







# Inclusion and the Digital Divide from the Perspective of Digital Competence Trainers

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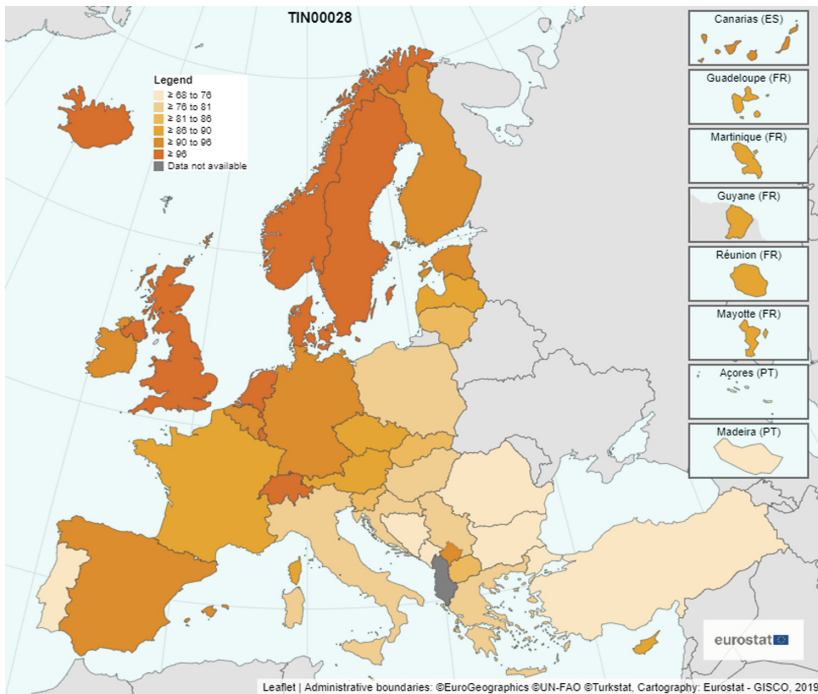
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**Abstract.** The text presents the ways in which the phenomenon of the digital inclusion of seniors in Poland is interpreted. Six specialists dealing with the subject of the digital education of older people participated in the research. The research was carried out among experts working in various institutions, providing educational, caring and leisure activities to seniors. The data was collected through digitally mediated interviews (e-mail, telephone, instant messenger). The data were categorised and interpreted. On the basis of the analysis of the qualitative data it was noticed that the trainers: 1) have different levels of knowledge about digital inclusion; 2) have digital competences but lack specialized methodological knowledge; 3) need new knowledge about motivating seniors to learn how to use new media; 4) note that the constant changes resulting from the development of the information society also necessitate the improvement of digital competences in the group of trainers; 5) digital inclusion significantly increases the quality of life of seniors in the domains of meeting needs, communication, safety, development of interests, health, and social and cultural life; 6) there is currently no return to a society that functions without new media.

**Keywords:** Digital inclusion · Elderly · Digital divide · Trainers · Poland · SELI

## 1 Introduction

Digital exclusion is a phenomenon that is still noticeable in certain countries [1]. Despite the intensive development of the information society in recent years, the problem of digital exclusion is still a noticeable phenomenon. On the basis of analyses carried out by EUROSTAT [25], it is considered that there is a group of countries in Europe with a still high rate of digital exclusion. The elderly are among those particularly at risk of digital exclusion. It is precisely the elderly who are the group that makes less intensive use of the Internet and requires educational support. The current exclusion rates for individual countries are presented in Fig. 1.



**Fig. 1.** Digital exclusion rate EUROSTAT

Digital exclusion, i.e. a lack of ICT skills, is minimized by many bottom-up and top-down activities. Bottom-up activities are most often associated with the self-education of seniors [2]. Top-down activities, on the other hand, consist of creating educational environments where seniors acquire skills and knowledge about using computers, the Internet and smartphones. The phenomenon of digital exclusion is therefore balanced by inclusion activities, which take the form of organised, voluntary educational activities. A key role in the process of shaping the digital competences of older people is played by teachers: trainers who shape digital competences [3]. It is these trainers who in many cases are the first people responsible for showing the seniors the possibilities of cyberspace or strengthening their existing competences. In many countries such activities are carried out by volunteers, teachers involved in formal education, or enthusiasts of new technologies [1]. It is this educational sector that requires deeper knowledge and support in preparing new geragogical staff. This position seems to be particularly important in the era of aging societies and the rising educational needs of the elderly. This article looks at the processes that take place during digital inclusion from the perspective of the educators of older people.

## 2 Methodology

The aim of the article is to answer the question - What is the level of knowledge about digital inclusion among educators?

The aim is related to obtaining specialist knowledge from people involved in digital inclusion, i.e. the inclusion of older people in the information society.

The research was carried out in Poland between May and June 2019 among trainers with extensive experience in shaping digital competences. The survey was conducted among seven experts with the following experience:

- R1 - expert from Senior activity centre (12 years),
- R2 - Teacher in a special school (3 years),
- R3 - A person working in a public library, leading training in the use of ICT for seniors (24 years),
- R4 - expert from nursing home for seniors and returnees from former Soviet republics (14 years),
- R5 - NGO employee responsible for the vocational activation of the homeless (6 years),
- R6 - expert from Senior activity club in a Culture Centre Association for the digital activation of seniors (12 years),
- R7 - Trainer working with seniors in a University of the Third Age (30 years).

Interviews were carried out and archived in digital form. Each statement was categorised and interpreted according to the interpretation paradigm of qualitative research. This research is part of the need to improve the quality of the work carried out in the borderlands between media pedagogy and educational gerontology [26].

### 3 Results

The respondents were asked to evaluate their own level of knowledge of the methods, forms, barriers and facilitators of digital inclusion. They willingly shared what they would like to learn about the process of the activation of seniors for whom they organise workshops in the effective and safe use of new technologies.

One of the respondents (R1), who organises training activities for seniors and works in a foundation for the digital activation of older people, declared: *Perhaps I need more information about some statistical data regarding the digital divide and what seniors know. I think I am effective in my work - I know the methods and forms to support the digital inclusion of seniors. I know which methods are effective, what works for our seniors. [...] The statistics give some picture so maybe it will help me to convince my seniors of something?*

Another respondent, a public library employee in a town of 38 thousand residents and who organises classes in using new technologies, stated (R3): *I'm lacking knowledge on how to motivate seniors to use new technologies and the psychological grounds regarding overcoming fear and resistance. I have the technical know-how, I know how it works, which software or applications are the best for the seniors I work with. But I cannot encourage them to learn.*

An employee in a nursing home also signalled their insufficient knowledge on how to motivate older people (R4): *I feel the most difficult thing when you work with the elderly is to motivate them to act. Especially in the areas they are not totally convinced of. Surely,*

*digital inclusion is one such area. What does it look like in practice? A senior declares they want to take part in the classes but when the date comes, they either feel weak or have a doctor's appointment or something else comes up - and behind this is the "I don't feel like" attitude. And here is where I lack expertise. Not many people in a nursing home are really active. I can refer to these "leaders" and say "It is worth trying", that it can be learned but I lack specific guidelines on how to keep them motivated.*

Another area educators lack knowledge in has to do with technological innovations and the latest developments.

A respondent working in one of the culture centres in Cracow admitted (R6): *I feel that with the new technologies everything changes at the speed of light - all the time, there are new applications, websites and even devices. I want to know how to stay up-to-date, that is, be aware of all these technological developments. [...] In general, I think I know quite a lot about new technologies and how they can be used by the people I work with.*

A teacher working in a special school with students in their late adulthood and with disabilities, declared that (R2): *My biggest problem related to knowledge is that it is hard for me to stay up-to-date, I have no time for this. In my area of focus, innovations come very fast. In the conditions we have, it is hard to have the latest hardware and software. [...] I think it is very important to know about new software and applications that could help my students but in the present conditions, it is impossible to keep up with everything and to know everything.*

We should point out that in each institution courses are taught by educators whose methodological competences vary. Many base their approach on intuition because they have no formal training regarding courses for seniors. Such conditions generate many challenges in terms of methodology and understanding the contexts of digital inclusion. A respondent working in a nursing home admitted (R4): *I have no structured knowledge of what seniors need regarding inclusion. I would use a thorough diagnosis. Because, when I work one-on-one, I diagnose the needs myself. They come and say they need this or that. If I wanted to lead a course/training program on a wider scale, I would have to have such information. I am not a senior yet so I don't know in which areas of their lives they require the support of modern technologies, for example, whether they listen to e-books online or search for events for seniors etc.*

Some of the respondents gained their knowledge about digital inclusion over the course of their years of work. However, there are always some areas in which they feel insufficiently prepared and wish to expand their competences.

A trainer who organises workshops for seniors at a University of the Third Age said (R7): *I think I don't have any bigger knowledge gaps. I know a lot about digital inclusion, I know the methods and techniques, and I know what seniors need. My knowledge is big. This is the result of many years of work in this area. [...] This knowledge is something I am proud of. [...] I've been working for many years as an IT specialist and thanks to training and courses I know how to get older people to be more active. I know how to connect with them, encourage them to work [...]. Perhaps I would only like to find out how to convince those who do not want to use new technologies or who hesitate. I keep telling them that the Internet is not bad, that if they are careful they will be ok but there are still people who are reluctant or who give up completely. [...] I wish to know how*

*to teach seniors critical thinking because this is something they unfortunately lack and that sometimes gets them in serious trouble like falling victim to fraud. Critical thinking is necessary on the Internet, so I would like to know how to protect them more effectively from, for example, being manipulated.*

The analysis of the respondents' statements indicates that they represent different levels of expertise regarding the digital inclusion of the excluded and of people at risk of exclusion. They are aware of what they know and where they lack information. They know what they need to work better and more effectively. The main obstacle is the lack of time and available resources.

In the context of the knowledge of people working with the digitally excluded, the educators were also asked why they believe digital inclusion is important. This helped us to learn, partially, what motivates instructors to engage in activities that are conducive to digital inclusion.

The special school teacher said that digital inclusion is extremely important in her profession (R2): *The individuals I work with are people who face many obstacles in their lives. They are people with disabilities. New technologies help them function or even do some things which, without these technologies, would be impossible. I mean, for example, speech synthesizers or reading applications for the blind. [...] Thanks to them, they are able to overcome physical limitations.*

The man working with seniors in an association that helps older people become more active noticed that (R1): *Today, new technologies are an integral part of our society. Everyone should have access to them in order to function normally in society. [...] They facilitate many daily affairs and allow you to do many things which otherwise would be impossible. It is extremely important to be literate in this area.*

The respondent teaching computing and Internet skills in a public library shared a similar opinion (R3): *I think digital inclusion is very important as it provides everyone with the opportunity to use online information resources and leads to a higher awareness of what is going on in the changing world, and this, in turn, helps them navigate better in reality. Digital inclusion will also give them more options to look for support in difficult situations, develop hobbies, participate in cultural life, maintain and initiate relationships etc. In the case of seniors, it will also facilitate communication with the younger generation.*

The respondent working with seniors in a senior activity centre emphasised the exceptional role of new technologies in the lives of older people, which involves mainly facilitating their daily functioning (R1): *I think the digital inclusion of the excluded is extremely important because the technological progress we can observe is very dynamic. In the last decade, thanks to wider access to technology, everything has changed. Using ICT, we can communicate with someone on the other side of the globe without extra cost. But this is a means of communication we have known about for a long time already. Thanks to Internet access, we can deal with administration issues from home, buy different products online or order them through shared shopping lists. These are trends which mark our culture but are completely foreign to the older generations. The younger generations often feel lost with so many technological solutions, so what about older people?*

Despite their different institutional environments, every educator has faced similar challenges. Here, it is worth pointing out that age is a criterion thanks to which seniors, despite their diverse socio-demographical traits, share common needs connected with the digital world. The respondent training students of a University of the Third Age said (R7): *The main reason why I think it is important is the fact that in the modern world it is very hard to function and navigate on a daily basis: it is necessary when it comes to access to information or even medical services and the organisation of everyday life. A certain level of skills to navigate in the digital world is a must. [...] In addition, the older people I work with sometimes have children who live far away, abroad or in some remote locations in Poland. With new technologies, they can even see their kids or grandchildren, not just talk through the phone or over Skype. Some of the seniors I work with use Viber. Thanks to new technologies older people are less lonely. [...] They feel safer and this is very important to them. [...] In general, I think that new technologies help seniors to improve the quality of their lives [...] It is definitely worth making them aware in which areas of everyday life they can use technology and what specific benefits they will experience.*

The respondents are aware of how much digital inclusion may change the lives of the people they work with. We must point out that digitally excluded people - seniors, people with disabilities, immigrants, people with low material status - are a specific group of citizens whose quality of life may significantly improve when they are able to use new technologies. Educators know how important digital inclusion is for their clients/students, thus they are highly motivated to work on this area.

## 4 Discussion

The issue of digital inclusion is the overarching and foremost activity of educators of older people who want to raise the level of digital competence among seniors. Digital inclusion is a broad concept that is interpreted differently by teachers of older people. The data collected allow us to go beyond a simple definition of digital inclusion, which is mainly related to the inclusion of seniors in the information society. Taking into account the comments of educators, it is noticeable that this phenomenon contains many very detailed processes and challenges that educators face. Figure 2 briefly presents the issues with which digital inclusion is linked to the trainers studied.

In relation to the research problems identified, we have noticed that educators present different levels of knowledge about the digital inclusion of seniors. Generally they are passionate about new technologies but are very rarely professionally trained geragogists [4]. Oftentimes, the people who lead ICT classes for seniors treat this activity as something additional, or beyond their general scheme of working. Consequently, they often express the need to have access to didactic resources which would help them to improve their general knowledge on the digital divide or the methods of working with older people [5]. In Central Europe today, more and more focus is on the quantitative development of institutions that concentrate on non-formal senior education, but also on qualitative changes, including the professional development of adult educators [6]. The governing law still lacks proper regulations as to who can teach people in their late adulthood. This is one reproach against the institutions. The trainers declare that they need their didactic



**Fig. 2.** Digital inclusion in trainers' perspective

or organisational competences to be recognised and, more widely, that they need external supporting measures [7]. The respondents readily shared their experiences, which proves this professional group is open to all forms of collaboration and to the development of new forms of dedicated support. The educators' statements revealed many interesting notions and suggestions regarding different areas of activity, which may prove valuable in the context of the transmission of experience and how one learns from the mistakes and successes of other coaches [8]. The aspect of knowledge exchange is insufficiently developed both in terms of practice and research activities [9]. As one of the leading trends in adult education, learning from biography may prove a very valuable idea and practice in the context of analysing the needs, experiences and challenges faced by senior educators, and not only in the area of ICT [10, 11].

The instructors interviewed have different experiences related to digital inclusion. This is the result of different perspectives, as the respondents represented a variety of institutions. A University of the Third Age trainer will have a different perspective because in many cases his senior students are the intellectual elite [12]. This institution usually brings together seniors who have a rich biography of learning experiences. Quite often, the IT sections (courses in the use of computers and smartphones) are divided into different levels of proficiency, like in the academic system. In turn, educators working in nursing homes treat computer classes as alternative or complementary to other activities aimed at developing the intellectual ability of their patients. Non-governmental organisations most often focus on projects which are designed according to the descriptions provided in calls for applications for funds. Institutions focusing on the education of seniors from the groups at risk of social exclusion (poverty, homelessness), follow completely different standards. Every organisation has a different activity profile and this also influences the didactic methods used to develop the digital literacy of their beneficiaries. The community of ICT educators is heterogeneous.

The knowledge and skills required by seniors can be developed through different ICT-based educational solutions. It seems, however, that developing training systems

for older persons needs thorough study of the requirements both learners and trainers must meet. Thus, the design of training systems should be carefully planned. Research results show that it is time-consuming and difficult [13]. An approach based on learning while completing individual educational exercises, especially those focusing on cooperation between course participants, is particularly well received by the seniors. Practical experiences gained during the project implemented by Petter & Helling [14] suggest that educational solutions work for seniors if the didactic approach is adapted to the needs of this target group. However, we need to be aware that seniors can be a very diverse group; therefore teachers must adjust their methods to the students' needs and focus on such issues as availability of the Internet, basic learning theory, ICT tools to support learning, and relevant educational activities. In this process, the instructor also plays an important role.

Kearney [15] identifies the elements considered necessary when we think of older people's effective learning, and emphasises the role of educators: 1/ course structure must be flexible enough to allow seniors to "set their own schedule within the course" and trainers need competences to support their students in meeting their learning objectives; 2/ usually, seniors are relatively aware of their educational goals and with proper coaching skills related to encouraging seniors to engage in the process of designing the course, the curriculum can be adapted to their expectations; 3/ non-formal learning: learning which is not planned and is based instead on a spontaneous ad hoc approach is often more welcomed by seniors than learning planned in advance. Instructors must be able to meet the challenges of incidental learning in different places and times; 4/ reflection-based activities - especially those which require collaboration and interactions with other learners - are viewed as positive as they provide learners with the opportunity to understand the given topic in their own way. The constructivist teaching approach proves successful, especially during the individual construction of knowledge by the seniors and when the instructors demonstrate an individual approach to the cognitive processes of the seniors and their learning needs; 5/ active learning: students readily engage in problem-based learning implemented as small educational projects. Learning by doing is a fruitful educational experience for the elderly and a challenge for educators who must prepare the initial concepts of the projects [14].

In this context, some researchers refer to the social-constructivist approach and non-formal approach towards learning, using continuous trainer-senior feedback to support the learning process in seniors. The important thing here is the scope of content (preferably not too wide) and the ability to test seniors' capacity to internalise the content, given their previous knowledge and experience [16]. Particular attention should be paid to those didactic skills which involve using relevant strategies, methods and teaching-learning techniques addressed to this specific group of students and considering the external and internal conditions of senior learning [17]. Particular emphasis is placed on the coaching skills that facilitate activities according to the concept of developing knowledge based on collaboration ("community of learners") and interactions between course participants [18]. Given that seniors need more time to obtain knowledge, make more mistakes and need more support, teaching methods must address these specific challenges and the teacher's instructions must be task-oriented and engage senior students using highly interactive teaching methods. There is a need for adequate training systems



for the educators, which would address the goals, abilities and experiences of seniors to reduce their anxiety when using computers and also to motivate them, especially when they begin to learn [19].

Research has shown that one of the main differences between the elderly and the younger participants of ICT courses is the fact that older people bring information and experience that younger people lack and, therefore, there are obvious differences in the motivation to learn between these two groups. While younger people are interested in learning mainly to find a well paid job, older people want to learn how to improve the quality of their life, and to self-develop [20]. Understanding this motivational gap is paramount for educators when designing digital courses for older students. Seniors also expect they will communicate with the training application using familiar language rather than computer jargon [18]. According to González [19], this is the reason why the attitudes and needs of seniors need to be taken into account during the development of appropriate ICT curricula for the elderly. Aspects that should be considered are related to benefits and difficulties recognised by seniors [19], the usefulness of the courses, and the barriers preventing older people from taking part [19, 21], as well as self-esteem and the ability to learn [22].

More and more often it is emphasised that educators of ICT to seniors must be properly prepared not only in terms of computer literacy but also in a whole range of competences which - apart from knowledge, skills and social competences - include their original ideas, values, motivation and predisposition to be the teacher in a group with special educational needs. One of the examples may be the EduSenior project implemented in Spain and Finland, which focused on the improvement of employees, specialists and teachers working in educational institutions for seniors. It combined practical experiences with theoretical knowledge and the development of the skills needed to use the available tools, including ICT, to support the education of the elderly [23].

## 5 Summary

This article fits into the discussion of the need to analyse the phenomenon of digital inclusion. The inclusion of seniors in the digital world is not a new trend. For over two decades, activities related to digital education have been conducted by specialists in adult education [24]. However, in many cases such activities are carried out by people without specialist knowledge of the methodology of the education of older people. This text allows us to understand the specifics of their work in an educational context. The results of the research here presented necessitate further analysis and practical action to improve the quality of digital education for older people [25]. The existence of institutions for senior citizens is an important first step. The next is related to equipping educators with the latest knowledge on professional digital inclusion.

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