

‘ICT Guides’ Project as an Example of Educational Support of Young Immigrants Through Intergenerational Learning and ICT Tools

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Abstract

This paper presents the results of research conducted with the context of an EU-funded 'ICT Guides' project which was carried out in Gothenburg (Sweden), Madrid (Spain), Sheffield (United Kingdom) and Berlin (Germany). The study aimed to find out how ICT tools and intergenerational learning can facilitate access to the general education system for newly-arrived immigrant young people. Our findings show that intergenerational learning and ICT tools empower immigrant young people, improve their language skills, and influence their attitudes towards education. Our study also emphasises that intergenerational learning and ICT tools can contribute effectively to a better understanding and harmonious coexistence between younger and older immigrants, influence a mutual understanding, and offer opportunities for learning about each other.

German Synopsis

Dieser Beitrag stellt Ergebnisse einer Forschungsinitiative dar, die im Zusammenhang des EU-geförderten Projekts „IKT Richtlinien“ in Göteborg (Schweden), Madrid (Spanien), Sheffield (Vereinigtes Königreich) und Berlin (Deutschland) durchgeführt wurde. Ziel der Untersuchung war es, herauszufinden, wie IKT-Werkzeuge und generationenübergreifendes Lernen den Zugang für gerade eingetroffene jugendliche Immigranten zum allgemeinen Bildungswesen erleichtern können. Unsere Ergebnisse zeigen, dass generationenübergreifendes Lernen und IKT-Werkzeuge jugendliche Immigranten fördern, ihre Sprachkompetenzen erhöhen, und ihre Einstellungen zur Bildung beeinflussen. Unsere Untersuchung hebt weiter hervor, dass generationenübergreifendes Lernen und IKT-Werkzeuge effektiv zu einem besseren Verständnis und einem harmonischen Zusammenleben zwischen jüngeren und älteren Immigranten beitragen können, sowie das gegenseitige Verständnis beeinflussen und zwischenmenschliche Lerngelegenheiten anbieten können.

Introduction

'ICT Guides' (acronym TIDES)¹ was a project under the Erasmus+ programme, conducted from 2015 to 2018 by partners from the city councils of Gothenburg, Berlin, Madrid, Sheffield, as well as the University of Lodz as a research partner. The idea for the project resulted from a high percentage of young people, especially immigrant young people, being at risk of early school leaving (ESL) in Gothenburg, Berlin, Madrid and Sheffield; ESL in turn can result in social and individual problems such as poverty, unemployment, social exclusion and delinquency. In addition, in those cities a high percentage of older immigrants are perceived as being at risk of social exclusion because of their age. The main idea of the project was to let immigrant young people develop and conduct a series of ICT courses² on how to use mobile devices targeted at an older audience. To accompany the courses, the project encompassed a research study focusing on the chances and challenges of supporting young immigrants through intergenerational learning with the goal of increasing their levels of success in school education.

In this paper, we describe the justification for project implementation, its basic assumptions and goals, the main activities carried out by partners, our general theoretical research findings, and project educational outcomes. Through the publication of this article, we also want to submit our activities and results for international scientific assessment in the hope that the results of our activities and our experience will be helpful for the future implementation of similar projects.

¹ Programme: Erasmus+; Duration: 07.12.2015 – 31.08.2018; Coordinator: SDFUTB – Sektor utbildning, SDF Västra Hisingen Göteborgs stad (Sweden); Partners: Sheffield City Council (United Kingdom) DGI-CM – Dirección General De Inmigración, Comunidad De Madrid (Spain) SENBJF – Senatsverwaltung für Bildung, Jugend und Familie Berlin (Germany), University of Lodz (Poland). This project was funded with support from the European Commission No. 2015-1-SE01-KA201-012232. This publication only reflects the views of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein. This scientific work has been funded with the support from the Polish Ministry of Science and Higher Education funds for science for the years 2016 to 2018 allocated to the international co-financed project agreement no. 3590/ERASMUS+/2016/2.

² We have adopted a broad understanding of the term 'information and communication technologies' (ICT) to cover all tools and sources used to communicate, search, create, disseminate and manage information, and to include hardware, software, communications equipment, Internet, network equipment and equipment for data transmission, office accessories, telecommunication services, IT services, Internet, mobile phones, electronic media, and radio and satellite TV.

Project Rationale

The general goal of the 'ICT Guides' project was to reduce the risk of early school leaving (ESL) by young immigrants in four European metropolises: Berlin, Gothenburg, Madrid and Sheffield. There is no single definition of early school leaving among scientists and practitioners in European countries; therefore, we have taken the definition of 'early school leaving' as used by Barry Cullen (2000: 10), who summarises various positions in literature as follows: "Early school leaving" can be understood as young people leaving school before the legal school leaving age and/or leaving school with limited or no formal qualifications.' From this perspective, early school leaving can mean 'leaving education and training systems before the end of compulsory schooling; before reaching a minimum qualification; or before completing upper secondary education' (European Commission 2013: 8). In this project, we assume that ESL refers to the definition of European Commission and thus describes 'all forms of leaving education and training before completing upper secondary [education]. It includes those who have never enrolled and those who have dropped out of education and training. It also includes those who do not continue education and training after finishing lower secondary education or those who failed final exams at the end of upper secondary education.' (European Commission 2013: 8). Reducing early school leaving is currently a main target for EU member states and policy makers and presents a major challenge for national and regional education and training systems. The study refers also partly to the impact of school drop-out, in particular when considering the consequences for future of immigrant pupils, such as lack of vocational training and social exclusion.

Early school leavers generally come from poor, distressed areas, socially disadvantaged, low-education backgrounds, and disadvantaged minority immigrant backgrounds, and belong to vulnerable groups. The effects of early school leaving at the individual and social level are manifold and widely studied (cf. Esteavo, Alvares 2014; Fu Jo Shan 2013; Lally 2012; Levitas et al. 2007; Balanskat et al. 2006; Cassidy, Bates 2005; Conen, Rutten 2003; Oppenheim 1998). Leaving the educational and training system without reaching a certain level of qualification strongly limits an individual's range of life chances. In terms of professional career, ESL leads to an individual's integration in less qualified employment segments characterised by low pay, a disproportional high risk of precarious employment and unemployment, and weak perspectives for mobility. Early school leaving also inhibits full participation in community life, either directly—due to deficits in interpretation and expression skills, speech organisation,

critical capacity, etc.—or indirectly, through the effects of the low self-esteem associated with precarious employment and low incomes in a society in which employment and consumption are central elements of identity. In sum, leaving school early implies disproportionately higher risks of poverty and social exclusion throughout an individual's life.

Today, 24% of the EU population is at risk of poverty or social exclusion; this includes 27% of all children in Europe. Students dropping out of school provide an obstacle for smart and sustainable growth for all. If fewer youngsters drop out of education, and if general educational output is increased, this will work against unemployment and poverty. As highlighted in the 'Youth on the move' report, one of the EU flagship initiatives to significantly decrease the number of students dropping out of school is an investment, not only in the individual young person, but also in future EU social cohesion and wealth. In Sweden, 100,000 young people start senior high school every year. Approximately 25% of students drop out or leave school without completed grades. Out of these, 50% end up in circumstances of social exclusion. In the city of Gothenburg (Biskopsgården), there are numerous young people with immigrant backgrounds (under 16 years of age) who are at high risk of unemployment and social exclusion. Unemployment is high in general, but for those who are young and born outside of Sweden, unemployment rates are 70% higher than for young people born in Sweden. In recent years, Sheffield has seen an increase in the number of new arrivals of young people from white Gypsy/Roma backgrounds. These young people now make up more than half of new arrivals in Sheffield and tend to originate from Slovakia. Roma pupils are also less likely to progress into employment, education or training after year 11 than the Sheffield average. In December 2014, around 20% of Sheffield's Roma population aged between 16 and 18 was classed as 'Not in Education, Employment or Training' (NEET), compared to the Sheffield average of 5.8% NEET. The situation for Berlin and Madrid shows similar figures.

Project activities – an overview

'ICT Guides' was a three-year project focused on activities to reduce early school dropout rates among immigrant young people. The first step in the project was a literature review and the analysis of the results of previous research on the ESL phenomenon and its limitations.

In theoretical research, we have found that early school leaving is a phenomenon that has existed for decades as an important educational issue and economic, social, and cultural problem, but whose importance has only recently risen to the fore because of social and economic changes and due to migration. Over the years, there have been many ideas on how

ESL could be reduced. The implementation of these ideas has revealed different outcomes. Despite strenuous efforts, the ESL phenomenon has not been eliminated or even reduced. Schools encounter many obstacles, with teachers lacking tools and, in some cases, appropriate equipment; in addition, educational institutions do not regularly implement the latest research findings, which perpetuates a situation where the ESL rate is not decreasing. In many parts of Europe, there is also a large inflow of young immigrants with an incomplete education, which partly results from the severe so-called 'European immigrant (refugees) crisis', and partly from the recent alarming situation in countries such as Syria and Afghanistan. Schools cannot handle students with many different needs in a traditional school environment. In some of the socially- and economically-challenged areas, teachers report that they do not just act as tutors and teachers, but also as parents, friends, police officers, and trauma psychologists. This, of course, imposes certain constraints on the teaching profession. New tools and methods are needed as well as different or increased cooperation between education and civil society. In this context, high hopes can be associated with ICT tools and intergenerational learning. ICT tools and learning (including intergenerational learning) constitute two areas which have gained in importance over the past few years (cf. Leek, Rojek 2017). Their importance in education has been well recognised and well researched. Individual learning (not formal education as such) is perceived as one of the most important processes for people during their lives. Intergenerational learning means to be open towards the educational possibilities which arise from everyday intergenerational experiences. Intergenerational learning is one of the irreplaceable intellectual stimulants not only for young people but also for older individuals. It is assumed that one of the results of intergenerational learning will be that ESL levels will decrease.

Nevertheless, intergenerational learning does not occur spontaneously; it needs convenient conditions, a bottom-up policy process, and some kind of accelerator to start. Moreover, it is too abstract and too prolonged an aim for young people to consciously take and realise intergenerational learning and ICT tools in order to improve their educational potential. Furthermore, its generality and abstraction may discourage learners to take part in the project. Therefore, learning content and detailed results should not be clearly stated at the beginning but should be identified spontaneously in intergenerational collaboration during the learning process. It is recommended that in informal learning, the content, methods, styles, speed, place or results should be determined by learners because they know the best what and how to learn.

Through the intergenerational learning process supported by ICT tools, learners are able to speak, read and write with understanding; to communicate in different situations; to present

their own points of view; to search, sort and use information from different sources; to recognise national cultural heritages in the context of European culture; to understand the rules of effective team work; and to take into account the views of other people as well as developing mental skills and personal interests and to develop an inquisitiveness aimed at the search of truth, goodness and beauty of the world.

Based on the above findings, educational activities were designed and carried out by partners from Berlin, Gothenburg, Madrid and Sheffield. The 'ICT Guides' project organised learning programmes for younger and older people in order to target some of the most vulnerable groups in Europe: newly-arrived immigrant children and young people between twelve and sixteen years of age (whereby 'newly-arrived' is defined as having been in the host country between zero and five years), and native older citizens of sixty-five years and over. We assumed that if the project was implemented to high standards, it would offer contexts that would promote opportunities for young people's benefit. One of the advantages of programmes such as 'ICT Guides' was to provide young people with opportunities for taking part in the decision-making process, getting involved in work that is relevant for young people, and performing challenging tasks connected with projects allowing them to share power and to collaborate with adult staff and volunteers. In order to work towards social cohesion, we aspired to investigate how ICT tools can be used as 'educational links' between the newly-arrived young people at risk of early school leaving, older citizens, and a developer of intergenerational learning. In the project, we wanted to test, both from the participatory as well as the research perspective, if it is possible to successfully link the newly-arrived young people (12-16 years old) with older citizens (+65) for the purposes of collaboration and learning. Our activities target the two groups which, according to Eurostat, are the most excluded in Europe.

For this purpose, partners representing the cities mentioned above were responsible for developing and piloting courses on the use of ICT tools for young immigrants and local older people. The essence of the courses was that children taught the older people how to use new information and communication technologies. We assumed that collaborative learning would have an educational impact on young immigrants and relationships with older people which, in turn, would help them find a better place in the new environment and provide educational value.

The organisations involved in the project recruited immigrant pupils and native older adults in: Spain (CEPI Chamartin, Madrid); Sweden (Ryaskolan (school) and Monsunen (meeting place for the elderly), Gothenburg); United Kingdom (Sheffield City Council premises); and Germany (Alfred Nobel Schule and Fritz-Karsen-Schule). Qualitative and

quantitative research on the effective use of ICT tools and intergenerational learning intended to reduce early school leaving was conducted on the group of 267 immigrant pupils and native older adults from Gothenburg, Berlin, Madrid and Sheffield.

Research findings regarding project implementation and activities

Intergenerational practices, including learning, are understood in a variety of ways, and there is no single universally-accepted definition (Granville 2002). This variety is the result of intensive research carried out on this subject for many years (cf. Cichy, Smith 2011; Storm, Storm 2011; Thomas 2009; Newman, Hatton-Yeo 2008; Silverstein 2004; Brown Ohsako 2003; Davis, Larkin, Graves 2003; Noël, de Broucker 2001; Tapscott, Frick, Wootton, Kruh 1996; Mazor, Tal 1996; Dumas, Margolin, John 1994; Jecker 1992; Cappell, Heiner 1990, McClusky 1990). As a result of this theoretical and empirical research, two main contemporary approaches of research into intergenerational learning have been developed. The first perspective focuses on intergenerational learning within related generations, with studies emphasising the transfer of family knowledge and traditions. The second field explores intergenerational learning beyond family connections among non-related generations. The 'ICT Guides' project adopted the definition of intergenerational practice as referring to purposeful activities which are beneficial to both young immigrants and older people (Hatton-Yeo 2006). Our studies fitted in the second trend and were therefore conducted within informal and voluntarily-formed communities; we focused on measuring the attitudes of one generation towards the other and the impact of intergenerational relations on the educational future of the young people.

In our research, we sought to answer the question: *How can ICT tools and intergenerational learning facilitate mutual understanding between newly-arrived immigrant young people and older native adults?* To answer this question, a mixed research approach was adopted, conducting qualitative and quantitative research simultaneously. We assumed that the social world is not empirically measurable and that society is not a simple sum of individuals. Therefore, social processes and behaviours of individuals can be understood and described as a phenomenon embedded in culture, which is the axionormative matrix of behaviour of individuals and groups. The theoretical foundations for this assumption come from phenomenology, hermeneutics, and symbolic interactivity. Within this approach, we used a case-study-based research method which focused on a concrete example of educational

experience and sought to obtain theoretical and in-depth knowledge based on its complete documentation and detailed description (Sturman 1997: 61-66). We used the case-study method as an avenue for inquiry in which practitioners (i.e., Madrid, Berlin, Sheffield, Gothenburg city councils) and researchers (University of Lodz) could jointly reflect on specific cases of educational practice. The case studies followed educational activities (intergenerational learning courses using ICT tools) conducted by partners from Berlin, Gothenburg, Madrid and Sheffield.

To collect data, we decided to use two surveys (baseline and endline) with closed and open questions. The surveys were conducted at the beginning and at the end of intergenerational learning courses in order to identify changes which occurred in the intellect and personality of the participants during the courses. 267 respondents completed the survey questionnaires. Our second technique involved a qualitative analysis of photographs (visual data) and materials (applications, drawings, notices) produced during the courses as a result of intergenerational collaboration. The justification for this was that the application of visual research methods has also become increasingly widespread throughout the social sciences, and that this methodological approach offers the opportunity to look at reality through the eyes of the participants to reveal what may be invisible to the researcher. The photos were taken by partners during intergenerational courses.

Table 1. Number of completed survey questionnaires

Source: Original research by the authors

City	Pupils' Course: Beginning Surveys	Pupils' Course: End Surveys	Seniors' Course: Beginning Surveys	Seniors' Course: End Surveys	Teachers' Surveys	Authorities' Surveys	Total
Berlin	14	0	12	1	1	3	31
Gothenburg	22	19	8	7	7	5	68
Madrid	17	15	10	14	1	8	65
Sheffield	40	22	23	17	1	0	103
Total	93	56	53	39	10	16	267

Among immigrants, the largest group added to the project was girls and boys between the ages of 14 and 15.

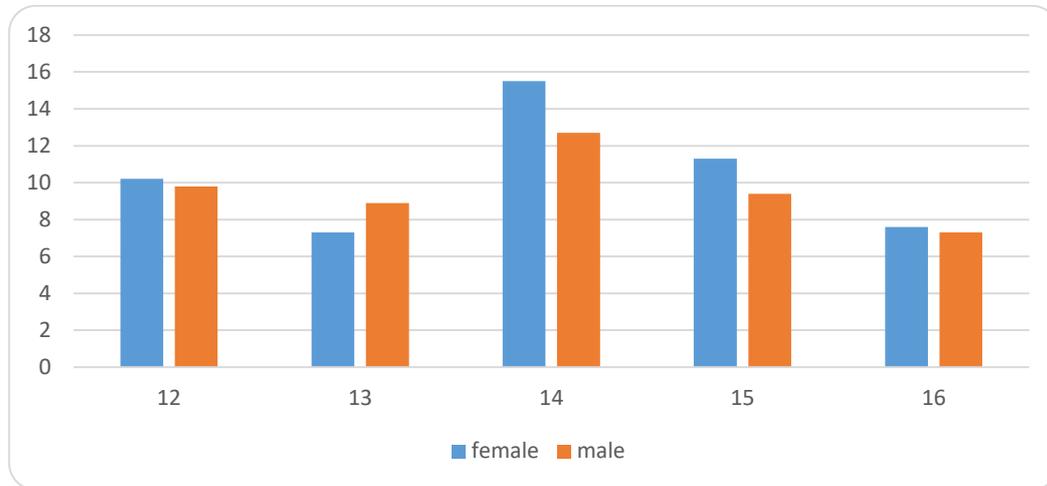


Figure 1. Age of young immigrants taking part in the courses

Source: Original research by the authors

Based on our research, we have determined that it is possible to use ICT tools and intergenerational learning as a tool for preventing early school leaving. This finding is supported by evidence from our research outcomes. During the courses developed by partners and conducted as part of the project, young immigrants learned that ICT tools can be used not only for entertainment, but also for education and for personal and professional development. One of the issues we wanted to determine with the baseline and endline surveys was the role of ICT tools in the lives of young people. Before the courses started, we asked the young people what type of ICT tools they used and what role ICT tools played in their lives. Young people used Wi-Fi (86%), mobile phones (75%), audio-visual systems (53%), software (30%), tablets (21%), and cloud storage (18.18%) every day.

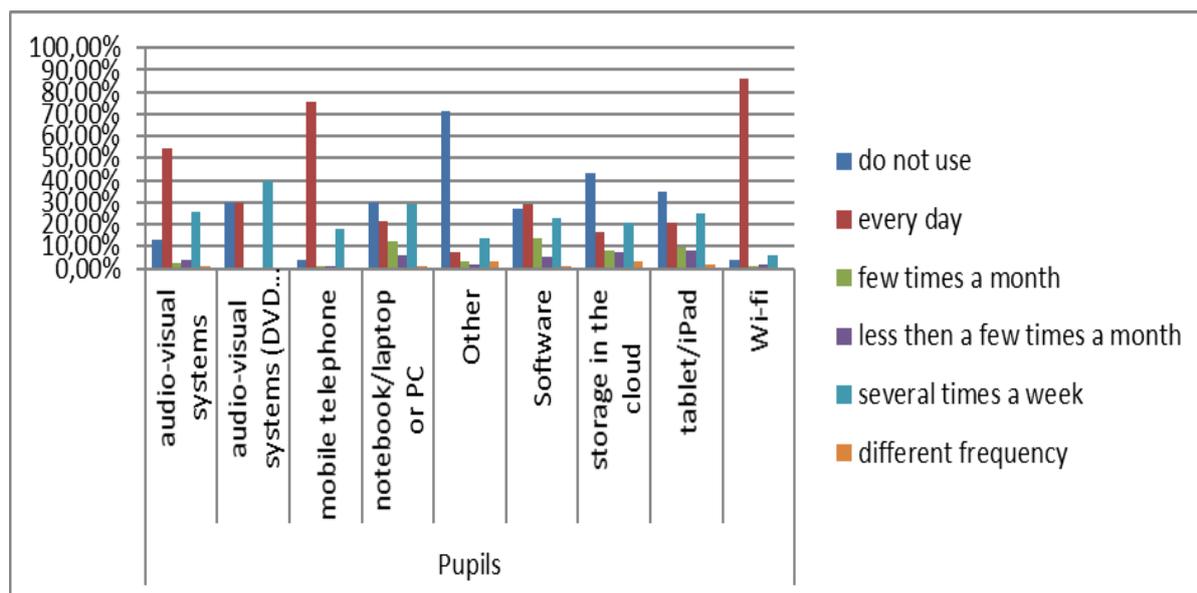


Figure 2. Frequency of use of ICT tools among young immigrants before the course

Source: Original research by the authors

Young immigrants most often used mobile phones and Wi-Fi. The main purposes of using mobile phones included communication (25%) and entertainment (22%). Tablets/iPads were mostly used for entertainment (26%) and communication (21%). Similar to tablets/iPads, notebooks/laptops or PCs were used for entertainment (26%) and communication (26%).

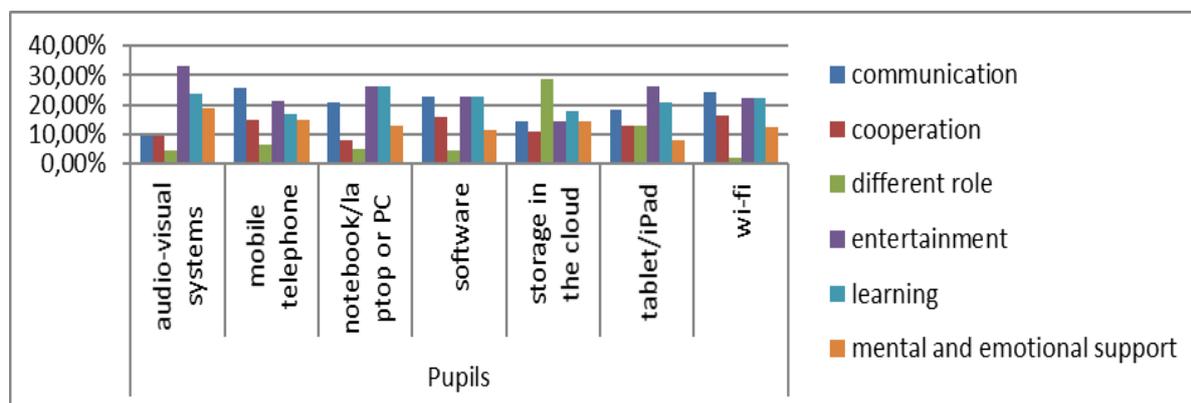


Figure 3. Role of ICT tools in young immigrants' lives

Source: Original research by the authors

Our findings show that ICT tools were very useful and necessary during the first days, weeks and months of school education in a new country or a new social environment when young people face new challenges. They allow immigrant pupils to keep in touch with their family and friends and to adjust to their new reality. During the courses, by using ICT tools in

intergenerational relationships, both age groups (pupils and older people) reduced social and personal barriers and learned about each other. It turned out that most immigrant pupils are fluent in ICT technologies and tools; this proficiency is their strength, and it can be used by teachers in school. On the other hand, there is a low level of technological maturity among immigrants; in other words, ICT tools play a very important role in the immigrants' life but at the same time consume time that should be dedicated to learning. For example, before the courses started, most students used YouTube only for entertainment purposes, but the older adults made them aware that YouTube can be used for learning too. They pointed out that most universities have YouTube channels where some lectures are presented; in this way, ICT tools enable access to almost unlimited sources of knowledge and communication. In addition, ICT tools help to overcome language barriers in intergenerational relations. The young people told us that their main reason for participating in the ICT course was the hope of improving their language competence.

One of the aims of the study was to find out prior to the course what young people wanted to learn from older people and compare these expectations to what they had actually learned after the course ended. Young people's expectations about intergenerational learning were connected with language and the kinds of knowledge that would be useful to them when living in a new country. After the last meeting with the older participants, pupils were asked about the benefits of the course. They emphasised language learning and practical information. The pupils appreciated getting to know older people and to find out more about the life of the older generation, which they had not expected before the course started. The table below shows the most characteristic answers³:

³ All quotes contain the original spellings.

Table 2. Pupils' expectations before the courses and final outcomes

Source: Original research by the authors

Before the courses	After the courses
<i>'relate better'</i>	<i>I learnt how to talk to old people (2)</i>
<i>'to learn Swedish language and culture'</i>	<i>Be sure of who and when u need to use wifi or the internet to search for words vocabulary. (2)</i>
<i>'I learn not to be shy when talking Swedish'</i>	<i>Some English words (2)</i>
<i>'Talk Swedish and learn more about Sweden.'</i>	<i>Some things it's good for a future (2)</i>
<i>'The language'</i>	<i>How to talk to old people</i>
<i>'To speak Swedish and to learn about Sweden'</i>	<i>I learnt that old people don't use Wifi</i>
<i>'Speak Swedish and learn about older people'</i>	<i>I learnt to make a game</i>
<i>to be nice</i>	<i>Not answered</i>
<i>how to communicate, talk English properly (3)</i>	<i>How to talk to people</i>
<i>Lots of things around me. And how to work with the internet safety (3)</i>	<i>I learnt how to talk</i>
<i>English language (2)</i>	<i>how to talk to old people</i>
<i>The language (2)</i>	<i>I learnt that when you are old you can retire and live in a retirement home</i>
<i>How to talk to old people</i>	<i>I learnt old people live in a retirement home (who have retired from their jobs)</i>
<i>How to talk with an old person</i>	<i>Be sure of who and when u need to use wifi or the internet to search for words vocabulary.</i>
<i>How to communicate and talk English properly</i>	<i>I like to know about history and I learnt how the schools were when Barrie went to school</i>
<i>English Language</i>	<i>I learnt every thing</i>
<i>English</i>	<i>I practised my conversation</i>
<i>The past</i>	
<i>I want to learn how to be good with older people</i>	
<i>I wanted to learn how to speak Spanish better</i>	

The research project wanted to determine the role of ICT in intergenerational learning. Pupils' perspectives on intergenerational learning emphasise the significance of ICT tools for initial interactions and conversations. ICT tools gave both groups opportunities to get to know each other better despite language difficulties. In particular, apps like online translators facilitated communication. According to young immigrants:

'iPad was important when I met the elderly. We had something to concentrate on.'

'I could help older people with apps and we talked about iPad.'

'iPad worked as a matter of talk.'

'We had something to talk about, we leaded plenty conversations.'

Language and communication skills was a recurrent topic among young immigrants in our research. At the beginning of the courses, young immigrants in all four countries were asked what they would like to learn from the older groups. They declared that they would like to be fluent in the language of country they came to, to learn how to communicate with older people, and to learn something about the history, traditions, and customs of their new country. At the end of the courses, each of these goals had been achieved to some extent, but the dominant effect of intergenerational collaboration and intergenerational learning was intergenerational integration in the form of overcoming barriers to communication and finding a common, intergenerational language.

Research also showed that an inability to speak the dominant language fluently, unfamiliarity with cultural codes, or uncertainty as to how to cope with different social groups might be sometimes challenging for young immigrants. The course offered both generations an opportunity to get to know each other better despite language difficulties, using ICT as a facilitator for their interactions and for learning, particularly drawing on online translators. In our respondents' opinion, internet supports the first contacts and knowledge exchanges in intergenerational learning, allowing participants to get to know each other. Other elements helpful for learning were pictures, maps, and music from online sources. These items can sometimes replace language and facilitate learning. In this way, ICT tools reduce intergenerational distance and help to overcome the polarisation between younger and older citizens. Depending on the needs and possibilities of the participants, ICT tools were used spontaneously in intergenerational collaboration.

Both age groups were interested in using ICT in intergenerational collaboration because they realised that the ability to use ICT tools is one of the key skills of contemporary times and that the significance of these tools will increase in the future. However, ICT tools play different roles for the two cohorts. Pupils primarily use ICT for achieving relevant, specific goals and entertainment; for the older participants, ICT tools not only facilitate learning, but they are also in themselves the object of learning. In other words, the older cohort learned with the help of ICT while learning about it.

Paradoxically, this difference fosters the potential for intergenerational learning as it intrigues people and makes them interested in others. It turns out that while pupils are proficient at using ICT, they are usually not prepared to function independently and effectively in the information society (knowledge). This is evidenced by the fact that they treat ICT as a tool of entertainment, using it for pleasure or to alleviate boredom. Despite their proficiency in using ICT tools, pupils exhibit low technological maturity, whereby technological maturity can be defined as readiness for an independent, effective and responsible use of information and communication technologies – also in an innovative way – and readiness for formulating expectations about technology in terms of current and future needs.

Technological maturity determines the satisfactory and constructive functioning of individuals in the information society, while a lack of competence in this area puts individuals at risk of social exclusion. ICT-related competences are important for access to the broadly understood education and labour markets, and they are cited among the most important human competences of the twenty-first century as a so-called 'key competence' (Valentine, Marsh,

Pattie 2005: 5-7). As a result of pupils' low technological maturity, the use of ICT tools plays an important role in the pupils' lives but nonetheless consumes time that should be dedicated to learning.

Courses based on intergenerational learning and ICT tools support the development of contemporary key competences and soft skills, especially communication and language skills. According to the respondents of our survey, an improvement of communication and language skills mainly resulted from the use of ICT tools in intergenerational collaboration. Both young people and older participants told us that the courses definitely had an impact on a mutual understanding and offered an opportunity to introduce themselves, learn about each other, and share knowledge and skills.

Therefore, in order to increase the acquisition of EU key competences by immigrant pupils, actions taken can involve collaboration with the use of ICT tools. However, ICT tools only make educational sense when collaborative purposes are their main function. Otherwise, ICT tools themselves become a goal and effect of learning without any impact on immigrant pupils' educational lives. ICT tools cannot replace face-to-face interaction, but they can effectively contribute to a better understanding and harmonious coexistence between young immigrants and local older people living together in big cities. Learning supported by ICT tools eliminates intergenerational and cultural distance. It helps to work towards the common good, creating a sense of belonging and ensuring mutual support. 95.5% of pupils declared that participation in 'ICT Guides' has impacted on the role of ICT tools in their lives.

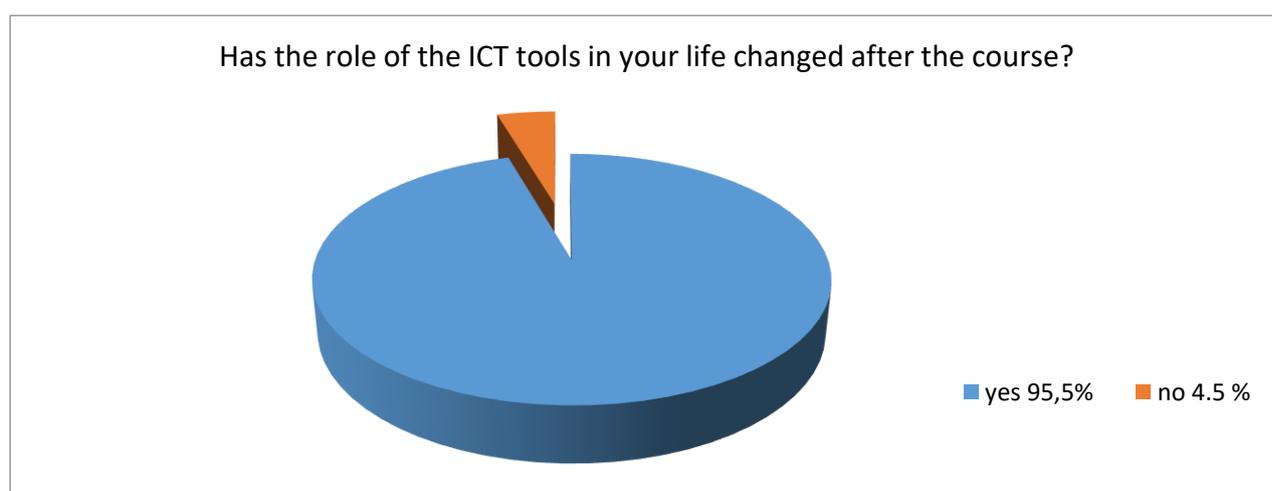


Figure 4. Role of the ICT tools after the courses

Source: Original research by the authors

59.1% of the young participants changed their opinion about education.

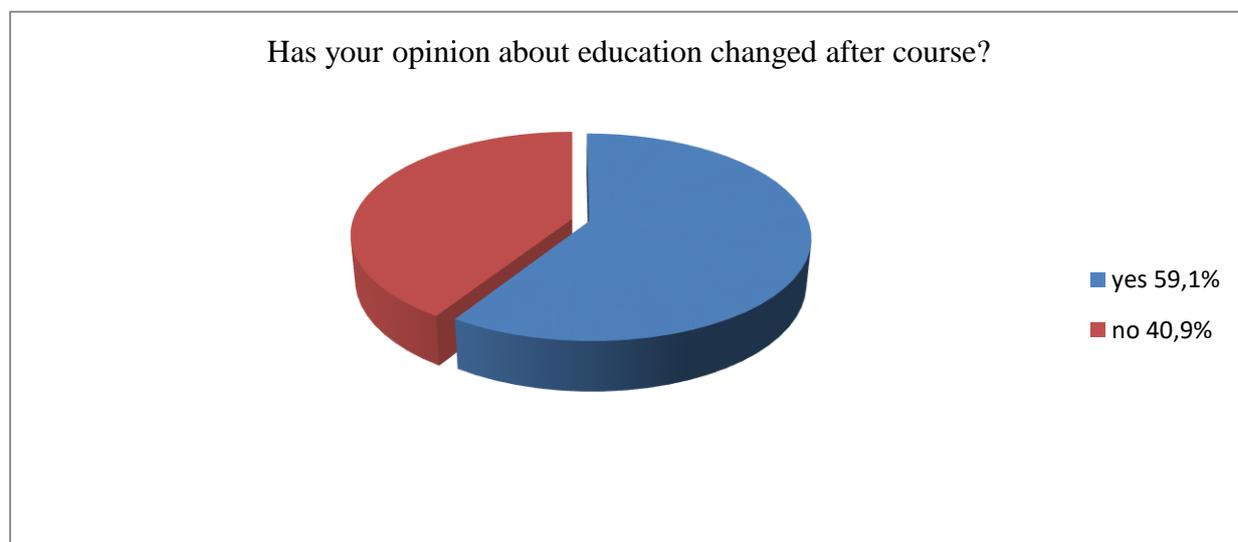


Figure 5. Change in young immigrants' opinion on education

Source: Original research by the authors

Asked why this should be, they provided the following answers:

I believe you need school to have a better future (2)

Because it helped me to be more convenient and be responsible for myself (2)

I have always thought education was important (2)

It's easy now after we learn more

Because it helped me to be more convinient and be responsible for myself.

I've always thought education is important as I want to be a pilot so I've got to work very very hard

I have always thought that school is important so that I can do the job that I want to do

Education has always been important to me

I have learnt a lot (2)

Not answered (6)

The research outcomes show a visible tendency to understand intergenerational learning as 'learning about each other' above all else. This was highlighted especially by the older participant group, who listed knowledge, skills and competences at using ICT tools as secondary to interacting with and understanding the immigrant young people. According to the immigrant young people, their ICT knowledge gave them the necessary confidence to interact with the older participants on equal terms. This conclusion is compatible with an emerging consensus among researchers that when young people, as part of different programmes, take on

the role traditionally reserved for adults, they gain a greater sense of belonging and enhance their ability to make a difference to their own lives and the lives of those around them. Our results showed that ICT-supported intergenerational learning enabled immigrant young people to perform better at school and to work independently of their schools and teachers. After the courses, the young people were also much more motivated to go to school because the older participants had tried to instil in them the belief that good education is a way of succeeding in life.

Conclusions

Our research shows that there are three main functions for the use of ICT tools in intergenerational learning. The first function is *educational* and is based on the fact that ICT tools extend the cognitive field of learners through the widespread reality available to them, while at the same time developing their perceptual, intellectual, and executive processes. It is obvious that intergenerational learning using ICT tools does not replace formal education, but that it can be treated as a complement to it. The second function is *emotional*; it emphasises the fact that intergenerational learning and ICT tools not only create strong intellectual experiences, but also evoke emotions and provide emotional and expressive experiences, thus stimulating commitment, curiosity and interest in the teaching material. And because there is a close relationship between emotions and motivation, the use of ICT tools—which affects the emotional sphere of a human being—triggers specific motivational processes without which learning is ineffective (Illeris and Associates 2004: 56-61). The third and final function is *communication*, based on the assumption that ICT tools, unlike other communication tools such as radio or newspapers, use media not only to transmit messages but also to enable mutual communication and dialogue that can stimulate intellectual development and learning.

Our findings further highlight that intergenerational learning is a significant socio-cultural platform for knowledge exchange. Both young immigrant pupils and older participants described their interactions as 'a power to change' their lives and 'an exchange of knowledge' that might inspire the other group.

We are aware that our research results cannot be considered as representative in general. But we believe that the linkage between intergenerational learning and ICT tools outlines a new prospective area for research and educational practice. It can effectively contribute to a better understanding and harmonious coexistence between young immigrants and older people living collectively in big cities. In the surveys, the young people indicated that the courses definitely

had an impact on the mutual understanding for both groups and that they offered young people the opportunity to introduce themselves, learn about each other, and share knowledge, skills and competences. ICT facilitated better interaction and understanding between immigrant young people and older participants by overcoming stereotypes and eliminating cultural differences. ICT courses gave young immigrants the opportunity to demonstrate their ICT knowledge and at the same time improve their competence in speaking their host country's language. Meetings with the older participants gave immigrant young people the feeling of being included in the group of neighbours. Immigrant young people also felt that the older group provided them with emotional support on how to live in the new country and succeed in their lives there.

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