






Using Technology to Connect Generations: Some Considerations of Form and Function

Usando la tecnología para conectar las generaciones: consideraciones sobre forma y función

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ABSTRACT

Nowadays, as ageing increases in Western societies it has become more evident that multiple generations are ageing concurrently at any given time in history. Therefore, ageing must be approached as a multi-generational phenomenon, not just as a question of elders. In this context, situations that engender increased interactions between generations are garnering more attention. There is a growing emphasis on expanding the role of technology in intergenerational programmes, within the field of intergenerational studies. Consequently, this paper is focused on education and learning processes within intergenerational programmes with a strong technology component. Information from a total of 46 intergenerational programmes from 11 countries has been gathered through a survey. Level of impact, status of generational groups, and centrality of technology have been appraised for all programmes in the sample. Technology learning-teaching constitute the main area of intended impact of these programmes. However, the surveyed programmes employ as well a wide range of strategies to facilitate intergenerational communication, cooperation and relationship formation between generations involved. Interest of programmes examined does not just consist of teaching the use technology but of experimenting with technology in different forms and functions and exploring the positive potential for enhancing intergenerational relationships.

RESUMEN

Actualmente, conforme el envejecimiento en las sociedades occidentales aumenta, resulta más evidente que en cualquier momento histórico dado hay varias generaciones envejeciendo simultáneamente. Por tanto, el envejecimiento debe ser estudiado como fenómeno multi-generacional y no solo como un asunto de personas mayores. En este contexto, están suscitando más atención las situaciones que implican más interacciones intergeneracionales. Dentro del campo intergeneracional está aumentando el interés en torno a las posibilidades de expandir el papel de la tecnología en los programas intergeneracionales. En consecuencia, este artículo se centra en los procesos de educación y aprendizaje acaecidos dentro de programas intergeneracionales con un fuerte componente tecnológico. Mediante un sondeo se recogió información sobre un total de 46 de este tipo de programas de 11 países. Todos se han evaluado en la muestra según su nivel de impacto, el estatus de los grupos generacionales y la centralidad de la tecnología. La enseñanza-aprendizaje de la tecnología constituye la principal área de impacto buscada por estos programas, que, no obstante, también utilizan una amplia variedad de estrategias para facilitar la comunicación, la cooperación y la formación de relaciones intergeneracionales entre las generaciones implicadas. El interés de los programas analizados no solo consiste en enseñar a utilizar la tecnología sino en experimentar diferentes formas y funciones con ella, así como en explorar el potencial positivo de la tecnología para mejorar las relaciones intergeneracionales.

KEYWORDS | PALABRAS CLAVE

Ageing, technology, teaching-learning, older adults, youth, intergenerational programmes, intergenerational relationships, communication. Envejecimiento, tecnología, enseñanza-aprendizaje, personas mayores, jóvenes, programas intergeneracionales, relaciones intergeneracionales, comunicación.

1. Introduction

Talking about ageing is not just talking about older people. From a life-span perspective, we all age while we live and from a life-course perspective, our ageing process always happens within the context of diverse age cohorts. Whatever the perspective, it has become evident that multiple individuals and generations are ageing concurrently at any given time in history. Hence, ageing must be approached as a multi-generational phenomenon, not just as a question of older populations. Furthermore, the fact that multiple generations are ageing makes us think of inter-generational interactions as another potential component in the analysis of human ageing processes. From an intergenerational perspective, we not only age but somehow we are ageing together.

Demographic studies conclude that apart from lower fertility and longer life expectancy, modern societies are witnessing «an increase in the number of living generations, and a decrease in the number of living relatives within these generations» (Harper, 2013: 2). In this context, situations that engender increased interactions between successive generations tend to draw positive attention, whether generations are considered in terms of age (e.g. older and younger people), family links (e.g. grandparents and grandchildren), community life (e.g. youth and elders) or organizational membership (e.g. seniors and juniors).

The focus of this paper is linked to the set of planned and intended intergenerational initiatives under the name of intergenerational programmes, and our specific emphasis will be put on education and learning processes within intergenerational programmes with a strong technological component. Typically, the term intergenerational programme refers to activities or programmes that increase cooperation, interaction or exchange between any two generations (Kaplan & Sánchez, 2014).

Within the intergenerational studies field, there is a current emphasis on expanding the role of technology in programmes and practices that intentionally connect generations. European Union (EU)-funded multi-country initiatives that employ technological advances in innovative, generation-connecting ways, such as «Mix@ges – Intergenerational Bonding via Creative New Media», a Grundtvig multilateral project, are prolific. This project, which spans five countries, has explored how the artistic use of digital media can assemble individuals from multiple generations (Fricke, Marley, Morton & Thome, 2013). In the framework of the EU Lifelong Learning Programme (2008-11), 21 projects with a primary interest on inter-

generational learning and active ageing through digital skills were launched (European Commission, 2012).

Regarding technology development, we are witnessing an abundance of new software and devices for fostering cross-generational relationships within families (Chen, Wen & Xie, 2012; Davis, Vetere, Francis, Gibbs & Howard, 2008). Gershenfeld & Levine (August 6, 2012) focused on explaining «How can we effectively transform media consumption into quality family time?», by emphasizing video games and their possibilities for facilitating generational encounters in playful learning together. On the same line, Chiong (2009: 22) was able to conclude that «the ubiquity of digital media in children's and adults' lives is an important untapped opportunity for intergenerational contact».

We appreciate how Facebook, Twitter and other social media outlets are assisting families with the ability to stay connected in spite of geographical distance. A 2012 survey which concentrated on how 2000 Americans, ages 13-25 and 39-75 utilize online communication, determined that 83% of respondents considered online communication to be an effective method of touching base with family members. Additionally, 30% of the grandparents and 29% of the teens/young adults reported that through online connections, they better understand each other (AARP, 2012).

In considering certain features of intergenerational programmes with a strong technological component such as area and level of impact, status of generational groups, and centrality of technology, it is useful to reflect more largely on the role of technology in the social lives of both younger and older individuals. The Center for Technology and Aging's recent report, entitled «The new era of connected aging», states that «We are at the dawning of 'Connected Aging' in which the growing array of Internet-based technologies and mobile devices increasingly will support older adults to age in place» (Ghosh, Ratan, Lindeman & Steinmetz, 2013: 1).

However, it is also becoming evident that many individuals with limited access to technology, along with technology skills and support, are less likely to obtain the many social benefits associated with the ongoing and numerous advancements in technology. There is recognition, within the literature on how older adults use Information and Communication Technologies (ICTs), that adoption of new technologies by older adults is neither quick, simple, nor universally accepted (Feist, Parker & Hugo, 2012; Selwyn, Gorard, Furlong & Madden, 2003). Furthermore, within the population of adults aged 65+, older seniors

with lower levels of educational attainment and income are frequently lagging behind in terms of ICT adoption. They are also more likely to have difficulties when using new digital devices, and sceptical attitudes about the benefits of technology (Smith, 2014). On an encouraging note, however, it is also the case that when older adults transcend these obstacles, they tend to become more positive about the online world and adept in utilizing digital technology (Smith, 2014).

In terms of how children/youth use new technologies, here too, the data are mixed. There is certainly potential for technology to contribute to the well-being and development of youth, yet various factors need to be considered, such as the ability of youth to detect and avoid threats which technologies may pose. Fortunately, there is evidence that youth are becoming more high-tech and more able to protect themselves. According to a recent Pew Research Center survey of 802 American youth aged 12-17 and their parents that explored technology use, youth are becoming more skilled at managing the privacy of their online information, including when sharing personal information on their social media profiles, and in taking technical and non-technical steps to keep that information from reaching businesses and advertisers (Madden, Lenhart & al., 2013).

What if we tried to connect different generations around technology issues? In one such example, a group of youth researchers in Australia studying youth online behaviour (Third, Richardson, Collin, Rahilly & Bolzan, 2011) conducted an action research study in which a group of youth facilitated a series of technology education workshops on social networking and cybersecurity for adults. After analysing the subsequent dialogue between the youth and adults, the researchers concluded that the youth in their study could handle the online risks more effectively than most adults anticipated. Many of these youth became proficient in cybersafety issues through informal learning processes, such as peer knowledge sharing and trial and error.

Many technology-oriented intergenerational programmes rely on youth with technology expertise to help older adults navigate and become comfortable

with the world of «digital inclusion», while older adult participants contribute to other programme objectives, such as teaching youth about local community history or working collaboratively on community improvement projects. One such example has taken root in a rural community in Scotland: «Young and old would work together; the elders have a vast local knowledge, the young have an intuitive understanding of contemporary technology and practitioners would bring insights from the design sector» (CLD Standards for Scotland Report, 2010: 6).

Over time, new modes of communication become

There are many accounts of the ways in which advances in technology can have a negative as well as a positive influence on the lives of older and younger people. For example, within the family contexts the expertise of youth using electronic media and peer-oriented participation in social networks can be a divisive influence on family relations, and sometimes technology functions as both, a barrier and an opportunity

possible. As older adult participants gain technology skills and confidence, they transform themselves into what Ghosh, Ratan, Lindeman & Steinmetz (2013: 12) term as «empowered 'prosumers' of information in the digital world», and the technology-related communication dynamic becomes more multi-directional.

Certain assumptions should be put aside when developing intergenerational programmes with a significant technology component. For example, older adults might be more digitally competent than the participating youth. A survey conducted by EU Kids Online (2011) questioned the common assumption that youth were innately digitally literate. Survey results indicated that only 36% of the participating 9-16-year-olds stated that it was very true that they knew more about the Internet than their parents. This report also highlights limitations in the way many youth are currently using computing. In taking a more nuanced view about how youth engage with technology, it is important to consider the degree to which the content is pre-determined and the extent to which the «televi-

sual» experience promotes passivity. As Hall (2012: 97) states, «[Such characteristics are] particularly problematic for the development of creativity and creative education».

This paper describes results from a survey designed to scan and contextualize the terrain of intergenerational programmes that have a substantial technology component. The identified programmes span a range of family contexts and community settings, and utilize new and emerging technologies to build relationships, promote understanding and facilitate cooperation between generations. In reporting survey results, as you see below, we draw significantly on respondents' survey quotes to demonstrate a composite representation of programme innovation, success and challenge.

2. Material and methods

2.1. Survey

Our project team created a survey aimed at gathering data about intergenerational programmes that have a significant technology component, i.e. programmes in which technology had been included intentionally as a method to connect generations. The survey was organized in two sections: organization/primary contact information, and programme specific questions about the use of technology. In order to identify intergenerational technology programmes to be a part of the survey, project team members utilized a three-fold strategy over a 16-week period (from February 1 to May 15, 2013). This strategy included outreach through intergenerational list-serves (managed by local, national, and international membership organizations) and personal contact with intergenerational practitioners, a structured web search (via Google Search), and literature review (via Google Scholar, SCOPUS, and Web of Knowledge) for the period January 1, 2009 to December 31, 2012. The following terms were used in the web search and the literature review: «intergenerational program» and «technology», «intergenerational project» and «technology», «intergenerational activity» and «technology», and «intergenerational technology program». Similar strategies for screening and scoping this type of programmes have already been implemented in the intergenerational field (Bishop & Moxley, 2012; Flora & Faulkner, 2007; Jarrott, 2011).

All programmes retrieved through the web search, literature review and outreach to relevant list-serves were evaluated on the following criteria inspired in previous work by Brophy & Bawden (2005): accessibility (programme is within reach), topicality (programme matches research's subject matter), and relevance

(relevant, partially relevant, not relevant) to the study objectives. Only those programmes partially or fully meeting the following three relevance sub-criteria were considered suitable for our sample: (i) facilitating intergenerational engagement is an explicit goal, (ii) the initiative involves more than a single contact or one-time only activity, and (iii) technology is used as a tool to facilitate connections across age groups.

Of the 72 surveys that were completed and submitted, 46 intergenerational programmes¹ were retained for analysis after examining them for redundancy, completeness, and selection criteria.

2.2. Analysis

The project team utilized a mixed-methods analytic strategy (Greene, 2008). After descriptive analysis (ranges and frequencies) of quantitative data, two members of the research team reviewed approximately 25% of the raw data with the overarching purpose of developing response categories to encompass the full range of the survey's qualitative data and frame it in the context of several themes (provisional coding) prevalent in the intergenerational studies literature that addresses issues related to intergenerational communication, relationship formation, and use of technology. Codes (113 in total) were established for a series of variables that fit into four major categories: programme objectives, programme description, technology use, and (perceived) technology importance. Some excerpts were assigned multiple codes according to principles of simultaneous coding (Saldaña, 2009). After several joint coding sessions, two members of the research team then worked independently to review and code the entire database (consisting of 431 excerpts). All differences in coding were reconciled and an acceptable inter-rater reliability rate (pooled Cohen's Kappa) of .93 (Hruschka, Schwartz & al., 2004; Lombard, Snyder-Duch & Campanella, n.d.) was finally achieved.

2.3. Sample description

Information from a total of 46 intergenerational programmes from 11 countries was gathered through the survey. United States (19 programmes), United Kingdom (9 programmes), and Germany (7 programmes) were the most represented countries. There were also 3 programmes from Canada, 2 programmes from Ireland and Portugal, and 1 programme from the rest of countries in the sample (Belgium, Hong Kong, Italy, Romania, and Taiwan).

Regarding time in existence, 33 programmes were 1-3 years old and five of our sampled programmes had

been in place for ten or more years. Age distribution of participants ranged from 0-5 to 85+ years old, with 80.4% and 67.4% of the programmes including 15-24 and 25-54 years old youth and adults, respectively. The least represented age group of programme participants was that of 65-74 years old, with just 19.6% of sampled programmes. The most typical frequency of intergenerational interaction facilitated by programmes in the sample was weekly (28.3%), followed by programmes whose participants interacted 2-3 times per month (19.6%), and daily/almost daily (15.2%).

There was also a question on the survey which asked about the type(s) of technology being used by the respondents' organizations. Computer (desktop) devices, including Smart Boards and iPads, were used by 93.5% of the programmes. Approximately half of the programmes (54.3%) had incorporated online platforms for sharing content and mobile communication devices. Lastly, 19.6% of intergenerational programmes in the study were using gaming platforms, 17.4% had adopted digital cameras and e-readers, 15.2% counted on social media, and 13% used online publishing platforms.

3. Results

3.1. Intended impact

Table 1 (see next page), below, categorizes the programmes in the survey according to the major area(s) of intended impact. The most frequent category of response is in the focus area of education and learning; survey responses extended to teaching and learning in non-formal as well as formal education settings.

Focusing on the level of intended impact (or change) and examining more closely the respondents' comments about programme objectives, we can differentiate between programmes in terms of whether the intended benefits were targeted to individual participants, families, local organizations and institutions, and/or entire communities.

Most programmes were designed to have a positive impact on the lives of the participants (74%), whether through helping older individuals in developing

ICT skills or through raising awareness of and reducing digital exclusion amongst older people. While a majority of these programmes were primarily focused on enhancing individual participants' technology-related knowledge and skills, 24% of the programmes in the sample also targeted non-technology related capabilities such as how to maintain a healthy lifestyle and improve second language skills. Interestingly, 15% of programmes in our sample were not pursuing just individual impact but specific reduction of the sense of iso-

The main question is how intergenerational programmes can apply technology while staying true to underlying goals and corresponding values for promoting intergenerational learning and education in ageing societies. There are many accounts of the ways in which advances in technology can have a negative as well as a positive influence on the lives of older and younger people. For example, within the family contexts the expertise of youth using electronic media and peer-oriented participation in social networks can be a divisive influence on family relations, and sometimes technology functions as both, a barrier and an opportunity.

lation or exclusion among older people.

3.2. Technological capacity and status

As noted in Tables 2 and 3, below, youth participants were viewed as having more status (at least when it comes to dealing with matters related to technology) and as being more readily positioned to take on the role of technology tutor or teacher than the adult participants.

Table 3 (see next pages), below, illustrates distinctions in the surveyed programmes with regard to the direction of the technology-related teaching and learning. Although there were significantly more «youth as teacher» responses than «older adults as teachers», the most frequent type of response (63% of programmes) emphasized complementary contributions to both teaching and project leadership. For more detailed analy-

AREA OF INTENDED IMPACT CATEGORY	PERCENTAGE OF PROGRAMMES
Education/Learning	67.4
Technology (as main focus)	32.6
Aging well	30.4
Community improvement	30.4
Cultural continuity	10.9
Family support	13
Work	6.5
Caregiving	4.3

sis, this latter category was broken into two sub-categories: emphasis on joint learning/joint teaching and emphasis on common goals and sense of intergenerational partnership.

3.3. Importance of technology

The programmes that were surveyed utilize a variety of methods to enable cross generational communication, cooperation, and relationship formation. How essential is the technology part of these generation-linking strategies? Table 4, below, addresses this question by distinguishing between respondents' comments regarding the role of technology as being central vs. secondary to the intergenerational engagement within the surveyed programmes.

A disproportionate number of responses (73.9% versus 36.9% of programmes, respectively) underscored that the technology component was of central rather than secondary importance to the fundamental nature of the surveyed programme models.

The illustrative body of responses identified within the category of «blended technology strategies», for example those that incorporate technology-intensive as well as «technology free» components into programme activities, provides some clues with regard to how practitioners weave new technology tools into their cross-age programme activities. For example, one respondent wrote: «Without the smart board, we found that some of the kids were done with an activity before the older

adults were finished». In this particular example, access to the smart board technology complements and enhances

an existing activity in need of some modification. It is a question of how the face-to-face contact and technology-mediated contact bolster each other.

Respondents indicated many additional aspects of technology that must be considered for programmes:

- Appropriateness of the technology (21.7% of programmes). This includes developing age friendly technology tools and using high-tech equipment to develop appealing ice breaker activities.

- Comfort level (13% of programmes).

Emphasis is on using technology that is non-threatening and user-friendly. «The challenge remains getting participants and staff comfortable with the technology».

- Access to the technology (6.5% of programmes): «We are very aware that many of the most valuable local and intergenerational activities within Historypin happen offline -often inevitably offline because of skills and access».

4. Discussion and conclusion

The majority of the intergenerational technology programmes that we examined include an educational function and emphasis, which consists of more than solely learning how to use technology. Reading Table 1 from a diffusion of innovations perspective (Rogers, 2003), the emphasis on learning may just be an early stage, to be followed by a series of steps involving experimentation and, ultimately, adoption of the technology in different formats and contexts. Within the framework of intergenerational practice, the education-learning-technology triangle encloses a rather complex array of possibilities.

The majority of the programmes that we surveyed aspire to have a positive influence on individual programme participants through improving both technology- and non-technology- related knowledge and skills. This knowledge can serve as a conduit for generating new modes of intergenerational collaboration (within and beyond families) and joint social and com-

RESPONSE CATEGORIES	PERCENTAGE OF PROGRAMMES	EXAMPLE QUOTES
Equal status (starting programme on an «equal footing» presumed equal level of competence)	34.8%	«KOJALA is a network of and for older and younger people, who are prepared to share their knowledge and abilities with others».
Youth first (assumed to have an advantage)	32.6%	«The technology is our students' strong suit and an area where our elders feel incompetent».
Older adults first (assumed to have an advantage)	4.3%	«The school2work platform has been developed for mentors in Germany that support young people on their way from school to work».

RESPONSE CATEGORIES	PERCENTAGE OF PROGRAMMES	EXAMPLE QUOTES
1. Youth as teachers	30.4%	«We launched this website to help Ireland's younger generations' to teach their parents and older loved ones how to get the most from the Internet».
2. Older adults as teachers	10.9%	«The Center creates opportunities for residents to continue their passion for teaching young children, as well as being with surrogate grandchildren».
3. Complementary contributions to teaching and project leadership [63% of programmes]		
3.1. Emphasis on joint learning/ joint teaching	41.3%	«By sharing these activities together both adults and children acquire an understanding of shared values and gain increased respect for each other».
3.2. Emphasis on similar goals (and intergenerational partnership)	41.3%	«Unlike many other projects (in) 'Generations,' it was neither sought that the older people teach the younger ones, nor the other way round. Rather, the different groups were supposed to devote equally to both a common task and a common theme. It was therefore judicious not only to stake on a good dialogue, but a dialogue of equals (in eye level), and that right from the very beginning».

munal action; it is not necessarily an endpoint in and of itself. Therefore, attention to individual impact (including learning) is not adopting a fully individualistic approach as it is through the multi-generational strategies cast within relationship-building and shared social and community contexts that efforts with an education component take form.

There is a distinct thread of response that under-values or under appreciates older people's assets. This orientation for using information technology to enhance the quality of life for older adults can be characterized as «deficit-driven design» in contrast to «positive design». According to Carroll, Convertino, Farroa & Rosson (2011: 7), in the former, «the design intervention orients to and addresses problems, in this case the negatives of growing old alone and isolated, and seeks to mitigate these deficits».

However, in positive design, «the design intervention orients to and addresses human or organizational strengths and seeks to leverage but also further strengthen them or facilitate their expression in new activities» (Carroll, Convertino, Farroa

& Rosson, 2011: 7).

Earlier in this paper we underscored that often youth participants in intergenerational programmes who have a strong technology component are frequently disproportionately respected for their digital competency and are often positioned in the role of technology teachers/tutors, individually or as equal partners with older adult participants. However, seven

RESPONSE CATEGORIES	PERCENTAGE OF PROGRAMMES	EXAMPLE QUOTES
Centrality of technology to programme [73.9%]		
References made to the tech-focused nature of project models/activities	43.5%	«The program is entirely dependent upon using technology to remix, share and explore media messages».
Emphasis on tech skills development	21.7%	«The focus was improving the technology skills of older people and the subject was chosen by the pupils - this gave them ownership of the project and the older people were keen to learn».
Emphasis on removing technological barriers	8.7%	«The technology we provide has opened a door that can often times be a barrier; we have made it a pathway».
Technology as secondary [36.9%]		
Blended technology (the importance of blending tech and non-tech methods)	21.7%	«Virtual contact possibilities have to be combined with face-to-face meetings and learning activities».
Primary emphasis on programme objectives/goals (not the technology)	19.6%	«(Technology is used) as a vehicle and more as a 'pretext' to enhance intergenerational linking and to stimulate intergenerational learning and dialogue. Getting-to-know activities, ice-breakers, tandem and group activities, 'analogue' creative activities (performing and painting) and informal chat in breaks were equally important».
(There are times when) Technology is not needed	6.5%	«My students and I also give educational lectures without using computers, but our main focus is teaching seniors how to play cognitively stimulating games».

ral respondents referenced a multifaceted relationship in which members of both generations make meaningful (and often reciprocal) contributions. The most frequently surveyed model is, when the youth guide the technology education, while the older adults substantially contribute in other ways, such as teaching gerontology students about a topic related to the experience of ageing. The success relies on interlocking goals, and include reciprocity in learning.

As there are so many configurations with regard to participants' technological competencies and the programmatic roles they play, we have found that the dynamic of who does the teaching is not necessarily a generational issue. Reinforcing our conclusions in this regard, we found multiple accounts in the literature that emphasize the technology teaching capacity of young people in work settings (Bailey, 2009), the often significant influence that grandparents have on youth learning about science and technology (Jane & Robbins, 2007), and the power of intergenerational teams to innovate and apply new technologies (Large, Nasset, Beheshti & Bowler, 2006).

The themes of co-learning, collaboration, and the primacy of the intergenerational relationship that were present in the current survey results are also significant in the broader field of intergenerational studies. This is emphasized as a best practice guideline provided in a recent document by ECIL (European Certificate in Intergenerational Learning) emphasizing the importance of encouraging «reciprocal learning» (i.e., opportunities in which the generations learn from and with one another) (ECIL, 2013).

Our intergenerational technology programmes survey represents a preliminary effort to discover how new technological developments are currently being utilized in a range of intergenerational settings and contexts. The data gathered captures some innovative strategies for effectively applying technology to connect generations in such areas of emphasis as enhancing health and wellbeing, strengthening families, and working to improve community life. However, perhaps as an artefact of how the survey was constructed and distributed (e.g., it is a very short and general survey, and the emphasis is on identifying formal intergenerational programmes), we had limited access to experts at the forefront of technological innovation, in areas such as robotics and the construction of new types of technological devices for recording, organizing, and sharing information.

In concluding, we believe that technology is a powerful medium for intergenerational exchange. Our stance, which has remained consistent from before we

began this project to its completion, is that technology is value neutral. In framing this technology «neutrality thesis» (Pitt, 2000) from an intergenerational engagement perspective, we not only pay attention to creative, effective, and positive ways in which technology is being used to connect the generations, but also remain cognizant of the potential of technology to delimit authentic intergenerational communication and meaningful understanding. The main question is how intergenerational programmes can apply technology while staying true to underlying goals and corresponding values for promoting intergenerational learning and education in ageing societies. There are many accounts of the ways in which advances in technology can have a negative as well as a positive influence on the lives of older and younger people. For example, within the family contexts the expertise of youth using electronic media and peer-oriented participation in social networks can be a divisive influence on family relations (Figuer, Malo & Bertran, 2010), and sometimes technology functions as both, a barrier and an opportunity (EMIL, 2013: 25).

The results from our survey of intergenerational technology programmes are promising. We learned about various ways in which technological tools and services can help: older adults to have positive ageing experiences and maintain social connectivity; youth to gain skills that contribute to their employability; community residents to preserve local history and take part in local planning endeavours; and family members to stay in contact and maintain lines of social support across geographic distance. The challenge, which many of the programmes that were surveyed confront relates to relationship-building, particularly with regard to discovering ways in which «high tech» can lead to «high touch».

Notes

1 More information about the 46 technology-intensive intergenerational programmes that were surveyed can be found in the online database maintained by Generations United (see <http://goo.gl/s9O0UC>). Organizations that run intergenerational programmes with an intensive technology component can fill out an online survey so that these programmes can be added to this database (see <http://goo.gl/PyegRb>).

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