), 191–222.

Katz, V. S., & Levine, M. H. (2015). *Connecting to learn: Promoting digital equity among America's Hispanic families.* New York, NY: The Joan Ganz Cooney Center at Sesame Street.

Kliksberg, B., & Novacovsky, I. (2013). *Evaluación de impacto de la asignación universal por hijo, la asignación por embarazo y Conectar igualdad* (Impact assessment of universal child allowance, pregnancy allowance, and connect equality and ICT Argentinian program) (Online). Retrieved from http://www.jefatura.gob.ar/archivos/politicas-publicas/D)Novackovski.pdf

Kozma, R., & Surya Vota, W. (2014). ICT in developing countries: Policies, implementation, and impact. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.). *Handbook of research on educational communications and technology* (pp. 885–894). New York, NY: Springer.

Kvale, S. (1996). *Interviews. An introduction to qualitative research interviewing.* Thousand Oaks, CA: Sage.

khear, C. & Knobel, M. (2003). *New Literacies: Changing knowledge and classroom practice.* Buckingham, UK: Open University Press.

Ministerio de Educación. (2017). Recursos económicos. Gasto público. *Estadísticas en educación* (Economic Resources. Public spending. Statistics on Education). Retrieved from http://www.mecd.gob.es/servicios-al-ciudadano-mecd/estadisticas/educacion/recursos-economicos/gasto-publico.html

Neuman, S. & Celano, D. (2001). Access to print in low-income and middle-income communities: An ecological study of four neighborhoods. *Reading Research Quarterly, 36*(1), 8–26.

Organisation for Economic Co-operation and Development. (2014). OECD Income distribution database (IDD). Gini, poverty, income: Methods and concepts. Social and welfare issues (Online). Retrieved from http://www.oecd.org/social/income-distribution-database.htm

Passarelli, B., Straubhaar, J., & Cuevas-Cerveró, A. (Eds.) (2016). *Handbook of research on comparative approaches to the digital age revolution in Europe and the Americas.* Hershey, PA: IGI Global.

Richardson, J. W., McLeod, S., Flora, K., Sauers, N. J., Kannan, S., & Sincar, M. (2013). Large-scale 1:1 computing initiatives: An open access database. *International Journal of Education and Development using Information and Communication Technology, 9*(1), 4–18. Retrieved from http://goo.gl/S9oim

Ricoeur, P. (1990). *Time and narrative.* Chicago, IL: University of Chicago Press.

Sánchez-Antolín, P., & Paredes-Labra, J. (2014). La concreción de las políticas educativas de integración de las TIC europeas y españolas en la Comunidad de Madrid (The completion of European and Spanish educational policies of integration of ICT in Madrid). *Teoría de la Educación: Educación y Cultura en la Sociedad de la Información, 15*(4), 107–133.

Taylor, S., & Bogdan, R. (1984). *Introduction to qualitative research methods: The search for meanings.* New York, NY: Wiley.

Taylor, S., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource* (4th ed.). Hoboken, NJ: Wiley.

United Nations Development Programme. (2016). Human Development Reports. Retrieved from http://hdr.undp.org/en

University of the Republic. (2009). Proyecto Flor de Ceibo. Informe de lo actuado (Flower proejct of Ceibo. Report of actions). Retrieved from http://www.flordeceibo.edu.uy/sites/default/files/AnuarioFC_2008_completo.pdf

Warschauer, M., & Ames, M. (2010). Can one laptop per child save the world's poor? *Journal of International Affairs, 64*(1), 33–51.

World Bank (2016). Rural population. The World Bank Data. Retrieved from http://data.worldbank.org/indicator/SP.RUR.TOTL.ZS

Yin, R. (2009). *Case study research: Design and methods.* London, UK: Sage.