Ekonomia — Wroclaw Economic Review 29/3 (2023)
Acta Universitatis Wratislaviensis
No 4193

https://doi.org/10.19195/2658-1310.29.3.11

Zofia Gródek-Szostak
ORCID: 0000-0001-6283-6952
Krakow University of Economics
grodekz@uek.krakow.pl

Agata Niemczyk
ORCID: 0000-0002-5594-6296
Krakow University of Economics
niemczya@uek.krakow.pl

Luis Ochoa Siguencia
ORCID: 0000-0001-8515-0216
Jerzy Kukuczka Academy of Physical Education in Katowice
l.ochoa@awf.katowice.pl

Marcin Suder
ORCID: 0000-0001-6279-7359
AGH University of Kraków
msuder@agh.edu.pl

Jarosław A. Handzel
ORCID: 0009-0007-2554-1347
Academy of Applied Sciences in Nowy Sącz
jhandzel@ans-ns.edu.pl

Strengthening digital transformation in adult education organisations

Date of submission: 26.06.2023; **date of acceptance:** 27.09.2023

JEL classification: I24

Keywords: digital inclusion, digitisation, education, management

Abstract

Social inclusion is an important aspect of any society as it helps to create a sense of belonging and togetherness. It allows individuals to form meaningful relationships with others, while enabling them to make a meaningful contribution to their local communities. Social inclusion has many benefits that can help improve the well-being of both the included and the excluded. One of the benefits of social inclusion is increased access to resources such as education, healthcare, employment opportunities, and other basic needs that may be difficult or impossible for some people to access without community or peer support.

By providing these resources through community programmes like mentoring initiatives or job training, individuals are more likely to succeed than if they were left on their own without the help of others. Additionally, this support often leads to improved mental health outcomes due to increased self-esteem. Another benefit associated with social inclusion is the reduction of stigma around certain problems, such as poverty or homelessness, by promoting understanding between different social groups. When members of marginalised groups are able to participate fully in mainstream activities, they feel accepted despite their differences from the majority of society, leading to greater empathy on both sides.

This article presents experiences from the project Empower adult educators to support digital social inclusion 2022-1-PL01-KA220-ADU-000088404 [DigIN Project], which aims to improve the capacity of educators and adult education organisations to support them in becoming active users of technology.

1. Introduction

The digital divide has been the subject of much research in the context of, inter alia, information and communication technology (ICT) ownership, access to ICT, and the possession of skills and expertise required to use ICT to access information by older people (Chang et al., 2014; Gródek-Szostak et al., 2021; Nur Akarçay et al., 2021; Ochoa-Daderska et al., 2021a; Ochoa-Daderska et al., 2021b, Niemczyk et al., 2023). ICT accessibility often depends on ICT literacy. The public debate on the digital divide has been going on for almost thirty years (D'Alessandro and Dosa, 2001; Katz et al. 2001) seeking to improve the quality, access, and equity of ICTs and information, while empowering users from all socio-economic backgrounds.

A systematic literature review provides numerous definitions and conceptualisations of the phenomenon that constitutes the digital divide. DiMaggio and Hargittai (2001) describe five aspects of the digital divide, i.e.: equipment, autonomy of use, skills, social support, and the purpose for which the technology was used. Selwyn (2004), on the other hand, presented the digital divide in four stages: formal/theoretical access to ICT and content, effective access to and use of ICT and content, engagement with ICT and content, and outcomes or consequences. Van Dijk (2006) suggested a model consisting of four key aspects related to access: motivational aspect, access to materials, access to skills, and access to use. However, Barzilai-Nahon (2006) defined and proposed a digital divide indicator consisting of five elements: access to infrastructure, affordability, usage, social and governmental constraints/support, and socio-demographic factors. Rooksby et al. (2002)

proposed that governments should match funds with the private sector to adapt ICTs and that they should develop regional and distribution centres to facilitate access and monitor gaps in Internet access. Over the past three decades, governments across the Western world have attempted to bridge the digital divide through various initiatives and collaborations (Conrads et al., 2017; Eurydice, 2019).

The impact of the pandemic has led European Union countries into a deep recession and widened the digital divide. The European Commission recommended accelerating the much-needed digital transformation and prioritised investment in digital learning infrastructure and technology. While education providers focused on online learning, the quality of online pedagogy was not a priority. Hence, there is an urgent need to take action to improve the quality of instructional design and ensure that students achieve the desired learning outcomes (ET, 2020). This requires not only the education providers and staff to be subject experts, but also – and even more importantly – digitally competent.

This requires not only providers and staff to be digitally competent, but also – and even more so – strong tutoring and assessment skills are needed as well as the ability to be flexible and able to adapt to changing circumstances. The DigIN (Empower Adult Educators To Support Digital Social Inclusion) project, coordinated by Instytut Badan i Innowacji w Edukacji (Poland) in collaboration with Universitat Jaume I (Spain), S.A.F.E Projects (Netherlands), and Dalya (Türkiye), aims to develop, test, and implement an innovative digital education ecosystem to enable educators to create and share engaging adult learning activities. To this end, teachers and other adult education staff will develop digital skills and use appropriate teaching methods.

2. ICT in adult learning – theoretical framework of the research

Given the dynamic development of ICT and its widespread use in everyday life, especially by younger generations, measures are needed to address the digital exclusion of older people (Gródek-Szostak et al., 2021). Currently, research focuses on the existing and future role that ICTs can play in later life as a way to reduce social isolation and loneliness (Beacker et al., 2014; Damodaran et al., 2015; Sims et al., 2017). In addition, the research places particular emphasis on the goal of understanding the needs and requirements of older people, finding that intergenerational communication is important and acknowledging that for some having the skills and knowledge to understand how to access ICT is also an area that needs further exploration (Marston, 2019). Ihm and Hsieh (2015) note that access to ICT is significantly reduced at a later age compared to younger users.

According to the Hamburg Declaration (Medel-Anonuevo, 1998), adult education is a continuous formal/informal learning process whose subjects are ma-

ture people who undertake a given activity in order to acquire knowledge, improve their professional qualifications, and better understand the world. Developmental psychology distinguishes the so-called late adulthood (over 55–66 years), characterised by a decline in fluid (genetically innate) intelligence, while crystallised (social) intelligence remains constant and sometimes even increases. It is a stage of balance between the logical-reasoning sphere of cognition and the intuitive-emotional area (Harwas-Napierała, Trempała, 2001, 263).

An important trend in adult education that seems to be one of the fastest growing recently is the spread of non-formal and incidental education. This means the attainment of new competencies without the use of programmes run by education/training providers (without a teacher/instructor/trainer), through independent activities undertaken to achieve specific learning outcomes, and/or through unintentional learning (Vukovic, et al. 2022). The popularisation of this concept of adult learning is undoubtedly fostered by the development of the Internet and modern technologies, in particular social media and the clearly discernible Web 2.0 trend on the Internet. In addition to the Internet, the development of mobile technologies and tools plays a significant, supportive role in adult learning. Adult social learning can take place not only via popular websites such as Facebook, YouTube or Twitter, but also on various educational platforms, vortals, specialised discussion forums or by maintaining or regularly reading author blogs (Mikołajczyk, 2011). Thanks to the development of ICT, it has become possible to disseminate modern forms of adult education, such as e-learning, blended learning or m-learning (involving the use of mobile technologies in the educational process).

Adults are a heterogeneous group in terms of their ability and pace of learning, which is strongly influenced by previous experience and skills or previous education. It is this diversity that can sometimes, especially at the beginning of a training session, create a sense of confusion. Therefore, the trainer should be prepared to support the trainees in solving intellectual problems. He or she should also be knowledgeable about the changes a person undergoes during adulthood and be aware that, for training to be effective, the same teaching strategies and learning patterns cannot be applied to children and adults.

3. The project Empower adult educators to support digital social inclusion (DigIN) in the context of research methodology

The Empower adult educators to support digital social inclusion project (2022-1-PL01-KA220-ADU-000088404) is one of the systemic initiatives undertaken at the European and national level. The DigIN project aims to improve the competencies of social educators, social workers or volunteers as they are directly

involved in the digital transformation. Educators need better digital skills to adapt to digital education on the road to digital transformation. They also need digital competencies to create engaging courses, improve the quality of the existing material, and ensure that students achieve the desired learning outcomes.

Adults, on the other hand, need digital skills to access support services, medical appointments, social activities, and to stay safe online. They need accessible tools to understand their own level of digital competence and attractive courses to become digitally competent.

Adult education providers need initiatives that enable adults to become active users of technology so that adults can be socially and digitally included.

1. A toolkit for digital facilitators including a competency map supported by aids to enable engaging and active digital education.

2. A web-based application that enables adults to determine their level of understanding of digital and internet use, and provides advice on how to improve their online behaviour and become more digitally competent in the 5 DigComp areas.

3. DigIN Multi-Pack educational programmes aimed at helping adults aged 55+ become digitally competent in the following areas: information and data literacy, communication and collaboration, digital content creation, security and problem solving.

The project partners are: Research and Innovation in Education Institute [Instytut Badan i Innowacji w Edukacji, INBIE] (project leader, Poland), Dalya Ajans Reklam Tanitim Medikal Bilgisayar Bilisim Ve Promosyon Dekorasyon Ithalat Ihracat Ticaret Limited Sirketi (Turkey), S.A.F.E. Projects (Netherlands), Universitat Jaume I De Castellon (Spain).

A study aimed to identify the level of digital competencies of educators and the devices and software they use, as well as identify problems when using them, benefits, and initiatives. The pilot study was carried out in the Silesian Voivodeship (NUTS 2). In the next stages of the DigIN project implementation, research will be carried out in each of the partner countries.

4. Results obtained

The pilot study has been implemented in the Silesian region, Poland, and involved 50 educators whose activities focus on working with people over 55 years old (36%), people with physical or mental disabilities (26%), migrants or refugees (28%), unemployed or low-income people (34%), young adults (42%). The distribution of educators' levels of digital competence in their subjective assessment is shown in Figure 1.

Nearly 80% of respondents rated their level of competence as basic or intermediate with a similar distribution between the two response categories (40%

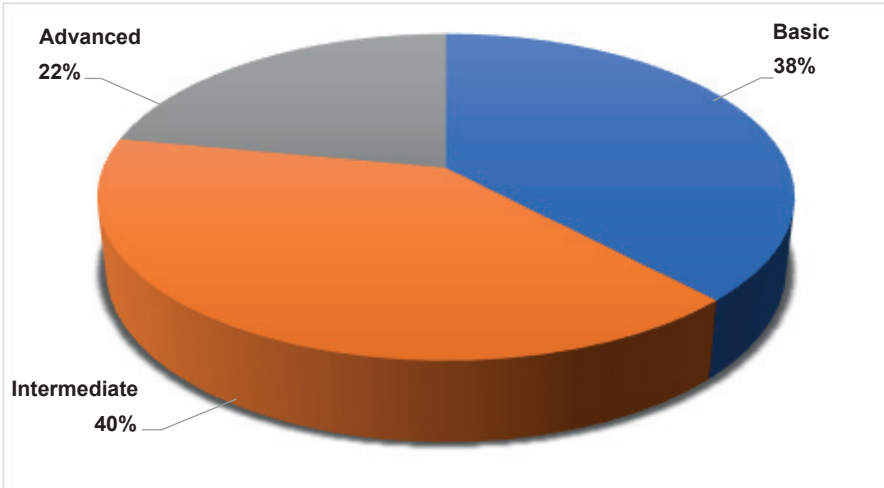

Figure 1. The level of digital competence

Source: own study.

medium, 38% low). Less than 1 in 4 rated their digital competencies as high. Thus, the results of the analysis suggest that educators do not rate their competencies very highly.

Educators surveyed were asked to answer a number of closed multiple-choice questions about the kind of devices and software they use, problems with using them, benefits and initiatives.

Figure 2 shows the distributions of responses in terms of the type of devices used, digital tools, and digital content.

The educators surveyed most often cited a smartphone (52%) and a desktop or laptop computer (48%) as their working tools. In contrast, 28% use a tablet in their activities. Among the digital tools used, social networks are the most popular (64%), while the fewest respondents (9 out of 50) use online learning applications. Among the types of digital content, two-thirds of the respondents indicated presentations, which was the most frequently indicated answer. In contrast, the smallest number of respondents (less than one in three) use games. The next set of questions dealt with the problems, risks, or challenges related to using a digital tool.

In terms of problems and difficulties encountered by the surveyed educators, the largest percentage of them (46%) indicated the lack of knowledge or skills to use digital tools and the lack of motivation or interest in using digital tools. Also, a significant percentage (38%) of respondents indicated the lack of confidence or security when using digital tools. The fewest number of people (slightly less than 20%) have a problem with the lack of adaptation or accessibility of digital tools to personal needs or preferences. Other statements in this question were indicated by between 20% and 30% of respondents.

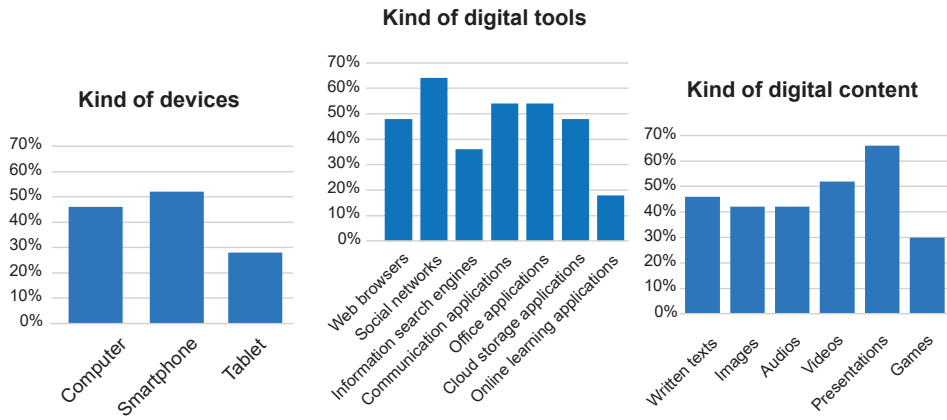

Figure 2. Distribution of responses in terms of kind of devices, digital tools, digital content

Source: own study.

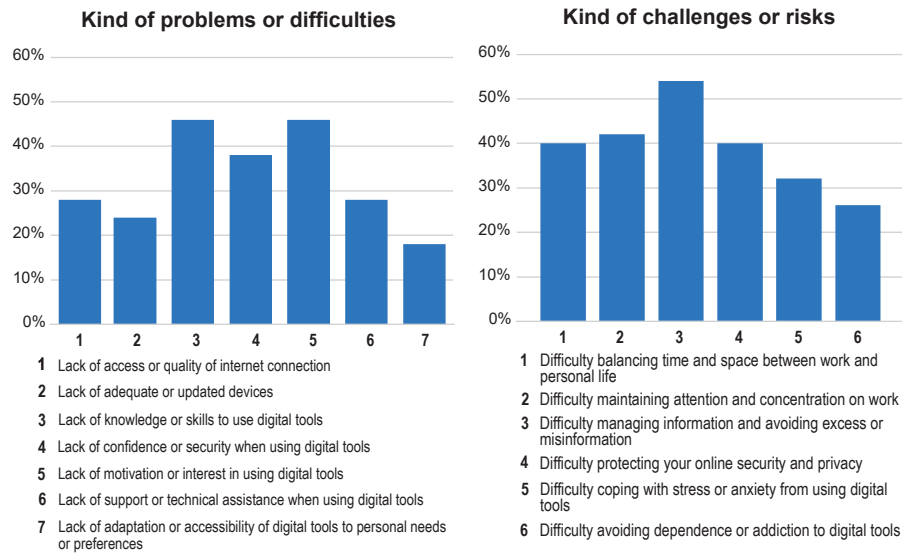

Figure 3. Distribution of responses in terms of problems or difficulties and challenges or risks

Source: own study.

In terms of the type of challenges or risks, by far the largest number of respondents (over 50%) indicated the difficulty managing information and avoiding excess or misinformation. The smallest percentage of educators surveyed have difficulty avoiding dependence or addiction to digital tools. The remaining responses in this category were answered by 32–42% of respondents.

The next two questions were about the benefits of digital tools and the needs and expectations associated with them.

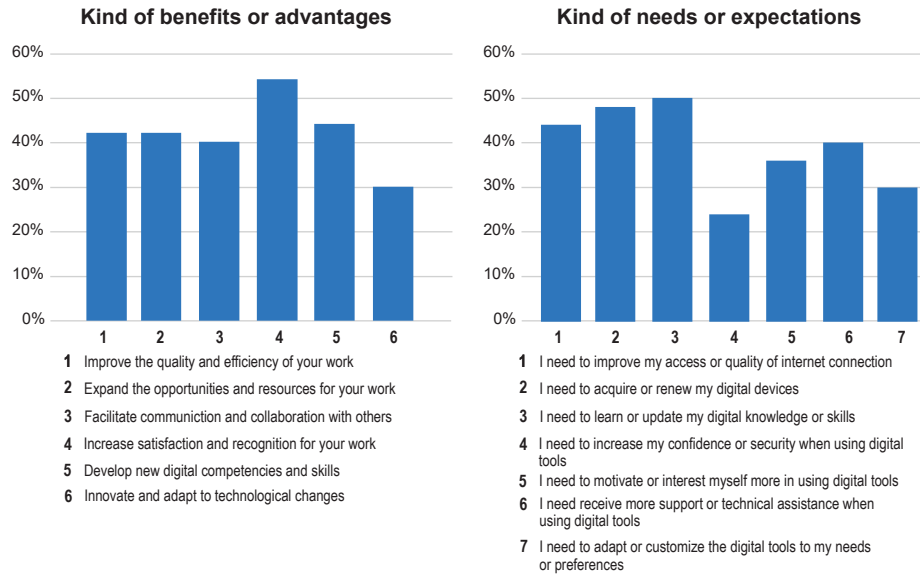

Figure 4. Benefits and needs arising from circular activities

Source: own study.

Over 50% of respondents cited "Increased satisfaction and recognition for your work" as a benefit gained through the use of digital tools. Being innovative and adapting to technological changes had the lowest response rate (at 30%). The remaining four responses were indicated by around 40% of respondents. When asked about their needs or expectations, the highest percentage of respondents (50%) indicated "I need to learn or update my digital knowledge or skills". Also respondents perceived a need to improve access or quality of the internet connection and acquire or renew digital devices. These responses were indicated by over 40% of respondents. The least number of people (less than one in four) from a palette of seven responses selected the need to increase their confidence or security when using digital tools. This means that these aspects are not as important when using digital tools.

5. Conclusions

The internet, social networks, digital media and other smart devices have transformed many aspects of everyone's personal, professional, and social lives in a relatively short period of time. However, there are still many people aged 65+ who largely lack the digital skills necessary to be fully active and participate in social and civic life. Statistics show that older people are most challenged in acquisition of digital skills and are most challenged socially with poverty or exclusion. The

pilot study showed, among other things, the need for intensive efforts to improve the competencies of adult educators. Admittedly, these are the results of a pilot study, but the preliminary results of an ongoing specific study – in the countries of the project partners – indicate the importance of the competence issue. It is important to support educators and teachers in integrating technology and adopting new teaching methods for the development of their students' competencies.

Acknowledgments

This publication was financed by a subsidy granted to the Krakow University of Economics. The desk research was carried out within the ERASMUS+ project "Empower adult educators to support digital social inclusion 2022-1-PL01-KA220-ADU-000088404" in collaboration with researchers from the Krakow University of Economics and Instytut Badan i Innowacji w Edukacji from Czestochowa.

References

Barzilai-Nahon, K. (2006) Gaps and bits: Conceptualizing measurements for digital divide/s. *The Information Society*, 22(5), 269–278. https://doi.org/10.1080/01972240600903953.

Beacker, R., Sellen, K., Crosskey, S., Boscart, V., Barbosa Neves, B. (2014). Technology to reduce social isolation and loneliness. In *Proceedings of the 16th international ACM SIGACCESS Conference on Computers & Accessibility – ASSETS'14*, 20–22.10.2014 (27–34). Rochester: ACM.

Chang, Y., Wong, S., Park, M. (2014). A three-tier ICT access model for intention to participate online a comparison of developed and developing countries. *Information Development*, 32(3), 226–242. https://doi.org/10.1177/0266666914529294.

Conrads, J., Rasmussen, M., Winters, N., Geniet, A., Langer, L. (2017). *Digital Education Policies in Europe and Beyond: Key Design Principles for More Effective Policies*. Luxembourg: Publications Office of the European Union. https://doi.org/10.2760/462941.

D'Alessandro, D.M., Dosa, N.P. (2001). Empowering children and families with information technology. *Archives of Pediatrics and Adolescent Medicine*, 155, 1131–1136.

Damodaran, L., Gilbertson, T., Olphert, W., Sandhu, J. (2015). Digital inclusion: The vision, the challenges and the way forward. *International Journal on Advances in Internet Technology*, 8, 78–92.

DiMaggio, P., Hargittai, E. (2001). *From the "Digital Divide" to "Digital Inequality": Studying Internet Use as Penetration Increases*. Princeton: Princeton University.

ET. (2020). *Education and Training 2020*. Retrieved March 20, 2024, from http://www.oidel.org/doc/Doc_colonn_droite_defaultpage/ET%202020%20RESUME.pdf

Eurydice. (2019). *Eurydice Brief: Digital Education at School in Europe*. Luxembourg: Publications Office of the European Union.

Gródek-Szostak, Z., Ochoa Siguencia, L., Niemczyk, A., Seweryn, R. (2021). Digital exclusion of elderly citizens: Polish experiences based on the project Adult Social Inclusion in a Digital Environment (ASIDE). *Ekonomia – Wroclaw Economic Review*, 27(4), 53–62. https://doi.org/10.19195/2658-1310.27.4.4.

Harwas-Napierała, B., Trempała, J. (eds.). (2001). *Psychologia rozwoju*, vol. 2. Warszawa: PWN.

Ihm, J., Hsieh, Y. (2015). The implications of information and communication technology use for the social well-being of older adults. *Information Communication and Society*, 18, 1123–1148.

Katz, J.E., Rice, R.E., Aspden, P. (2001). The Internet, 1995–2000: Access, civic involvement, and social interaction. *American Behavioral Scientist*, 45, 405–419.

Marston, H.R., Genoe, R., Freeman, S., Kulczycki, C., Musselwhite, C. (2019). Older adults' perceptions of ICT: Main findings from the Technology in Later Life (TILL) study. *Healthcare*, 7(3), 86. https://doi.org/10.3390/healthcare7030086.

Medel-Anonuevo, C. (1998). Gender and development. *Education and Training*, 6(2), 65–67. https://www.jstor.org/stable/4030347.

Mikołajczyk, K. (2011). Jak uczą się dorośli, czyli co powinien wiedzieć trener o specyfice kształcenia uczestników szkolenia. *E-mentor*, 2(39), 69–77.

Niemczyk, A., Szalonka, K., Gardocka-Jałowiec, A., Nowak, W., Seweryn, R., Gródek-Szostak, Z. (2023). *The Silver Economy: An Ageing Society in the European Union*. London: Routledge.

Nur Akarçay, Y., Ochoa Siguencia, L., Sanchez Garcia, J., Ochoa-Daderska, R., Velinov, E., Niemczyk, A., Gródek-Szostak, Z., (2021). *Adult Social Inclusion in a Digital Environment: Digital Social Inclusion. Report 4*, Częstochowa: Research and Innovation in Education Institute.

Ochoa-Daderska, R., Ochoa-Daderska, G., Nur Akarçay, Y., Velinov, E., Brozova, I., Sanchez Garcia, J., Gródek-Szostak, Z., Chęcińska-Kopiec, A., Szeląg-Sikora, A., Niemiec, M., Sikora, J., Niemczyk, A., Kotulewicz-Wisińska, K., Suder, M., Ochoa Siguencia, L. (2021a). *Adult Social Inclusion in a Digital Environment: Exchange of Good Practices*. https://doi.org/10.5281/zenodo.5516367.

Ochoa-Dąderska, R., Ochoa-Dąderska, G., Velinov, E., Brozova, I., Sanchez Garcia, J., Nur Akarçay, Y., Gródek-Szostak, Z., Szeląg-Sikora, A., Niemiec, M., Sikora, J., Niemczyk, A., Kotulewicz-Wisińska, K., Suder, M., Ochoa Siguencia, L. (2021b). *Best Practice Manual: Digital Competences Necessary for Developing ICT-Based Social Inclusion Initiatives/Services*. https://doi.org/10.5281/zenodo.5516369.

Rooksby, E., Weckert, J., Lucas, R. (2002). The rural digital divide. *Rural Society*, 12, 197–210.

Selwyn, N. (2004). Reconsidering political and popular understandings of the digital divide. *New Media & Society*, 6, 341–362.

Sims, T., Reed, A.E., Carr, D.C. (2017). Information and communication technology use is related to higher well-being among the oldest-old. *The Journals of Gerontology: Series B*, 72, 761–770.

van Dijk, J.A. (2006). Digital divide research, achievements and shortcomings. *Poetics*, 34, 221–235.

Vukovic, M., Ochoa-Daderska, R., Nur Akarcay, Y., Gródek-Szostak, Z., Niemczyk, A., Akilli, A., Ochoa Siguencia, L. (2022). *Situated Learning Methodology: Elders Learning English for Europe*. https://doi.org/10.5281/zenodo.6878059.