ICT skills 4All

ICTskills4All

Empowering old adult citizens for a digital world

Intellectual Output 2

Report on Intergenerational and peer-to-peer educational programs to improve digital skills in older adults

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Introduction

The rapid pace of technology development is raising its demand towards societies worldwide. There is a significant proportion of older adult citizens with limited or no digital literacy, which is a weak point in achieving complete digital connectedness. However, digital skills are crucial for continual inclusion in society and the labour market, and they offer many intangible benefits through countless digital tools and the Internet via the computer, tablet or smartphones.

Nevertheless, the demand for digital skills is growing despite the slow trends in statistics. In 2017, the share of people with digital skills above basic level in the labour market in the European Union (EU) was around 35%, with 52%, in the United Kingdom, 35% in Portugal and Belgium, 30% in Latvia and 23% in Poland. In a similar order we can see the diminishing number of people with no digital skills or no internet use: 2% United Kingdom, 5% Belgium, 10% in EU and Latvia, 15% in Portugal and 29% in Poland. The share of the labour force with basic or low skills is 46% in the United Kingdom, 60% in Belgium and Latvia, 50% in Portugal and the EU, 48% in Poland1. Individuals' level of computer skills decreases along with ageing. Individuals age 55 to 64 with at least low skills (based on ability to copy or move a file or folder) in 2017 in the EU is on average 43%,in the United Kingdom 56%, in Latvia it is 47%, in Belgium 46%, in Portugal 26% and in Poland 22%. The skill level decreases by around two times in the next age group from 65 to 74 in the mentioned territories, except United Kingdom, where the level decreases to only 37%, and the data is not available for the seniors aged 75 and more2. The level of digital skills has been divided into five levels as showed in fig.1 (age group 55-64) and fig.2 (age group 65-74).

[1] *Digital Skills of the EU labor force, 2017*. The Digital Economy and Society Index Report 2018 on Human Capital: Digital Inclusion and Skills, 9 p.

[2] *Individuals' level of computer skills*. Eurostat, data acquired 13.02.2019.

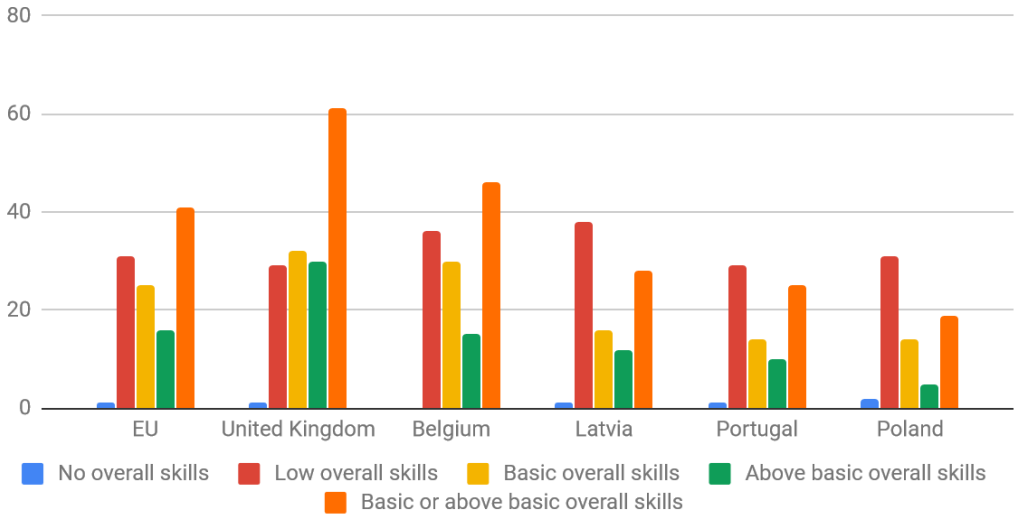

Figure 1 – Individuals' level of digital skills in the age group 55-64 (%), Eurostat 2017

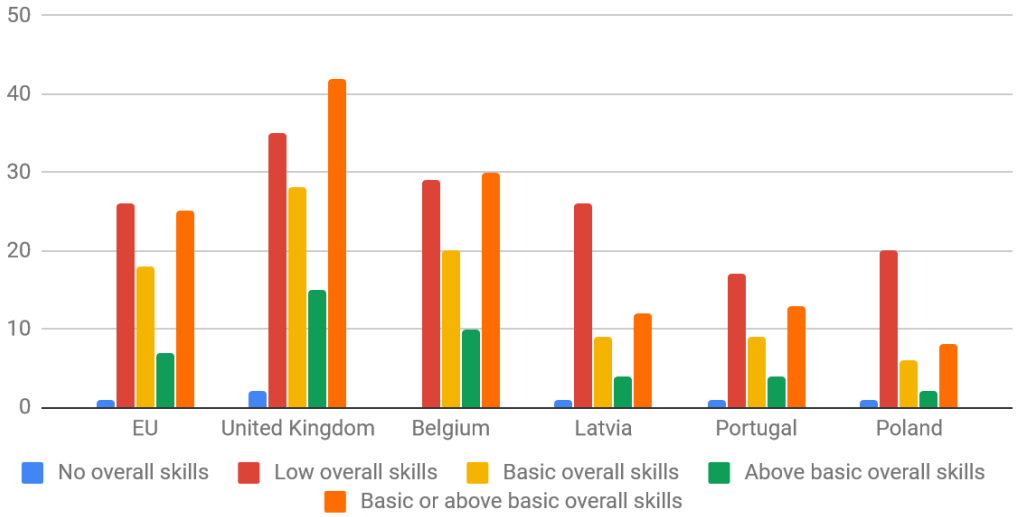

Figure 2 - Individuals' level of digital skills in the age group 65-74 (%), Eurostat 2017

The number of regular computer users is growing amongst older adults, as you can see in fig.3 and 4. Daily computer usage is on average common for around 50% of European senior citizens aged 55-64 and diminishes almost two times in the next age group 65-74.

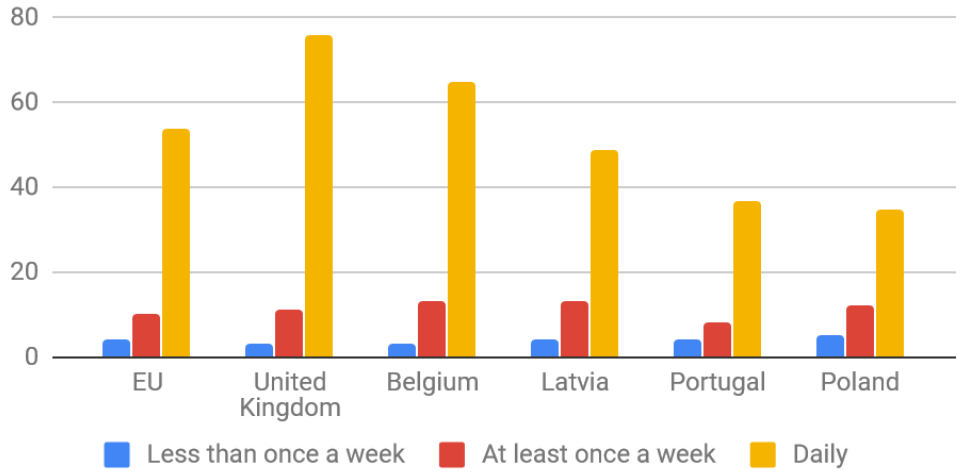

Figure 3 – Individuals' frequency of computer use in the age group 55-64 (%), Eurostat 2017

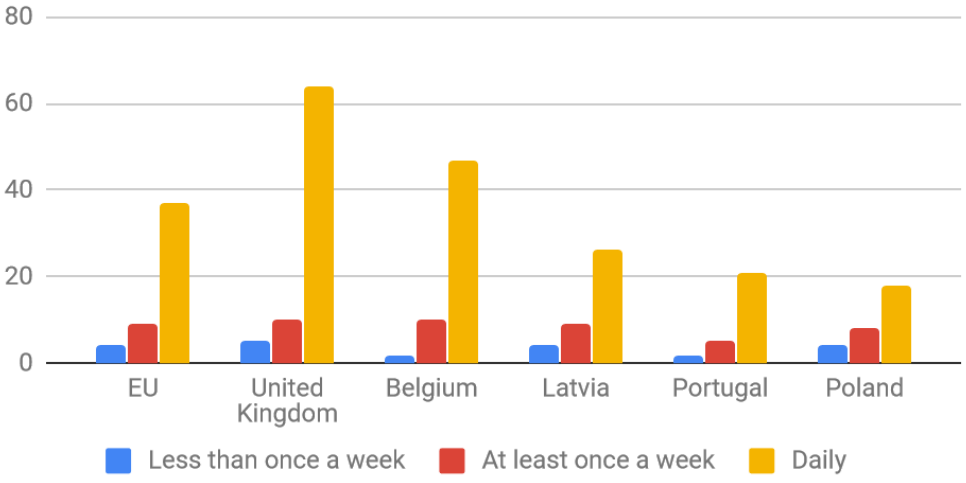

Figure 4 - Individuals' frequency of computer use in the age group 65-74 (%), Eurostat 2017

Internet usage is more common in the age group 55-64 than it is in the older one. It corresponds to computer usage trends and digital skill levels overall. Nevertheless, the trend is upward as a growing number of seniors are acquiring smartphones and are becoming more connected to the digital world through these devices. Moreover, smart governments are implementing more effective governance practice with the means of e-platform and e-service development. The senior citizens are surrounded by the necessity in daily life to use the digital tools available to them and are reacting in a logical and directed way.

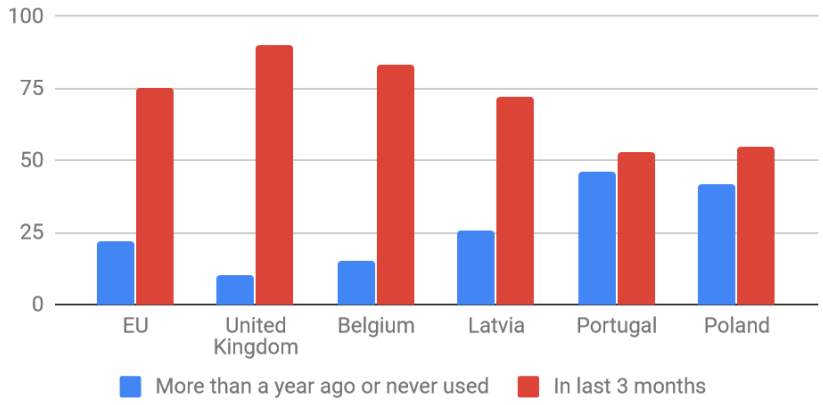

Figure 5 - Individuals' internet use in the age group 55-64 (%). Eurostat 2017

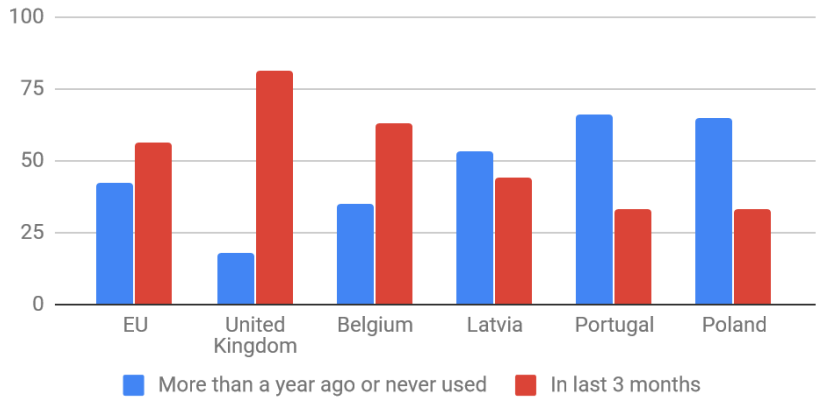

Figure 6 - Individuals' internet use in the age group 65-74 (%). Eurostat 2017

The Internet is used for various means that we recognize in our daily routine. The fig.7 and 8, below, show the individual internet activities more commonly performed by older adults.

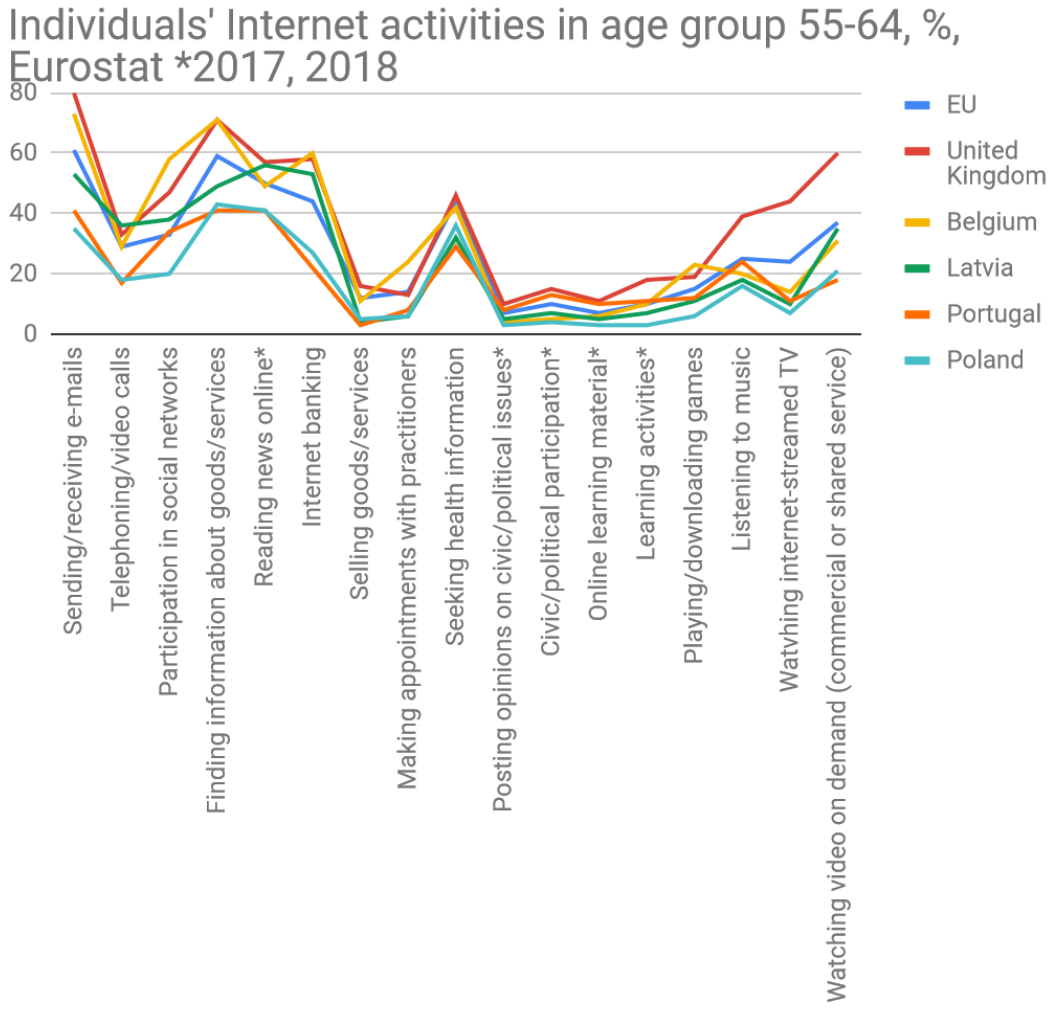

Figure 7 – Individuals' internet activities in the age group 55-64 (%). Eurostat 2017-2018

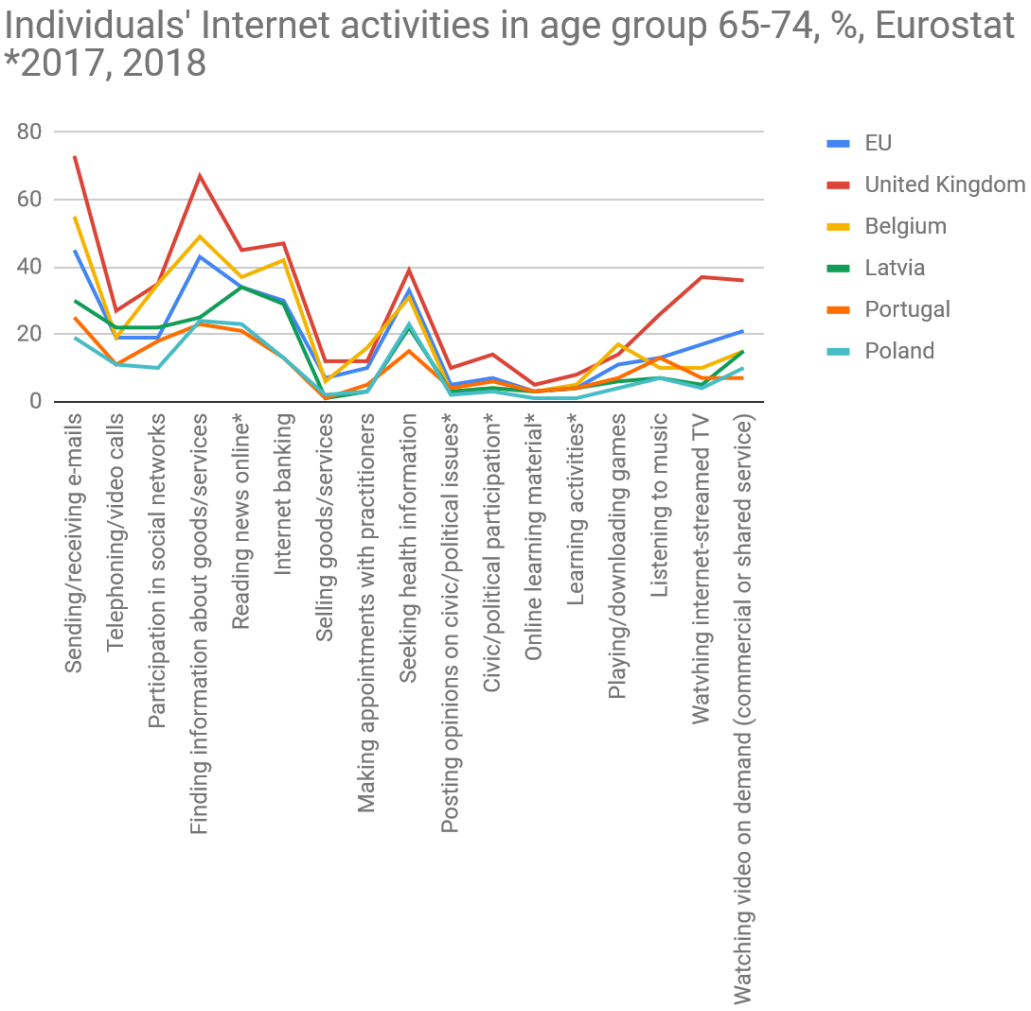

Figure 8 - Individuals' internet activities in the age group 65-74 (%). Eurostat 2017-2018

One of the objectives of the ICTskills4All project is to improve digital skills among older adults by developing in-person learning programs based in intergenerational and peer-to-peer approaches. Prior to this development, we found it necessary to perform a review of existing programs at regional, national, European and international levels that apply the referred approaches.

Therefore, this intellectual output is dedicated to review existing peer-to-peer and intergenerational training programs dedicated to improve digital skills amongst older adults, assessing their effectiveness. This revision integrates contributions from all partners who

developed field work (interviews with trainers and trainees), crossed different databases as well as information about intergenerational and peer-to-peer learning programs. The programs' content, needs, positive aspects and structure have been analysed based on information gathered undertaken. This report will be used by the partnership to develop the in-person educational programs.

1. Digital skills for older adults: EU Policy context

The common means for obtaining ICT skills in the EU reveals insufficient data collection. Minimal data is available on trends and popular methodologies in ICT training for the Silver Economy. Available data reflects minimal popularity in self-study methods via the Internet, less popularity in training paid by the individuals themselves, and astonishingly little interest in free training provided by public programs or organisations. However, if this matter is looked upon from the other perspective, i.e. in the light of the existing European Social Fund supported and European Commission coordinated programmes such as the Lifelong Learning programmes and ERASMUS+ Strategic Partnerships, particularly in the area of digital skill training, a great demand in the market is present.

The age structure of the EU population is projected to change significantly in the coming decades. The demographic old-age dependency ratio (people aged 65 or above relative to those aged 15-64) is projected to increase significantly in the EU as a whole in the coming decades. Being about 25% in 2010, it has risen to 29.6% in 2016 and is projected to rise further, in particular up to 2050, and eventually reach 51.2% in 2070 (European Commission, 2017b). This increasingly ageing population overall in Europe is due to declining fertility, "Ageing from the bottom", and longer life expectancy, "Ageing from the top". This population aging brings many challenges for society, as well as a need for interventions that can maintain or improve the mental and physical health, the personal autonomy, and the social wellbeing of older people (Szekely, 2017).

While European citizens are growing older, European communities and economies are experiencing significant changes due to digital and technological innovations, and labour market and demographic changes. Many of today's jobs did not exist a decade ago and many new kinds of jobs will be created in the future. Manual operations are vulnerable to automation and changes in work patterns are on the rise. Increased mobility and cultural exchange, and new forms of communication and relationships alter the ways societies are organized (European Political Strategy Centre, 2016). These developments change daily life, both at work and leisure. Society and economy rely heavily on highly competent people while competence requirements are changing. The 'Reflection paper on the Social Dimension of Europe' (European Commission, no date) emphasizes the importance of the right set of skills and competences to sustain living standards in Europe (European Commission, 2018a). In addition to good basic skills (literacy,

numeracy and basic digital skills) and civic competences skills we can identify creativity, critical thinking, initiative taking and problem solving as skills that play an important role in coping with complexity and change in today's society.

Lifelong learning opportunities enable older people to acquire new skills and also to improve their employability. Indeed, recognition of this fact seems to be borne out by the fact that Universities of the Third Age have become increasingly popular for older people who wish to learn new subjects and skills, particularly ICT (Zaidi, 2013).

Adult learning is a vital component of the European Union's lifelong learning policy. These days, adults cannot just rely on the skills they acquired at school. The rate of participation of adults (25-64 years old) in learning (four weeks prior a survey) varies significantly between EU countries: from 1.1% to 30.4% (Eurostat, 2017), and the overall trend is that numbers are stagnating. Participation rates are especially disappointing for low-skilled and older adults (European Commission, 2018d).

Beside the overall trend in adult learning, around a quarter of the European adult population has poor numeracy and digital skills. Adults who do not possess a sufficient level of such skills face a high risk of social exclusion. According to the results of the EU-wide Digital Economy and Society Index (DESI) indicator, in 2017 (European Commission, 2017c), the Human Capital dimension shows that while internet usage is on rise, 44% of Europeans still lack basic digital skills.

Actions at European level have been undertaken to comply with the above-mentioned needs. The Renewed European Agenda for Adult Learning (EAAL) (European Union, no date) defines the focus for European cooperation in adult education policies for the period to 2020. It was adopted by the Council in November 2011 and the Commission is now working with 32 countries to implement it. The Agenda highlights the need to significantly increase adult participation in learning of all kinds (formal, non-formal and informal learning) whether to acquire new work skills, for active citizenship, or for personal development and fulfilment. Among the issues targeted for action in the Agenda are: increasing the possibilities for all adults to access flexible, high-quality learning at any time in their lives; developing new approaches to adult education focusing on learning outcomes; raising awareness that learning is a lifelong endeavour; developing effective lifelong guidance systems and systems for validating non-formal and informal learning.

EAAL is part of the ET2020 framework for European cooperation in education and training (European Commission, 2018c). The ET2020 working group on adult learning 2016 - 2018 undertakes peer learning on policies that can encourage more adults to learn in the workplace.

The New Skills Agenda for Europe (European Commission, 2016) is a key policy priority for the European Union, adopted on 10 June 2016. It includes 10 proposed actions to be taken in the next two years by Member States to raise the level of adult basic skills. In this framework, the Upskilling Pathways (The Council of the European Union, 2016) initiative was adopted by the Council on 19 December 2016 to help adults acquire a minimum level of literacy, numeracy and digital skills. The initiative provides a fresh start for these people by mapping and recognizing the knowledge and skills they already possess, as well as gaps in their basic literacy, numeracy and digital skills; offering them further education and training and ultimately leading to a new qualification.

In 2018 Member States have outlined the measures they will take to implement Upskilling Pathways. They should put in place flexible pathways for upskilling in cooperation with social partners, education and training providers, and local and regional authorities. Upskilling Pathways is also a key building block of the European Pillar of Social Rights (European Commission, 2017a), which promotes equal rights to quality and inclusive education, training, and life-long learning in order to support fair and well-functioning labour markets and welfare systems.

In January 2018, the EU Commission adopted a Digital Education Action Plan (European Commission, 2018e) which includes 11 initiatives to support technology-use and digital competence development in education. On the same day, The EU Commission adopted a recommendation to update the 2006 framework on key competences (European Commission, 2018b). The definition of digital competences has been extended and updated to reflect the changing nature of digital technology in working life and society more broadly. The new definition also aligns with the Digital Competence Framework for Citizens (DigComp) (EU Science Hub, 2015). Finally, adult learning related to the active ageing policies received a particular emphasis in 2012, the European Year for Active Ageing and Solidarity between Generations (Tymowski, 2015). The Decision adopted by the European Parliament and Council in September 2011 established the objectives, content of measures, and the budget for this initiative to reach the goal of an age-friendly European Union by 2020. During 2012, there were hundreds of separate initiatives at all levels in the European Union and beyond. These initiatives were particularly centred on promoting intergenerational learning between elderly and young generations. The 'EY2012 Coalition' was created and managed by a network called AGE-Platform Europe (AGE Platform Europe, no date).

The four specific objectives set by the Decision establishing EY2012 were largely met:

1. The value of active ageing was successfully highlighted, solidarity between generations was promoted, and the potential of older persons was mobilised throughout the year, with significant positioning on political agendas at EU and national levels.
2. Multiple debates and exchanges of information were held. The conditions were definitely created for enhanced mutual learning on how to promote active ageing policies, sharing good practices, and cooperating in the future.
3. The Active Ageing Index was developed with the aim of creating a consistent framework for commitment and action, and the Council endorsed Guiding Principles for Member States to follow.
4. Promotion of activities helping to combat or overcome age-related discrimination, stereotypes and barriers, was assured throughout many of the initiatives and events.

The publication Towards an Age-Friendly European Union by 2020 (AGE Platform Europe, 2012) seeks to explains what can be done to create an age-friendly EU by fostering solidarity between generations and enabling the active participation and involvement of all age groups in society.

2. Overview of learning programs

The following overview identifies peer-to-peer and intergenerational approaches towards training in ICT skills for older adults in the European Union, United Kingdom, Portugal, Latvia and Poland.

The number of digital skill education provider organizations differs by country. In Portugal 140 organisations, based on online search of available courses. However, the number of organisations may be greater as there are many senior universities that do not have a website or published programs. 135 of these providers are senior universities and 5 of them are European project-based organisations working in intergenerational education. 39 of these are private non-profit organisations, 69 are public initiatives that are voluntary-based or funded by public institutions. In the United Kingdom we identified 7 private and no public organisations working in the area of digital training. We also identified 16 polish organisations, 10 of which are private and 6 public; it is important to mention, there are a huge number of small, local trainings providers, among which the libraries which are a part of public ICT educational network. In Latvia there are over 880 organisations, 874 of which are regional public libraries and the remaining are private or non-governmental organisations. Most organisations operate on a local basis and provide for the needs the regional community has. Likewise most organisations are supported by public funding to carry out the training operations, as ICT training is considered a priority of national level based on European Commission digital priorities in European Union member states and is a means to be supported by both sources: EU funds and national budgets, usually administered by ministries of welfare and/or education, municipalities or other governmental institution. However, those organisations providing commercial or voluntary based courses ask for a moderate payment that is affordable to the seniors.

Peer-to-peer and learning in groups are the most common learning methods available. Seldom are intergenerational practices applied and the benefits from this approach specifically in ICT training are still undervalued on a global scale. Although various initiatives in the recent years have been testing intergenerational approaches with the financial support from various European funds, it is done within a rather narrow audience and is not expanded further after conclusion of European projects.

Recipients of ICT training can be distinguished into two categories: 55 up to retirement age that is 64 on average, and 65 and older. However, their skill level depends on their previous experience,

i.e. digital skill requirements at the workplace, digital skill proficiency at home, daily technology use. The greater age level we address the less digital skills are present and have been required, which proves challenging for the trainers to teach them if the recipients are willing to learn. Recipients 55-64 have a relatively good basic understanding of technologies and are quicker to adapt to changes as their level of technology use is higher than of the older generations. It is also important to understand that their motivation to acquire digital skills is strongly related to demands of the labour market. Upon retirement, older adults have more time for other non-work related activities and, in the observed countries, people up to 75 appear as citizens reasonably to highly motivated to acquire new ICT skills.

For working with adults, especially seniors, trainers require some specific skills and competences. The foremost requirement relates to interpersonal skills, it is the will to work with seniors, patience, understanding, and compassion. These skills mingle with hard skills: pedagogical competence, competence in working with seniors, as well as experience in digital skill training and understanding of technologies. In many cases seniors prefer other seniors to teach and work with them individually or in groups. However, the use of intergenerational approaches is attractive to them once such activities take place. Nevertheless, the most popular approach is peer-to-peer that is reaching greater demand each year, as this approach meets the need to satisfy individual interests for using personal technologies - smartphone, laptop and the digital tools available through app stores and the Internet.

The training courses for seniors are usually divided into two or, sometimes, three levels: no digital skills, low digital skills, basic or average digital skills. Individual consultations or trainings address specific needs and interests of seniors, likewise based on the level of digital proficiency: repetition of attained skills for those with no or low skills, and specific digital tools for those with basic or average digital skills. Specific digital tools are related to the available technology to seniors: their private computer/laptop, tablet or smartphone, which are becoming more popular among seniors. The tools commonly used among seniors are: Whatsapp, photo editing, social media, maps and Waze.

The digital skill training courses for seniors with no digital skills address the basics in starting to use the computer and understanding how it works. Taking into account that the age of seniors and level of understanding of technologies is not homogeneous in these groups, the learning sessions heavily rely on repetition to guide participants, taking into consideration their memory conditions, while giving them a general understanding of the computer and the Internet. The methodologies

applied are group learning and adapting to the group's needs and interests; peer-to-peer learning in the form of individual consultations for topics the seniors do not understand during or after the course; interactive learning by using the screen; learning by repetition (either using visual or auditive instructions); and independent tasks to establish gained knowledge and identify blind spots. Trainers usually give handouts that contain terminology and their translations in the national language, instructions with the basic steps to achieve specific tasks and other useful information the lecturer sees valuable for the recipients.

Impact evaluation of the digital skill training programs for seniors is rarely done, as in most cases the trainers and education organizations are aware of the results and positive impact on the lives of their trainees. If there is a survey, its purpose is usually to evaluate the quality of the content, the trainer and interests for future courses/learning activities. Despite the fact that formal evaluation is uncommon, positive results and impact is clearly visible as the seniors continue to learn digital skills, become more involved in social life both digitally and in-person, thus contributing to minimize social exclusion and isolation. This notion is also approved by interview respondents: both trainers and trainees agreed on the high importance of digital skills for social inclusion and improvement of the quality of life. Moreover, national statistics can support this positive impact by indicating the increasing rate of seniors using digital services and electronic devices.

3. Digital skill training practice: interviews with trainers

Interviews of digital trainers for seniors were carried out by the partner organisations. The total number of respondents were 13 (3 in Poland, 2 in Portugal, 3 in the United Kingdom, 5 in Latvia). The aims of the interviews were the following:

1. Identification of the needs of seniors and of the ways these needs are met through current digital training practice.
2. Identification of common challenges and understanding of the ways they are currently solved.
3. Clarification of impact assessment methods if they are applied after training.
4. Definition of demand and significant trends in digital training among seniors.

The gained information from the interviews is homogeneous and identifies similar problems and situations related to digital training for seniors. Various approaches and solutions have been identified and are presented in the following part of the review.

3.1 Identifying needs of older adults in ICT skills training

A thorough understanding of trainer practice in teaching digital skills to older adults can be understood when it is divided into two main target audiences the trainer works with. The first target audience consists of seniors aged 55-64 who are employable, thus revealing the main motivation to attain digital skills to remain competitive in the labour market. The second audience are seniors in retirement age 65+ whose main motives to attain digital skills are related to staying connected and social inclusion. Moreover, the underlying need to obtain digital skills in both target audiences is closely linked to received technologies by their children or grandchildren, i.e. computers, laptops, tablets and smartphones.

Taking into mind the geographic scope of the Review, the needs of seniors that can be met via in-person training is homogeneous. The main findings are presented in Table I.

Table I - Identified needs of older adults in in-person training, by trainers

Description of need	How the need is met through training	Strategies for skill acquirement
Social needs		
Communication between generations and knowledge about different digital communication tools.	Teaching e-mail, social media, Skype, Whatsapp and other communication tools.	**Courses, P2P**
Recognition in society as an equal member of the society with a similar perception, knowledge, communication skills.	Basic computer and digital skills are taught. Opportunity to build on obtained knowledge or revise it. Possibility of interaction with other seniors and lecturer.	**Courses, P2P, some cases of Intergenerational approach via EU-funded projects**
Need to understand technologies		
Understand the functions and basics of technologies: computer, tablet, smartphone, touchscreens at public spaces.	Learning from the basics step by step. Building on previously attained knowledge. Learning functions one by one. Availability of the training staff for private consultations. Adaptation to age differences and perception of seniors.	**Courses, P2P, intergenerational (at home).**
Expand possibilities with available technologies and digital tools.	Specific training modules or P2P consultations on particular digital tools, i.e. mobile photography, Youtube, social media, Whatsapp, webpages.	**Courses, P2P**
Need to access daily e-services		
Use e-services such as internet banking systems, national e-platforms.	The e-service providers (in Latvia) teach seniors how to use the services. In Europe these systems are taught within courses or seminars.	**Seminars**
Access daily services online.	Use of the Internet, search engines, popular useful websites (public transport, news, buying/selling portals, learning materials and online courses).	**Courses, P2P**

Description of need	How the need is met through training	Strategies for skill acquirement
Need for communication and interaction		
Exchange and manage developed electronic media and communication.	Specific courses/P2P consultations on saving photos and other documents to computer or smartphone and editing them, finding and installing free tools. Learning about e-mail and other digital communication tool usage.	**Courses, P2P, some cases of Intergenerational approach via EU-funded projects**
Need to access digital training		
Access digital training in the local community, especially in rural regions. Linked to the need for access to the Internet.	Offsite training courses or P2P consultations based on the demand and need of seniors in rural regions. Establishing community-based consultation/training opportunities in public space. Established awareness of developed learning materials for individual learning.	**Offsite and offline courses, P2P**

P2P - Peer-to-peer

3.2 Trainers' perspective: challenges and solutions

The main challenges for the trainers are related to individual understanding, perception, psychological barriers, health issues including motoric movements, memory, eyesight, hearing of seniors. After carrying out search on existing practice, available tools and services related to digital skills education for seniors, a serious European-level gap has been identified: there is no training available for educators/trainers who work with seniors, neither is there a platform for cooperation among trainers and gerontologists for preparing the trainers to work with the elderly. Moreover, no existing platform promotes experience exchange among trainers who work with seniors, as

experience exchange has been covered in European-funded projects to a limited audience within the project. The lack of such services enhances the sole reliance on the experience of the trainer acquired while working with older adults, i.e. the trainer learns of individual needs and approaches of the different trainees in the learning group or in peer-to-peer learning environments and from thereon the trainer defines the training scheme and dynamics based on his or her perception. Another contribution to solve this issue could be the development specific training programmes directed for trainers who work with older adults, which could be implementeted in academic, lifelong learning or train-the-trainers format. The development of these training programmes should also be co-created with input and participation of its ultimate beneficiary – older adult citizens. A role model of such training has been identified in Latvia, where the governmental organisation "Culture Information Systems Centre" trains librarians in 874 regional public libraries on working with senior citizens. On average 1500-2000 librarians are trained each year. Furthermore, the organisation has prepared various teaching materials for the librarians as an aid to solve commonly identified gaps in regions. Another valuable example was the national program in Poland: Lighthouse Keepers of Digital Poland of Equal Opportunities, carried by the Cities on Internet Association. Over 2800 volunteers-animators became facilitators of change by encouraging and helping to make first steps with computers and internet with 55+ generation.[3] Another common challenge for trainers is understanding the actual digital skill level of the seniors. In some cases interviews or short surveys are carried out; however, this is not a common practice on a national or international level. Each educating organisation carries out its means of previous assessment of skills or relies on the senior to take the according decision in which course to learn - without or with basic digital skills. Taking this into mind, the trainer adapts to the seniors levels and teaches them what they can manage as a group regardless of the need to increase repetition.

The above mentioned challenge is related to another problem: the majority of courses available are focused on educating the future employee rather than on senior members of the community. This is a major gap of key market player perceptions towards the growing Silver Economy. Thus by any means the awareness level should be critically raised on national and international level to meet the emerging needs of this large and still undervalued sector.

[3] Short description in English is available at: https://www.researchgate.net/publication/285577614_Lighthouse_Keepers_of_Digital_Poland_of_Equal_Opportunities_-_information_about_nation-wide_educational_program

The lack of tailored course outlines is a challenge for seniors as well as for the organisations that run the education programmes. This is solved by the trainer who individually approaches the particular needs of the group and adapts the content of the course to the needs, rather than to complete the formal outline. Therefore, many courses are funded by the government and European Social Fund, but the institutions are not aware of these issues and actual needs of the older adult citizens. This leads to the need to identify the gap between: a) the aim and content of the courses, b) the needs of senior citizens, c) the results and outputs of the courses. Thus, upon clarifying the situation, the course content could be improved to lead to realistic and necessary outcomes.

3.3 Impact assessment

Each education organisation undertakes impact assessment and quality evaluations of the courses and trainers. Due to limited human resources, the education institution usually works with the trainer to improve the programme and to understand existing and emerging needs of the seniors. Thus, education institutions do not carry out questionnaires or other evaluation assessment activities in order to assess and improve the training scheme.

The lack of data collection and assessment of the trainers needs leads to gaps in training content. For example, although many institutions are adapting to the increasing demand of training programmes in the field of mobile devices, the majority stills delivers training in basic and desktop digital skills. Furthermore, not all trainers have authority to make structural decisions on course content which can be defined by the organisation itself, locally or at a wider level. Hence, we believe that the awareness about current and changing trends in learning topics should be paired with the real context of trainers and raised on national and international levels. Demand is also linked to the price of acquiring digital skills, i.e. price of courses and cost of acquiring and using electronic equipment.

According to our results, these are the major areas of significant demand:

- Mobile devices,
- Social media and communication apps,
- Digital skills in general that are influenced by rapid e-government and e-service implementation worldwide.

4. Digital skill training practice: interviews with trainees

Thorough in-depth interviews of older adults who have acquired digital skills were carried out by the partner organisations. The total number of respondents were 20 (7 in Poland, 4 in Portugal, 3 in the United Kingdom, 6 in Latvia). The respondents were within the age group 65-85. The aims of the interviews were the following:

1. Understanding the motives of acquiring digital skills.
2. Defining the positive impact from digital skills in relation to social inclusion.
3. Understanding the user journey map of the senior acquiring digital skills and building on gained knowledge, including identification of stereotypes and perceptions before acquiring digital skills.

The responses affirmed homogeneity of perception and attitude towards digital skills of senior citizens. The following pages consist of a resume for each particular point addressed in the interviews.

4.1 Motivations to acquire digital skills

The educational needs of seniors mainly concern the acquisition of functional digital competences according to the trainee lifestyle, professional and social needs. Digital education of seniors should, if possible, be individualized, contain elements that motivate to take it and continue in the formula of individual self-education after its completion. Individual consultation support should also be provided. By understanding the motives of seniors to acquire digital skills, adequate training programmes can be modelled and implemented. A summary of identified motivations is presented in Table II.

Table II – Identified motivations for learning ICT skills according to trainees feedback

Motive and number of mentions in the interviews		Importance assessment based on number of mentions
Acquiring skills for the labour market	4	Primary motives
Entertainment (TV, films, music) on demand	4	
Access to information and news	4	
Access to e-services and understanding how to use/manage them	2	Secondary motives
Learning new skills, personal development	2	
Basic daily use of technologies	2	
Communication and interaction with others (e-mail, social media)	2	
To be an equal part of the society	1	Tertiary motive

4.2 Understanding the importance of ICT skills for social inclusiveness

Seniors agree on the fact that acquisition of digital skills improves such factors: inclusion in the labour market, competitiveness, connectedness with others regardless of location or situation (health issues for instance), and social inclusion. Likewise seniors homogeneously agree that acquiring digital skills helps eliminate such factors as isolation and the sense of being alone.

However, respondents from Portugal had opposing views to digital skills improving family relations and isolation. This result is related to the fact that most of the families of the interviewed trainees are still connected in-person, on a daily basis. In spite of this perception, we believe that it may not represent the factual reality of the Portuguese context as more and more families are geographically distributed.

4.3 Understanding the journey map in acquiring and building on digital skills

Seniors who reflect on their initial perceptions about the computer and Internet have indicated several challenges that they have overcome over time. One type of painpont is related to using the Internet, namely online security and financial safety. Another example is related to using the computer, keyboard, mouse and the perception of breaking something if a wrong button is pressed. The last fear mentioned by the respondents was based on the prejudice of failure and being seen as the least skilled person in the class.

Older adults with basic to advanced digital skills express the ability to learn new skills at a faster rate, less repetition is needed during classes and the seniors can find digital courses based on their interests. Nevertheless, once the seniors are retired and do not practice their digital skills daily they tend to forget the skills. The larger the time gap between digital skill usage of the senior the more effort has to be made to revise them or to learn them anew. This is more common for electronic equipment that is not used on a regularly such as a computer, rather than for regular tasks or devices used on a daily basis such as the smartphone or tablet. On the other hand, older adults who have not encountered technologies such as computers and smartphones previously have greater challenges in obtaining digital skills. Hence, they have more difficulties in learning about many new tools at the same time and prefer courses that slowly guide them to independent actions with the electronic device.

According the trainees opinions, older adults prefer to learn in groups rather than individually. The main reasons are the need to interact with other people, as well as the need to be able to clarify uncertainties immediately during the training process. However, older adults who learnt digital skills individually preferred books as this is a learning format they are used to. The drawback of learning from books rather than from online material is the dissonance among the versions of software, language in which the device is set up, which may lead to negative experience and unwillingness to acquire further digital skills. Although the majority of seniors are not willing to

learn online in the sense of acquiring digital skills, there is a significant trend in using the Internet to learn more about personal interests, hobbies, travel destinations, other countries etcetera. This finding could lead to better content management for online learning courses that address the specific hidden needs of the seniors whilst teaching them digital skills.

There is a large part of senior citizens aged 70+ who do not wish to acquire digital skills. The main identified reason is prejudice about the computer and the Internet: using the Internet may become an addiction, there is a possibility of fraudulent actions, too frequent use of the computer and Internet may impoverish our life and may reduce our interaction with people to the virtual reality. Additionally, ICT skills and online tools are not often regarded as fundamental competences for many older adults' lifestyles.

Nevertheless, the majority of respondents have clearly stated that there are great benefits to acquiring digital skills once they understand how to use the computer, tablet or smartphone. The first step may be challenging. However, with the help of skilled educators everything can be learnt. Seniors describe digital skills as indispensable and encourage others to obtain them. Moreover, they are encouraged to learn as more free or low-cost courses or peer-to-peer sessions are available to them.

5. Good practice analysis: intergenerational and peer-to-peer digital training activities funded by the European Commission

Three projects are analyzed in this section. An intergenerational projects is "Teddy Bears in Pairs - e-learning with grandchildren" (2016). Intergenerational and peer-to-peer approaches are carried out in the project "60+ VIRTUAL CULTURE" (2016). Peer-to-peer online courses with tutor support was carried out in the project "EHLSSA - EUROPEAN ELDERLY HOME LEARNING SERVICE" (2016).

5.1 Intergenerational learning: Teddy Bears in Pairs – e-learning with grandchildren (2016-2018)

Teddy Bears in Pairs is an Erasmus+ project which helps increase cooperation between different generations. The project involved elderly people and young people from secondary schools. Young people were paired with the elderly under a trainer's supervision. Within the project Teddy Bears in Pairs – e-learning with grandchildren – each partner organization developed its own intergenerational education programme tailored to the characteristics of the selected younger and older generation, and also piloted it. The purpose of all programmes is to promote the development of skills and knowledge related to digital and communication content in order to improve the quality of life, and to promote intergenerational integration and cooperation. Each programme's content is related to what is close to the selected target participants and what attracts their attention. Intergenerational learning is carried out in a tandem in which one individual is a member of the older and one of the younger generation. Thus, at the implementation level, each programme consists of at least 20 tandems. The generated and piloted intergenerational computer education programmes are also presented in the handbook in detail, providing the possibility and the opportunity for multiple implementations and/or to upgrade.
The project has been implemented in Poland (coordinator), Spain, Slovenia, Italy and France and addressed mostly seniors 55 + and youngsters aged 13-26. Five different Intergenerational e-Learning Programmes (128 h) were developed throughout the duration of the project. All materials created during the project were collected in the Intergenerational e-Learning Programme Handbook of 80 pages and are available online [4] .

[4] Links:
· Of the Project website: http://erasmus.oczadly.slask.pl/en/

5.2 Peer-to-peer learning: Peer to Peer Support Fostering Active Ageing (2014-2016)

Peer-to-Peer Support Fostering Active Ageing Project started in 2014 under the Lifelong Learning Programme with the aim of developing a methodology based on peer to peer training so to foster active ageing. Peers were trained to conduct educational programme on active ageing in face-to-face version and in e-learning version.

The training aimed at rising perceived self-efficacy and coping skills of participants (older adults 55+). It covered the general fields of active ageing, health issues and technology usage with added special modules regarding national analysis from participating countries.

At the beginning of the project, surveys, personal interviews with participants and desk researches were carried out in all partner countries. Based on evaluations and results, the partnership developed appropriate educational programs aimed at older adults (55+) for active ageing.

In accordance with the desired educational topics, training was offered to facilitators (mentors, peers), who then passed adequate knowledge on to others. Facilitators were chosen from the same age group as the included participants. The consortium aimed at retired experts in various fields of knowledge - hence the name of the project Peer-to-peer: selected and trained facilitators help engage and educate older adults from their own generation.

The educational program for active ageing took place at two levels: with a) the classical method (learning in class/group) and b) distant educational program (virtual classroom), which is freely available online and thus accessible to the widest number of people.

The educational program (in pilot version for the needs of validation) was carried out in all partner countries with the same contents for all, but partners also decided to take into account the

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· On the website, it is also available a version of the syllabus and learning materials in each project language: http://erasmus.oczadly.slask.pl/en/e-learning/

· Of the handbook: http://erasmus.oczadly.slask.pl/en/wp-content/uploads/2018/05/Teddy-bears-in-pairs-Handbook2018.pdf

national specifics and prepare 2 "national" modules, according to the results of the survey and the needs of residents in partner countries [5].

5.3 Peer-to-peer and Intergenerational: 60+ VIRTUAL CULTURE (2016-2018)

60+VirtualCulture is a European funded project in which 4 partner organizations of similar backgrounds in informal education, including education of seniors, from Wroclaw, Poland (ŻÓŁTY PARASOL), Paris, France (ESENIORS), Prague, Czech Republic (GLAFKA) and Reggio di Calabria, Italy (INOVAMENTIS) have worked together to improve and optimize educational offer for elderly concerning their digital competences within the context of culture accessibility. The process of optimization has been developed in two stages. First, each organization appointed one teaching tandem (young ICT educator and one experienced senior (50+) educator) who took part in 3 Joint Staff Trainings, during which based on exchanged practices and knowledge, an educational model for local senior centers or libraries had been developed. Therefore, an innovative offer of ICT courses for seniors aiming at encouraging older people to participate in culture resources and cultural events using new technologies (e.g. accessing e-books, audio-books, visiting virtual museums, buying tickets online, creating and uploading content etc.) was created. Simultaneously the so created teaching program was implemented, tested and adjusted during two cycles of ICT workshops for seniors in each country. The teaching tandems provided during the project a total of 198 hours of workshops for 105 seniors in four countries. Additionally, from among the participants of workshops 8 Digital Ambassadors were selected – people at the age of 60+ whose leadership and digital competences enabled us to include them in the dissemination process and in some cases into the process of supporting the trainers in the teaching processes (they are now assisting the educators in further ICT courses for seniors) both during and after the termination of project activities. Digital Ambassadors together with trainers and coordinators took part in a Transnational Project meeting organized for the final part of the project in Wroclaw, Poland. The meeting was an occasion to invite a wider audience to discuss the quality of ICT courses offered

[5] Links:
- Of the Project website: http://www.activeageingproject.eu/
- Of the methodology materials: http://www.activeageingproject.eu/content/methodology

to seniors in local communities. It is worth saying that over 20 organizations from 4 sectors (science-business-NGO-authorities) were informally involved in the project.

The lesson plans are the result of the training tandems and so of the exchanged practices and knowledge, an educational model between young ICT educators and one experienced senior educator. The lesson plan foresees 26 hours total of ICT workshops. The teaching tandems, instead, provided during the project a total of 198 hours of workshops.

The project can be considered an example of both intergenerational learning as it foresees teaching tandems between young ICT educators and peer-to-peer learning as well, since some of the seniors who took part in the teaching tandems became ambassadors and supported the trainers during the ICT workshops for seniors[6].

[6] Links of the project page on the Erasmus+ Platform (no website available): https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/2016-1-PL01-KA204-026593 . Of the lesson plan: https://ec.europa.eu/programmes/erasmus-plus/project-result-content/efe2e9a4-8dda-4dd7-b5f5-3282f124c0c0/guide_VC_en.pdf

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