



EMPOWER ADULT EDUCATORS TO SUPPORT DIGITAL SOCIAL INCLUSION

Cooperation partnerships in adult education

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Professional use of ICT - based solutions for social Integration

DigIN Report I



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Professional use of ICT - based solutions for social Integration

WORKSHOP I



Instytut Badan i Innowacji w Edukacji – Poland
Project coordinator
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1. Introduction

Zofia Gródek-Szostak, Luis Ochoa Siguencia, Agata Niemczyk, Anna Szeląg-Sikora

Digitisation is of paramount importance in the third decade of the 21st century, especially for developing countries and emerging economies. Countries and communities that cannot digitise fast enough face digital inequalities (Gródek-Szostak et al., 2022). The effective use of information and communication technologies (ICTs) is a key factor for economic development, social well-being and effective governance (Jamil, 2020). Digital connectivity remains at the heart of a country's economic and social progress by connecting people, government and business in real time to achieve sustainable development across all sectors of the economy (Strusani, Hounbonon, 2020). However, not all actors in society have access to information and communication technologies, resulting in the problem of the digital divide. The world of new technologies is staggering in terms of both functionality and number of users. The latter collection also includes seniors (Niemczyk, 2016, Ochoa-Daderska et al. 2021).

This desk research was carried out within the ERASMUS+ Cooperation partnerships in adult education, Empower Adult Educators to Support Digital Social Inclusion [DigIN], Project number 2022-1-PL01-KA220-ADU-000088404, coordinated by Instytut Badan i Innowacji w Edukacji - Poland. The primary goal of Cooperation Partnerships is to allow partner organizations to increase the quality and relevance of their activities, to develop and reinforce their national / international networks, to increase their capacity to operate jointly at transnational level, boosting internationalisation of their activities and through exchanging or developing new practices and methods as well as sharing and confronting ideas. (ERASMUS+, n.d.).

DigIN Project aims to improve Educators' and Adult Education Organizations' capacity to support adults in becoming active technology users; to expand the competencies of Educators and other Adult Education Staff to make them digitally competent and confident trainers; to create a digital education ecosystem to increase the capacity and readiness of Adult Education to manage an effective shift towards digital education; to operate transnationally and collaborate to create a digitally inclusive environment for all citizens & generation.

1.1. Why social inclusion?

Respect for human dignity is one of the fundamental principles of the European Union. It is reflected in the objectives of promoting employment and combating poverty and discrimination and promoting social justice and protection. The Treaty gives the European Union a key role in supporting and



complementing the efforts of Member States to integrate those currently excluded from the labour market. Social exclusion is not a new concept, having emerged in France in the 1960s (Silver 2010). However, detecting and combating social exclusion became one of the main areas of social policy development in Europe, the UK and Australia in the 1980s, 1990s and 2000s respectively (Cordier et al, 2017). The concept of social exclusion is seen as a multidimensional process that points to inequalities at different levels, including access to resources, opportunities and rights (Mundet et al., 2017) . The solution to social exclusion is the inclusion of individuals in society, which is referred to as social inclusion (Spandler et al., 2007). Initially, this concept focused solely on the inclusion of individuals (Ontario Women's Health Network, 2009). It later became a more pragmatic concept of the multidimensional social problems facing the EU and expanded beyond simple poverty to include housing, education and health (Rogge et al., 2019). Social inclusion aims to involve all people in social issues and decision-making processes in order to embrace better equality and tolerance (Nur Akarçay et al. 2021; Sanchez Garcia et al., 2020).

Social inclusion has a positive impact on several areas of people's lives, including economic participation and mental health. In order to assess how social inclusion may affect a person's wellbeing, it is essential to reliably measure its components (Cordier et al., 2017). However, there are no effective and accurate measures of social inclusion, as quantifying them is an extremely complex process. Nevertheless, it is possible to identify a conceptual framework of inclusion that encompasses (Hassan et al., 2022).

1.1.1. Universality of education

The school / Adult centre as an educational institution aims to enable all students / trainees to have equal and effective access to education, as students / trainees will use this as the basis for future participation in society (Welch et al. 2018). As a result, inclusive education systems are becoming increasingly vital (Grigore et al. 2019) and are being used by schools around the world.

1.1.2. Technology and innovation

Digitisation, especially in the long term, is considered a pillar to support social inclusion policies (Winden, 2010), as ICTs enhance a person's ability to participate in society regardless of their status. Research shows that social networking applications help disadvantaged groups, including people with disabilities and seniors, to build and maintain more meaningful friendships, access employment and education (Mji et al. 2019). In contrast, a study by Sanders and Scanlon (2021) highlights the tremendous positive impact of constant and high-speed access to the internet on individuals' economic, political and social participation, especially in the case of pandemics such as COVID-19.

Furthermore, online university education is known for its inclusivity and equity, as it provides all students with easy access to lifelong learning opportunities.

1.1.3. System regulations

In order to achieve inclusion and ensure full citizen participation in political life, there must be equitable political opportunities and equal distribution of agency, power and voice among citizens (Draper, 2019). Indeed, the quality of governance plays a key role in preventing or deepening the exclusion of citizens.



2. ICT and social inclusion

Javier Sánchez García, Luis Callarisa-Fiol
Universitat Jaume I

Social inclusion is an essential aspect of any society, as it helps to create a sense of belonging and community. It allows individuals to form meaningful relationships with others while also allowing them to contribute meaningfully to their local communities. Social inclusion has many benefits that can help improve the well-being of those included and excluded.

One benefit of social inclusion is increasing access to resources such as education, healthcare, employment opportunities and other basic needs that may be difficult or impossible for some people without support from their community or peers. By providing these resources through social programs like mentoring initiatives or job training courses, individuals have more chances of success than if they were left alone without assistance from others. Additionally, this support often leads to improved mental health outcomes due to increased feelings of self-worth.

Another advantage associated with social inclusion is reduced stigma around particular issues, such as poverty or homelessness, by promoting understanding between different groups within society. When members of marginalized groups can participate fully in mainstream activities, they feel accepted despite differences between themselves and the majority population, leading to greater empathy on both sides. Encouraging positive collaboration rather than discrimination based on preconceived notions about what someone should look like and act like according to cultural norms and standards set by dominant groupings in society

Numerous advantages associated with fostering socially inclusive environments, including better access to resources, improved mental health outcomes reduced stigmas surrounding marginalized populations, ultimately leading to stronger bonds of understanding amongst all members of our communities.

2.1. ICT-based solutions for social Integration

ICT-based solutions for social Integration are becoming increasingly important in today's world. For trainers, it is essential to understand this technology's benefits and potential pitfalls to support learners best. By leveraging the right tools and approaches, professional trainers can create an inclusive learning environment that encourages collaboration between all stakeholders.

One of the most beneficial aspects of ICT-based social integration solutions is their ability to facilitate communication across distances or language barriers. Through video conferencing software like Skype

or Zoom, people from different countries can easily connect without travelling long distances or incurring expensive costs associated with international travel expenses. Additionally, these technologies enable individuals who may not be able to physically attend a training session due to disability access virtual classrooms where they can still participate fully in activities alongside their peers without feeling excluded from the group dynamic.

Finally, professional trainers must also consider how such solutions could potentially cause harm if used incorrectly or irresponsibly by participants during a training session –for example, cyberbullying through text messages sent via WhatsApp groups explicitly created for pieces of training sessions. Therefore, it is essential to put effective policies into place before allowing any form of online interaction between attendees and provide clear guidelines on acceptable behaviour within digital spaces, so everyone feels comfortable participating regardless of age, gender identity, ethnicity etc.



In conclusion, when used responsibly and thoughtfully, ICT-based solutions have great potential in facilitating successful social Integration within group settings, which will ultimately lead towards greater understanding amongst diverse communities both locally and internationally.

2.2. Benefits of ICT social inclusion

ICT social inclusion can provide many benefits, such as improved access to education, healthcare, and employment opportunities; increased civic participation; improved communication and collaboration; and increased economic growth. ICT social inclusion can also help bridge the digital divide and reduce disparities in access to technology.

2.2.1. Access to Education

Information and Communications Technology (ICT) has improved access to education for many people who would otherwise have difficulty accessing educational resources. ICT has enabled educational materials to be made available online, often at no cost, and accessible through any device with an internet connection. It has been incredibly beneficial for people who live in remote areas or lack the financial resources to access high-quality educational materials.

ICT can also provide access to various educational materials suitable for different levels of skill and understanding, making it easier for people to access relevant content that suits their needs. Thanks to ICT, people can now take part in online courses, watch educational videos, and access materials published on websites.



The use of ICT in education has also enabled the emergence of distance learning courses. It has enabled people worldwide to access a much more comprehensive range of educational resources than ever before. Furthermore, it has opened up opportunities for people to pursue higher education without leaving their homes or jobs.

2.2.2. Job Opportunities

ICT has opened up new job opportunities for those who may not have had the chance to pursue specific jobs before. Many people in developing countries can now access job opportunities that would otherwise have been inaccessible due to geographical or financial constraints.

It also made it easier to find a job, as job searches can now be conducted online. Employers have also been able to use ICT to reach out to potential employees, as they can now post job descriptions on websites and other online platforms. ICT has made it easier for people to find and apply for jobs, even if located in different countries.

Moreover, ICT has enabled people to work remotely and has allowed the emergence of new job opportunities, such as freelance writing and web design. These jobs can be done from anywhere worldwide, providing more job opportunities for people from all walks of life.

2.2.3. Health Care

ICT has improved access to health care for many people who would otherwise have difficulty accessing health care resources. Through ICT, people can now access health care information online, such as health conditions and treatments. It has benefited people who do not have access to a physical health care facility, as they can now access health care information without having to travel to a clinic or hospital.



ICT has significantly changed healthcare practices and made many previously non-standard practices, such as telemedicine and e-health. It can benefit people by potentially improving the quality of healthcare services. E-health allows people with limited mobility or who travel long distances to access medical advice remotely through the internet, reducing travel time and costs.

Telemedicine is another benefit ICT has given to health care, allowing doctors and specialists worldwide to provide online consultations for patients without having to visit them in person. ICT has also allowed healthcare professionals to communicate with each other anywhere in the world. Patient records can be shared, and doctors from around the world even take part in live-streamed conferences. The potential of ICT for health care is enormous and exciting, but there are many remaining challenges ahead before it can provide its full benefits.

2.2.4. ICT in society

ICT social inclusion also refers to the incorporation of Information and Communication Technologies (ICT) into society, which aims to improve social inclusion by providing access to technology for all. ICT social inclusion funding increases civic participation, allowing people to connect and share information more efficiently. It can help them form communities and advocate for change on a local level. Additionally, ICTs can help marginalised groups gain a voice, as they provide a means of communication that was not previously available. Thus, ICT social inclusion is essential for promoting civic engagement and democratic values.

ICTs allow people to connect, share information, and collaborate on projects. It has led to more engaged and informed citizens better equipped to participate in their communities.

One example of using ICTs for social inclusion is in countries like India, Kenya, and Nigeria; millions of people have used mobile phones to cast their votes in national elections. These initiatives have helped increase voter turnout rates in these countries by making it easier for people to vote.

ICTs have also been used to help refugees connect and access resources. For example, the UNHCR's Connecting Refugees app helps refugees find information about services available in their host country. The app also allows refugees to connect online and share experiences and advice. This connectivity can be life-saving for refugees often isolated from family and friends.

2.2.5. Digital divide

Information and Communication Technology has the potential to promote social inclusion by providing equal access to technology and reducing the digital divide. Bridging the digital divide involves increasing access to technology and the internet in disadvantaged communities, thus giving everyone equal opportunities to participate in the digital economy and society. ICT does this through initiatives such as:

1. Providing affordable access to technology and internet services.
2. Offering digital literacy programs and training to help individuals develop the skills needed to use technology effectively.
3. Implementing telecommunication infrastructure in rural and underserved areas.
4. Creating public access points to technology, such as community technology centres or public libraries.

By reducing disparities in access to technology and the internet, ICT can promote social inclusion and empower individuals and communities to participate in the digital economy and society.

2.3. Roles and responsibilities of professionals

Professionals play a crucial role in implementing ICT-based solutions for social inclusion, as they bring technical expertise, strategic planning, and project management skills to the table. The roles and responsibilities of professionals in implementing ICT-based solutions for social inclusion can vary depending on the specific solution implemented, but some typical responsibilities include the following:

1. **Project Management:** Professionals are responsible for implementing ICT-based solutions from start to finish, including planning, organising, and coordinating project activities.
2. **Technical Expertise:** Professionals with technical expertise are responsible for developing and implementing the technical aspects of ICT-based solutions, such as software development, network infrastructure, and data management.
3. **Stakeholder Engagement:** Professionals are responsible for engaging with stakeholders, such as community members,



government officials, and other organisations, for ensuring that the solution meets their needs and addresses the issues of social exclusion.

4. **Monitoring and Evaluation:** Professionals are responsible for monitoring and evaluating the impact of ICT-based solutions on social inclusion, including collecting and analysing data and making recommendations for improvements.
5. **Partnership Building:** Professionals are responsible for building partnerships with other organisations and stakeholders to ensure the implementation of ICT-based solutions collaboratively and sustainably.

The roles and responsibilities of professionals in implementing ICT-based solutions for social inclusion are diverse and multi-faceted, requiring a combination of technical, management, and interpersonal skills. The successful implementation of ICT-based solutions for social inclusion depends on the expertise and commitment of these professionals.

Despite the potential for ICT-based solutions to promote social inclusion, there are several challenges and limitations that professionals may face when implementing these solutions. Some of these challenges include:

1. **Technical Challenges:** ICT-based solutions can be complex, and professionals may face technical challenges such as ensuring compatibility with existing systems, ensuring data security, and ensuring reliable and high-speed internet access.
2. **Cost:** Implementing ICT-based solutions can be expensive, and funding for these initiatives can be limited, particularly in disadvantaged communities.
3. **Digital Literacy:** Not everyone may have the skills and knowledge needed to effectively use ICT-based solutions, and professionals may need to provide training and support to ensure that these solutions are accessible and usable by all.
4. **Resistance to Change:** There may be resistance to the implementation of ICT-based solutions, particularly among individuals and communities that are not familiar with technology or have limited access to technology.
5. **Sustainability:** Ensuring the long-term sustainability of ICT-based solutions can be challenging, and professionals may need to work with communities and other stakeholders to ensure that the solutions continue to meet their needs over time.
6. **Lack of Data:** In some cases, there may be limited data available on the impact of ICT-based solutions on social inclusion, making it difficult for professionals to assess their effectiveness.



These challenges and limitations highlight the need for professionals to approach the implementation of ICT-based solutions for social inclusion with a holistic and inclusive approach, taking into account the needs of all stakeholders and addressing any barriers to access and use.

2.4. Recommendations for future use of ICT-based solutions for social inclusion

To ensure the effective and sustainable use of ICT-based solutions for social inclusion, several recommendations professionals should consider:

1. **Partnership Building:** Professionals should work with communities, government agencies, and other organisations to build partnerships and ensure the implementation of that ICT-based solution collaboratively and sustainably.
2. **Accessibility and Usability:** Professionals should ensure that ICT-based solutions are accessible and usable by all, including individuals with disabilities and those with limited digital literacy. It may require providing training and support to ensure that everyone can effectively use these solutions.
3. **Cost-effectiveness:** Professionals should consider the cost-effectiveness of ICT-based solutions, particularly in disadvantaged communities, and ensure that they are affordable and accessible to all.
4. **Data-driven Decision Making:** Professionals should use data and evidence to inform their decision-making and ensure that ICT-based solutions have the desired impact on social inclusion.
5. **Sustainability:** Professionals should ensure that ICT-based solutions are sustainable over the long term and consider the resources and support needed to maintain these solutions over time.
6. **Inclusivity:** Professionals should ensure that ICT-based solutions are inclusive and meet the needs of all community members, regardless of gender, age, race, or socio-economic status.
7. **Continuous Improvement:** Professionals should continuously evaluate the impact of ICT-based solutions on social inclusion and make changes and improvements as needed to ensure that these solutions continue to meet the community's needs.



In conclusion, the practical and sustainable use of ICT-based solutions for social inclusion requires a holistic and inclusive approach, considering all stakeholders' needs and addressing any barriers to access and use. By following these recommendations, professionals can help to bridge the digital divide and reduce disparities in access to technology.



3. Andragogy and social inclusion

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Differences between pedagogy and andragogy focused on different target groups: pedagogy – children, and youth, andragogy – adults, elderly people, and people with lifelong experience. Differences in learning methods, and approaches to the learning process are different too. Andragogy is the philosophy of adult learning theory. Understanding andragogue theory, and methods help to create a digital andragogy concept, especially when the digital world is constantly changing.

Principles of andragogy and social inclusion importance open new digital paths for upskilling digital skills and encourage/empower vulnerable groups. Digital social inclusion of migrants, non-Western origin migrant women, elderly, and people from rural places shows the need for an andragogical approach to creating digitally appropriate learning environments and possibilities. The andragogical digital approach to the content for vulnerable groups depends on needs and the best practical approach for learning and supporting. However, the elderly especially should be taught to be safe in the digital environment, to know the rules, avoid fishing, and fraud possibilities.

Adult educators working in the formal, non-formal, informal education field (adult educators working in museums, libraries, education centres, NGOs, welfare organizations and etc.) creates an andragogical digital curriculum. Adult educators need to become more concrete, and focused on micro-learning and modules. Empowerment elderly people to continue to keep in a digital learning environment gives back good results on different welfare aspects of the elderly.

Most vulnerable groups of people (migrants, elderly people) should have the possibilities to be included in social activities and should be helped to improve their digital skills.

The most important question is how to reach them, how to motivate, support and encourage them not to be afraid of digital tools, but make use of them. Local communities and learning activities successfully could introduce non-formal and informal digital learning possibilities, and empower adult learners to use an andragogical approach during digital learning.

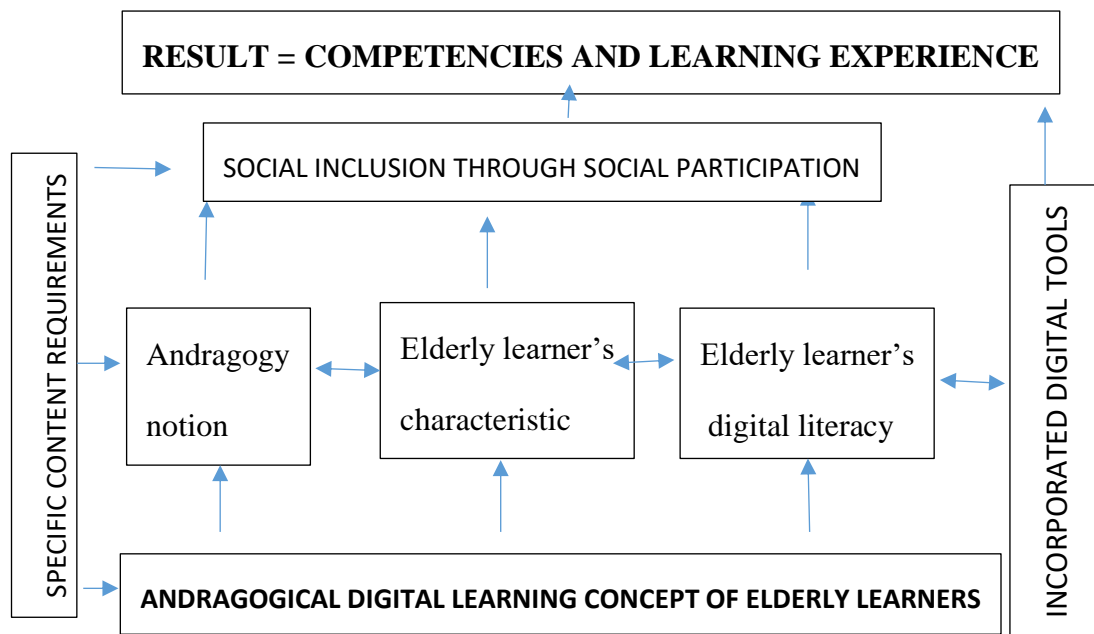


3.1. Andragogical digital learning concept of elderly learners

Adult educators' digital literacy competencies and preparation to work with elderly people (Third age university students, specialized association members, and individuals) depend on each learner's psychological, cognitive, emotional, and social abilities, as well as on his or her attitude, motivation, and capacities. When developing or improving digital literacy competencies, it is important to get to know the learners as well as possible in order to recognize the learner's level of learning. Life-long experience, wisdom, and competencies all these factors make elderly people special and interesting groups for adult educators to work with. Adult educators have to be intelligent, and inspiring and use andragogical approach to keep elderly people engaged in the learning process. The elderly know a lot, but they do not have enough patience to learn and sometimes are afraid of technical solutions. How adult educators should combine competencies of subject, digital tools, and andragogical approach to keep the elderly engaged?

Adult educators should have in mind the andragogical digital learning concept of elderly people (see 2 pictures below) – elderly people need more time to accomplish tasks, icons should be clear, bigger format, connections between content parts, and other small requirements should be filled when constructing digital learning content for elderly people. Adult educators should be familiar with andragogy, gerontology, and digital literacy to be able to incorporate appropriate digital tools into a learning activity.





1 picture. **Andragogical digital learning concept of elderly people**

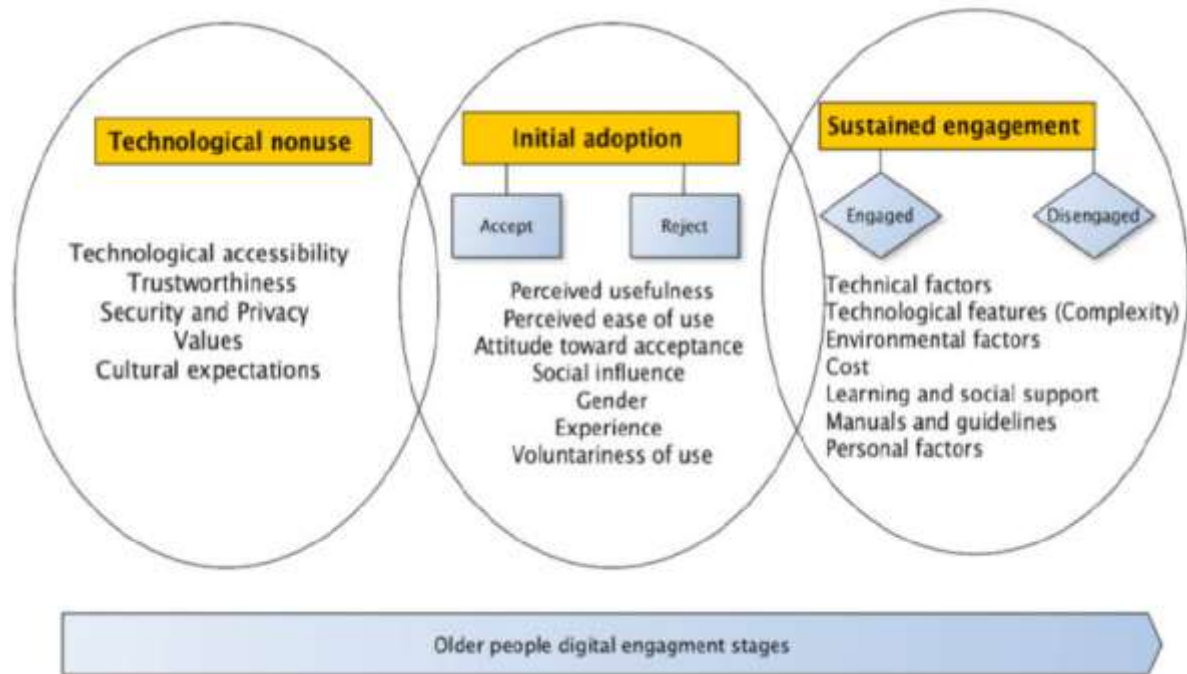
Navikienė Ž. (2022) defines the micro-learning approach as the most useable digital learning form for content. For elderly learners, micro-learning could be the most attractive form and way to be involved in learning. Depending on the goal, methods, chosen tools, and channels elderly learners could use digital space for self-learning. The goal of micro-learning methods focused on the needs/interest of the target group. The learning approach and content depend on the main skills that which learner wants to develop. Micro-learning methods focused on interaction using digital tools and channels, different digital platforms, apps which makes micro-learning attractive.

The adult educator must continuously focus not only on how the material will help to achieve the objective and improve ICT skills but also on the role of the individual in society and the development of civil society and democracy. The andragogue must actively use adult experience and reflection as the basis for new learning. Reflection and dialogue about individual aspirations is an essential aspect of the development of basic skills. (Navikienė, 2022)

Greene K., Larsen L. (2018) define virtual andragogy as a “visual and cognitive illustration of the moving, active nature of learning along multiple continuums. Virtual Andragogy illustrates the spiraling nature of the learner’s progression, affectively, behaviorally, and cognitively, from novice to

fully engaged, masterful practitioner". Andragogical digital learning concept based on active mentoring, support, encouragement, and teaching.

Abraham Sahil Michael Kebede, Lise-Lotte Ozolins, Hanna Holst, Kathleen Galvin (2021) defines older people's digital engagement and disengagement (Figure 1). Below showed three-stage approach involves technological non-use, initial adoption or acceptance, and sustained digital engagement.



2 picture. Abraham Sahilemichael Kebede, Lise-Lotte Ozolins, Hanna Holst, Kathleen Galvin, 2021

All mentioned categories (technological accessibility, experience and acceptance, technical factors and etc.) importance for older people's digital engagement stages shows for adult educators possible evaluation and preparation of learning/teaching strategies.

Elderly people's digital engagement in social, learning activities brings to the active and creative aging concept. Active aging is about quality of life and assurance of well-being.

3.2. Andragogy and active/creative aging

The elderly defined as 55+ years is no anymore a relevant concept because of the increased lifespan. Generations, where it was normal that a person over 40 years old was mentioned as old, passed a long

time ago. Nowadays, we have a generation of active elderly who are after retirement are active local community members and doing a lot of volunteering work.

The main idea of the active and creative aging concept – is how to improve the lives of thousands of older adults, and how to support their digital inclusion. Active/creative aging helps to keep healthy. Wellness can be achieved in many ways, including using creativity to work the mind and body. Adult educators’ creativity using digital tools nowadays is expanded and successfully could be used for social engagement, and motivation to start learning. Navikienė, 2022 defines creative aging as a benefit for health, well-being, and happiness. Elderly people using digital tools can be involved in creative aging, can be digital volunteers, can learn new things, and discover digital opportunities. Table 1 mentioned three main benefits of creative aging (reduce loneliness, improve cognition, reduce boredom, and become socially active).

For health	Reduce loneliness and improves cognition	Increase mental engagement reduce depression and anxiety
For wellbeing	Reduce boredom	Increased physical activity Helping individuals relax
For happiness	Social participation	Actively engaged in life

Table 1. Creative aging benefits (Ž.Navikienė, 2022)

Active/creative aging should go together with technological solutions. For example, The Government of the Netherlands is improving digital inclusion is a major challenge. It is going to take time and many different parties will have to work together. The various plans need to fit together like a puzzle. That’s why we have set out four main goals: 1. Making digital services easier for everyone. 2. Helping people go digital. 3. Explaining what happens when people go digital. 4. Working together with companies and other organizations.

Internet use in the Netherlands among older adults is high compared to other European countries which might also translate to increased use in other ICT areas. The demographic variables' degree of education, income, ethnicity, and age were significantly associated with ICT use, whereas gender and employed and/or volunteer work did not. (Sigrid N. W. Vorrink, Angelo M. G. E. F. Antonietti, Helianthe S. M. Kort, Thierry Troosters, Pieter Zanen & Jan-Willem J. Lammers (2017). In the Netherlands older people possess fewer digital skills than younger people, however, there is high daily use of the internet

(9 out of 10 Dutch people), including by those over 75. Digitalization and learning can help to stay active in aging. Digitalization is not an exclusive thing, it is a necessity in daily life.

3.3. Summary

Standards of andragogy and social inclusion significance open new virtual paths for upskilling digital competencies for elderly learners. Digital social inclusion should build a bridge between vulnerable groups and digital services, learning, and participation activities. Digital social inclusion is important for the elderly to be secure within the digital environment, to realize the rules, avoid phishing, and fraud opportunities.

Finding approaches to combine andragogy and the development of digital literacy effectively requires beginning with an understanding of who an adult is and how they can be successfully involved in digital learning. Combining digital tools and andragogy principles working online is a key to correctly enforcing guides and engaging inexperienced persons interactively inside the learning environment. Adult educators need to be wise and know elderly people learning characteristics, and andragogical techniques.

Creative aging going on step by step with digitalization, different apps, and digital programs helps the elderly to take care of their quality of life, learning, and volunteering possibilities.



4. Use of Learning Apps in Adult learners for social inclusion

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4.1. Non formal education

Lifelong learning is becoming a worldwide trend. Education is no longer just a privilege for young people; it is even becoming a duty to stay in work, to be active in mature age (senior education).

You can educate yourself or in groups; at home, in study centres. You can approach the education process in meetings with a tutor or on your own using you tube recordings; apps, videos. It is time to reconsider your belief that learning is only for people of a certain age. Nowadays, information is more readily available than ever. There are many free and paid learning apps available, and extensive courses on these tools can be found online. It can be assumed that **Learning Apps for Adults can include** all computer programmes, applications and online tools that help to collect, store and exchange information, organise tasks and make the content taught more attractive through an interesting form of communication. With educational apps, you can organise your time, systematise the knowledge you have acquired, repeat material or quickly search for useful information. Weave in educational apps and expand, consolidate and test your knowledge in various fields, as easily and freely as browsing Facebook.

4.2. Educational apps for adults

Educational apps for adults are a type of app that enables more mature people to learn new languages and skills. As a result, they offer slightly more advanced topics than apps aimed at younger users. In addition, they usually allow the use of more advanced learning techniques, which has a positive impact on the amount of knowledge we learn.¹

Many of these educational apps are designed for adults. They allow them to study topics of their choice anywhere, anytime, at their own pace. With these apps you can do anything, whether it's gaining more knowledge, improving your talents or getting an actual degree. The important thing is that by using the apps you can do this at any time for you, anywhere. In addition, seniors have a different lifestyle from working people and can attend classes at their convenience; they can

¹ <https://www.nadgryziona.pl/tag/aplikacje-edukacyjne-dla-doroslych/>

interrupt a class if they lose concentration, for example; furthermore, they can scroll through the available material at will; they can set a convenient recording volume and pace for changing topics, or the number of repetitions. Thanks to the applications, the level and scope of the course can be adapted to their needs and expectations.

A smartphone can help with learning, but in order to do so effectively you need to make sure you have the right facilities. In this case, it will be educational apps. Which ones are worth taking interest in?

4.3. Learning applications

It is worth considering what if that time we spend browsing social media could be spent learning? In the mobile shops, we have plenty of offers for apps that will help you learn more than just foreign languages! Below are some suggestions for learning something new. What apps can we find; these can be divided into several groups:

Phrases in application

There was a fashion when learning languages was accompanied by fiches - that is, small sheets of paper with various questions on one side and answers on the other. This was a very effective way of learning, especially for people who are so-called 'visual learners'. I therefore believe that the electronic version of these cards - fiches - is of great value.

There are whole sets of the most varied fiches on the app market - there are ready-made ones (e.g. iFiszki, Fiskoteka), which you launch, choose a set / category and can already start learning. But there are also services that are a multiplatform solution. Sure, they will require a bit more input from us, but we are not limited in any way - e.g. StudyBlue. In StudyBlue, we can prepare the questions and answers there in spreadsheets, or directly online / in the app. The service is available on Android and iOS.

Brilliant

An app that could be called mathematics in practice. Because instead of pure theorising - as was the case with the not-so-dynamic lessons at the school desk - the creators invite us into a world full of digital-number problems, which we will solve together with them with 'live' examples. It is worth bearing in mind, however, that it is not uncommon for us to need relatively advanced English here -



Brilliant is unfortunately not available in Polish at the moment. The service is available on Android and iOS.

Sign with us

Sign language, even its basics, never made it into the core curriculum - which is a shame. Fortunately, it is now possible to practice it at home, thanks to a very cool application developed in cooperation with migaj.eu. A whole package of short films awaits us in the programme, which will help us to explore the secrets of Polish Sign Language - with the exact positioning of the hands, as well as clearly shown sequences of movements. The service is available on Android and iOS.

Curiosity

Curiosity is a portal known for its popular science approach to many topics and serving up a solid dose of knowledge every day. Access to this vast knowledge base is completely free! The service is available on Android and iOS.

Difficult words

The Polish language, for us - their everyday users - should theoretically be nothing complicated. However, the matter turns out to be a little more complicated than we would expect. We are constantly expanding our dictionaries, while older and less frequently used words are becoming obsolete. If you would like to expand your vocabulary, it is worth taking a closer look at the free Android app Difficult Words, which may not be one of the most technically accomplished, but definitely makes up for it with functionality and an unusual library of terms. Android app

Todayit

Keep in mind that it will be worthwhile to plan your day and your work - and this is where Todayit comes to your rescue, an inconspicuous-looking programme that in practice is an advanced planner that also allows us to track our progress, while also offering a set of tools that we wouldn't necessarily associate with a study planner - including a stopwatch. An extensive, noteworthy, app that can prove really useful. The service is available on Android and iOS.

4.4. Smartphone can help with learning

Everyone is aware that modern smartphones are more than communication tools. You will often hear (especially parents will confirm this) that this type of device will be a great learning aid. If we wish, by all means. And let us make it clear right away that this is not about encouraging you to buy the most expensive and in every respect the best smartphone, because the same can be successfully done with



cheaper phones up to PLN 1,000. What specifically? Take advantage of mobile applications that have been developed to enhance and accelerate learning.

They are not record-breaking in terms of popularity, if we compare them at least to instant messaging, but it is possible to find some very interesting proposals which, based on sometimes simple ideas, can help many people and make the absorption of knowledge more effective. And since it is never too late to learn, this list should not be seen as being aimed solely at students. Although, for obvious reasons, it is mainly students who can find something for themselves among the applications.

Adults and seniors can also expand their knowledge using the app, which is listed below:

Our senior citizens belong to what is probably the last generation who went to the library to learn something new. At a time when the Internet was still in its infancy and the digitalisation of the knowledge collected by mankind to date was still a distant prospect, it was the library that was the best place for theoretical learning. When it came to practice, there were not many options either. To learn to play the piano, our senior citizens had to go to a music school or enrol on a residential course; later on, they could buy instructional DVDs to learn the arcane art of guitar playing.

4.5. Today, knowledge is available at our fingertips. Literally.

Just by taking your hand out of your pocket, along with the smartphone you hold in it, you can access almost all the knowledge of this world. A single search engine query separates us from the answer to a burning question. A few clicks separate us from specialist knowledge, which not so long ago was only available on the path of formal education.

It is impossible to list all the services and places from which to draw knowledge on a smartphone. However, there are a few worthy of note; here they are:

Poker Drills - an app for learning poker (iPhone)

Poker Drills is an app for learning poker. It will help you understand the rules of the game and guide you step by step, enabling you to understand this card game. It will allow you to increase your skills and improve your intuition during subsequent games. All thanks to the infinite number of gameplay scenarios that it will present.

Key features of the application:

- ✓ information on the rules of poker,
- ✓ explaining the calculation of the chance of winning,
- ✓ present different gameplay scenarios and teach us to evaluate them,



- ✓ bluffing rules,
- ✓ a daily quiz to test yourself in various exercises.

Polska ortografia - app for practising spelling (iPhone, iPad)

Polska ortografia is an application for practising spelling, designed for all those who feel they are deficient in this area. In addition to a large amount of theoretical information, there are also tests to test your knowledge.

Key features of the application:

- ✓ learning the rules of spelling in different cases: ó/u, ch/h, j/i, ą/om/on, ę/em/en, by/by/by and many others,
- ✓ rules for voiced and unvoiced sounds,
- ✓ rules related to the spelling of 'not',
- ✓ parts of speech different/non-derivative,
- ✓ learning about the parts of a sentence: subject, verb, complement, appendage, adjective,
- ✓ spelling exercises,
- ✓ learning to syllabify,
- ✓ tests to test our knowledge.

Driving tests 360 - driving test app (iPhone, iPad)

Tests for Driving Licence 360 is an app that will be useful for those preparing for the theoretical part of the driving test. It contains a full and up-to-date database of official questions, provided by the Ministry of Infrastructure. For seniors, it can be useful for repeating information about the rules of the road - especially during changes in traffic rules.

Key features of the application:

- ✓ TEST, which is a driving test simulator where we will be able to solve questions in the same way as we will on the state test,
- ✓ COURSE, the place where we can learn all the questions for the theory exam,
- ✓ TRAINER'S HANDBOOK, an electronic handbook from which we can learn the rules of the road and prepare for the theory test,
- ✓ STATISTICS, the place where we will be able to check what progress we are making in our studies,



- ✓ this application contains questions and information for those taking the theory test for all categories, viz: A, B, C, D, T, AM, A1, A2, B1, C1, D1,
- ✓ each question has an explained answer to help us understand the rules of the road.

Solfa - music reading app (iPhone, iPad)

Solfa is an app for learning to read sheet music. It will be useful for anyone beginning their musical education or wishing to learn to play an instrument. It will make it easier to understand how to read notes and translate them into sounds when singing, playing the piano, guitar, flute and clarinet.

Key features of the application:

- learning to read sheet music,
- reading the notes of the alto, bass, tenor and treble clef,
- learning tones and chords,
- switching between English and German note names,
- note learning for: singing, playing the piano, guitar, flute, and clarinet.

Solar Walk - astronomy app (iPhone, iPad, Apple Watch, Apple TV)

Solar Walk is an application to learn about the solar system. All solar system objects - sun, planets, satellites - are represented by a 3D model, allowing us to see them in detail from all sides, including their cross-section.

Key features of the application:

- 3D model of the solar system,
- An interactive space encyclopaedia with information on planets, satellites and many other objects,
- calendar with the most important events in the history of space,
- information on space missions and space exploration,
- space and time travel,
- viewing 360-degree images of the solar system,
- includes models of spaceships and satellites.



Microsoft Math Solver - math solver app (iPhone, iPad)

Microsoft Math solver is used to solve mathematical tasks. It allows you to solve problems in arithmetic, algebra, trigonometry, differential calculus, statistics and many other topics. All you have to do is write a mathematical task on the screen, or take a picture of it with the camera, and the app will recognise the type of problem and then solve it step by step. This way, you will not only know the correct result, but also how to arrive at the answer.

Key features of the application:

- ✓ entering tasks into the application naturally (by writing on the screen with a finger), by scanning them with the camera, or by using the equation editor,
- ✓ The solutions obtained show, step by step, how to solve a given task and also display graphs,
- ✓ the ability to scan multiple jobs simultaneously,
- ✓ searching for tasks of a similar type, which will make it easier for us to find new examples to learn from.

The application copes with the tasks:

- basic: arithmetic, real numbers, complex numbers, Roman numerals, etc.,
- algebraic: fractions, matrices, quadratic equations, systems of equations, inequalities, measurable expressions, line graphs, quadratic graphs, exponential graphs,
- Theories of numbers, probability, area,
- Differential and integral calculus: summation, limits, derivatives, integrals,
- statistical: mean, median, standard deviation, permutations, combinations.

Sky Guide - application for star recognition (iPhone, iPad, Apple Watch)

Sky Guide is an app that will make stargazing easy. Simply point your device at any direction in the sky and the screen will display descriptions of all the stars, constellations, planets, satellites and many other objects visible in the sky. Whether you are completely unfamiliar with space or it is your greatest passion, there is something for everyone.

Key features of the application:

- ✓ automatically finding stars, constellations, planets, satellites and other objects on the screen, without setting anything up or calibrating,
- ✓ detailed information on the objects found,
- ✓ checking where an object will be in the future or has been in the past,
- ✓ identification of artificial satellites as well,



- ✓ the possibility of receiving a notification when the international space station is flying over you,
- ✓ has over 2.5 million stars in its catalogue,
- ✓ has a widget that displays the time of sunrise and sunset: the sun, the prince, Venus, Mars, Jupiter and Saturn,
- ✓ sending notifications to your Apple Watch when an event is about to take place where you are, such as the flight of the international space station.

Py - app for learning to code (iPhone, iPad)

Py is an app that is for people who want to start learning programming. With it, you will learn how to create applications, websites and even analyse large amounts of data. All this with the help of short lessons that explain the most important concepts we need to know in order to master the art of programming.

Key features of the application:

- ✓ learning: Python, Swift, JavaScript, Java, HTML, CSS, SQL, iOS programming, command line commands, etc.,
- ✓ we learn by doing: we write code, create programmes, solve quizzes,
- ✓ personalisation to your skills: you learn those things you have not yet mastered,
- ✓ For every task completed, we receive points that allow us to gain levels and learn more things,
- ✓ we are rewarded for regular learning in the application.

AnkiApp - vocabulary app (iPhone, iPad)

AnkiApp is an application that allows you to learn from fiches. We can add pictures, graphics, audio files to the fiches, so they will be suitable for learning practically all topics: vocabulary, concepts, anatomy, etc. It may seem that having to create your own decks of fiches is a downside, but it's a great start to learning, and by the way we create exactly the base of them we need. However, there is still the option of downloading their ready-made sets.

Key features of the application:

- ✓ creating your own deck of fiches to learn anything: languages, vocabulary, concepts, mathematics, anatomy, biology, chemistry, etc,
- ✓ adding photos and graphics to fiches from the library or by creating a photo,
- ✓ sharing the kits created with friends, enabling joint learning or sharing in their preparation,



- ✓ keeping track of those fiches we have already memorised and learning only those we still need to repeat,
- ✓ shuffling the deck of fiches so that they are learned in different order,
- ✓ searching for specific fiches in the deck,
- ✓ detailed statistics for each deck,
- ✓ Offline learning with synchronisation afterwards,
- ✓ night mode of the application, which also facilitates learning at night
- ✓ backing up the phishes you have created and synchronising them between all your iOS devices.

Chess - app for learning and playing chess (iPhone, iPad, Apple Watch)

Chess is an application for playing and learning to play chess. It will allow us to play chess with millions of people from all over the world. We can play without any restrictions, improving our chess ranking with more than 50,000 tactics, interactive lessons and videos, or simply playing against a computer opponent with a specific difficulty level.

Key features of the application:

playing chess online:

- ✓ playing with real opponents, including friends,
- ✓ real-time or 'correspondence' game,
- ✓ the possibility to chat during the game,
- ✓ meeting friends and sending them messages outside the game.
- ✓ playing chess with a computer opponent:
- ✓ setting the level of the computer player,
- ✓ analysis of gameplay, enabling us to learn about our mistakes.

learning to play chess:

- ✓ An interactive tutorial with tips on the game,
- ✓ thousands of videos with interactive lessons from top players,
- ✓ more than 65 000 chess puzzles to solve,
- ✓ daily articles from coaches of top chess players,
- ✓ discussion of different opening tactics in chess,
- ✓ All the materials are divided into different levels of difficulty, so that we find the right one for us.



other:

- ✓ More than 20 different styles of chess board, pawns and backgrounds,
- ✓ detailed statistics on our ranking achievements,
- ✓ access to the discussion forum.

World Quiz - app for learning countries / flags / capitals (iPhone, iPad)

World Quiz is an app with which you will learn flags, countries, maps, country capitals, states in the USA and general geographical knowledge about them. It has 4 modes to make learning varied and more like a game. As you gain knowledge, you will also earn more points and achievements that will encourage you to continue playing and motivate you to get the others.

Key features of the application:

four types of game:

- ✓ ABCD quiz - selecting the correct answer from the available options,
- ✓ Compare - you choose the correct option from two for the question asked about countries,
- ✓ The WRITE quiz - you write the answer to the question given,
- ✓ Write on time - give as many known countries or states as possible in different options within a time limit.
- ✓ earning points and achievements, unlocking further levels,
- ✓ The level of difficulty is selected according to how the questions are answered,
- ✓ The entire game is in Polish.

Time To Code - app for learning HTML / CSS / JavaScript (iPhone, iPad)

Time To Code is an application with which you will learn to create websites using HTML, CSS and JavaScript. It works on the principle of an interactive course in which you gradually receive knowledge on these topics, then perform practical tasks. In this way, you will learn a skill that may come in handy in your everyday life or future job.

Key features of the application:

- ✓ works on the principle of an interactive course in which, in addition to knowledge, we are also given tasks to complete,
- ✓ gradual increase in the sophistication of learning materials,

- ✓ In the course of learning, we learn to create HTML code, CSS styles and to program in JavaScript in practice,
- ✓ built-in code editor, so that no additional application is needed.

Wolfram Alpha

With Wolfram Alpha, we get access to the most advanced calculator available for smartphones (paid feature). Wolfram Alpha can not only solve operations, but also offers powerful tools in the fields of statistics, data analysis, physics, chemistry, astronomy and other sciences.

edX

Unlike many platforms like Udemy or Skillshare, where a course can be created by virtually anyone, edX offers more than 2,000 specialised courses, developed in collaboration with leading universities from around the world (including Harvard, MIT and Oxford).

EdX is admittedly only available on smartphones in English (although selected courses are also available in other languages), but you will not find another such source of expertise on the entire Internet in fields ranging from language learning, history and philosophy to programming languages (the courses are created in collaboration with Microsoft).

(Participation in the courses is mostly free. We only pay when we want to receive an official certificate of completion).

Duolingo - free language learning app (iPhone, iPad)

Duolingo is the most popular and one of the most effective apps for learning languages at a basic level. Duolingo is an app with which we can learn more than 30 different languages. The whole learning experience is game-based, making it fun and very effective at the same time. This is confirmed by the great popularity of this app, which is already used by more than 300 million people.

Key features of the application:

- ✓ personalisation of each lesson to you, making it much more effective,
- ✓ With the app, we learn to read, write, speak, listen and talk,
- ✓ tracking your progress in language learning, which is further rewarded,
- ✓ learning in the app is game-based, making it fun and motivating to continue.



- ✓ a large selection of learning languages: English, Spanish, German, Italian, Chinese, Japanese, Korean, Portuguese, Russian, Irish, Dutch, Danish, Swedish, Turkish, Norwegian, Polish, Hebrew, Esperanto, Vietnamese, Ukrainian, Welsh, Greek, Hungarian, Romanian, Swahili.

Repeats - Intelligent learning

Nearly all mobile apps dazzle us with notifications. Some of them can be annoying, but Repeats turns them into a knowledge medium. It is from the notification level that it asks the user questions from specific packages, which can be answered quickly and are immediately checked for correctness. A number of options are provided for configuring the notifications sent. This includes the frequency of display or even specific days and times of display and the selection of question sets. Do not be put off by the fact that there are not many of these at the outset. Sets can be added in several ways: from a photo, from the archive or from the Repeats community database, or simply by creating them yourself. This is the most time-consuming, but it allows you to introduce exactly the material you need to learn. Not just from a foreign language, but from any subject.

The developers have also included a number of additional features, such as a Quick Learn mode for the repetition of the most troublesome topics, Read Aloud and Statistics, which allow you to evaluate your progress. It is difficult to have reservations about the visual layer, and there is even a currently fashionable option to change the theme (light, dark).

Photomath

This is an app that helps you solve equations. You can enter them manually, but you can also use your phone's built-in camera and scan the equation written on a piece of paper. It is very important that here you get not only the result, but the whole solution step by step and even graphs. The functionality of Photomath is really great, the app handles a lot of maths, algebra, trigonometry and even statistics.

DailyArt - Your daily dose of art

Finally, a proposal that probably does not feature very often in similar lists. However, it can undoubtedly be regarded as an educational application. It allows you to broaden your horizons; if you look for references to school subjects, you will find history and cultural knowledge here.

The title perfectly captures the essence of this app, indeed it can be seen as a daily dose of art. At a selected time, the app will remind you of itself with a notification and a portion of knowledge. The descriptions here are detailed, but in a very accessible form, they provide the most important



information about the works, but also about the artists or museums. Some will find it important that the application has been translated into Polish (although this is not always ideal). It is free, but if you like it, you can also use the paid PRO version, which is free of adverts and offers a larger database of information.

Quizlet

Quizlet is an application for consolidating knowledge. Incidentally, the card is an excellent method of consolidating not only vocabulary, but concepts in any field. It is a pity that so few teachers encourage its use. Quizlet is nothing but virtual fiches. We can create our own sets on the smartphone, depending on the current material, or view fiches created by other users. As if that wasn't enough, Quizlet allows us to share material and even enables teachers to prepare material for their students.

(In its basic version, the Quizlet smartphone app is free, but it displays adverts. If you want to get rid of them, you have to pay a monthly fee of £4.59, or £54.99 to get rid of the ads for a whole year).

Curiosity Stream

Created by the creator of the Discovery Channel, the platform is at the moment the richest and most coherent collection of documentaries and paradocumentaries on the Internet. It contains more than 2,400 recordings, access to which costs just \$3 per month or \$20 per year.

New items are added to the Curiosity Stream database every day, and if you don't want to pay for access straight away, the service offers 18 episodes for free, plus a seven-day trial period with access to the entire catalogue.

What sets the platform apart from other VOD services is how neatly the entire film collection is sorted. Finding interesting documentaries on Netflix is a chore, whereas on Curiosity Stream they are arranged according to subject matter.

Nor are many of them visually inferior to the super-series we so eagerly absorb on our smartphones. By firing up a Curiosity Stream documentary on a modern phone with a beautiful screen, such as the Samsung Galaxy S10+ or Huawei P30 Pro, we can expect a real feast for the eye.

Google Arts&Culture

Google's platform is much more than just a free art collection available anywhere in the world.



It is an excellent source of knowledge about art. A place where we can take remote walks through the richest collections of the most renowned museums from around the world. And also a place where we can learn more about trends and specific artists, and read unique articles and interviews, prepared by the editors of the platform.

Google Arts&Culture also enables an interesting use of the smartphone camera.

Instead of taking another selfie with your newly purchased Huawei P30, why not point its excellent camera at yourself in the Arts&Culture app to discover portraits similar to the photo of our face.

You can also take a photo of an interesting colour combination and the app will search for images with similar colours. Using Google AR Core technology, you can also view works of art in their actual size. Have you wondered what the Mona Lisa would look like on your living room wall? Simply point the camera at the wall and the app will display the image at full scale. Smartphones with dedicated depth sensors, allowing augmented reality to better estimate distance and position, are best suited for this application - basic depth sensors can even be found in inexpensive smartphones like the Huawei P30 Lite, while some models, such as the Honor View 20, have a dedicated ToF (Time of Flight) sensor for even more precise measurements.

The Google Arts&Culture app offers an unheard-of wealth of knowledge and culture for free. I recommend both the app on your phone and the Google Chrome browser extension, which displays a different image each day in a newly opened tab.

YouTube

The app that each of us has pre-installed on our Android smartphone is usually used... badly. Judging by what is presented by the 'on-topic' tab, for the majority of viewers YouTube is pseudo-hilarious challenges, jokes below the tolerance level of a normal person and k-pop mixed with Polish rap.

Meanwhile, YouTube is also the most common, easiest to use and most content-rich source of knowledge in the world. No matter what you want to learn - there's bound to be a YouTube channel that meets your expectations. All you have to do is look for content outside of the 'timely' tab....

Lumosity - virtual brain trainer

In order for our brain to remain fit until old age, it, like our muscles, needs training. However, many people ask themselves how to train the brain? There are many ways. One that is certainly worthy of



attention is the Lumosity app, also often referred to as a virtual brain trainer. Thanks to simple logic games and tasks, it helps to improve the efficiency of the mind in areas such as concentration, memory, speed of decision-making or the ability to quickly associate facts. Studies show that this type of exercise has a positive effect on brain function.

Ted Talks

Ted Talks is a series of conferences put together by an American organisation called the Sapling Foundation. Ted Talks is an app that allows you to listen to all the presentations on your mobile phone. Speakers include experts in a wide range of fields: from technology to politics to ecology. As the foundation's main aim is to popularise science, the lectures are free and available both as audio podcasts and video recordings. It is an extremely impressive dose of knowledge, inspiring ideas and intelligent solutions. The presentations are of the highest standard, so we can in good conscience recommend listening to them to anyone who would like to broaden their horizons, teach or learn something new and fascinating about the world around us.

Converter Plus

The ability to convert weights and measures is very useful in various situations in life. However, not all of us are able to make precise mathematical calculations in our heads. Converter Plus is an application that takes us into the world of mathematical calculations and helps us quickly find the answer to our measurement converter questions. The app is easy to use and has a user-friendly interface, so it is well worth installing it as a practical tool on your smartphone.

Evernote

Ideas sometimes pop into our heads suddenly, which is why you should always be prepared to write them down. After all, memory plays tricks on us and once we have the opportunity to write things down, we may forget what we were trying so hard to remember. Now, thanks to the Evernote app, each of us can write down our ideas at any time of the day or night, whether we are at a social meeting in a café or in the car on the way to work. The great thing about Evernote is that this virtual notebook can be used not only for text, but also for images and even sound. All notes are stored in the cloud, so they can be used anywhere in the world, on any device, and are always close at hand.



National Geographic World Atlas

Another extremely useful app, this time for all lovers of geographical knowledge. It is an extremely carefully developed mobile atlas by the National Geographic Society containing information, charts and photos. It is an absolutely unrivalled product on the market in its category. All the information presented in the app is not only reliable, but also very interestingly designed. The virtual atlas contains information on individual countries, their symbols, population, political system, history and currency converters. The programme, apart from significantly broadening one's geographical knowledge, also helps to plan journeys due to the available, up-to-date weather forecasts and the possibility to estimate distances. The product can be recommended to anyone, students, teachers or simply geography enthusiasts.

IMathematics

It is a veritable goldmine of knowledge, for all those who want (or need) to explore mathematical issues. The application boasts an impressive number of as many as 700 available formulas, formulae and definitions on over 120 topics. Using the application, we can check what we have learned thanks to special quizzes that allow us to consolidate the knowledge we have acquired. It is a kind of mathematical compendium, an invaluable help in learning mathematics for every student, but also for those who want to explore the secrets of the queen of sciences as a form of entertainment. As befits a mathematical device, IMathematics also has a built-in graphing calculator.

Udemy

There are many courses available on Udemy on various topics. You can download the app to receive a course completion certificate. The app helps you improve your professional skills in addition to your academic studies. Anyone from anywhere can upload a course and once you have paid for it, you can choose which course you want to take. In addition, you can see your progress on the app's progress bar. This app, which works in conjunction with the website, is considered to be the largest collection of online courses worldwide. Udemy enables comprehensive learning in a wide range of fields. Many of the apps posted through Udemy are free, and those that are paid are often offered at discounted prices. Polish users may be put off by the fact that the application is not available in Polish. However, this is not to be discouraged, as the courses are taught in such a clear manner that anyone with just a basic knowledge of English can easily manage to understand the content presented.



How to draw

It is a graphics programme with which the user learns the basics of drawing. The application will appeal both to those who are just starting out with drawing and to those who wish to develop their skills. As the drawings present different styles and levels of difficulty, the user can progress step by step from the simplest to the more complex tasks and systematically develop their skills. How do you draw cars, animals, fairy tale characters or even dragons? You can find out by installing the How to draw app on your smartphone.

Polish Pro Codes

Many of us have problems interpreting legal provisions. Now, thanks to the latest application Polskie Kodeks Pro, all codes are available at our fingertips. The Criminal Procedure Code, Executive Code, Civil Code, Traffic Code, Family Code - Polskie Kodeks Pro is a sizeable collection that will prove useful during any encounter with the law. Thanks to this app, all the latest findings of the legal acts will be available within a fraction of a second. Thanks to the fact that the application is constantly updated, each user has real-time access to updated regulations.

Coursera is a MOOC platform

Coursera is a MOOC (Massive Open Online Courses) platform. It allows you to enrol in courses from reputable universities online and obtain a recognised degree, diploma or professional certificate. You can take a variety of courses in data science, machine learning, Python, R, artificial intelligence, business and much more.

Drone

The Drona app is a tool for expanding general knowledge. It offers daily updates and more than 50,000 questions to guess. With the quiz included with the app, you can assess your knowledge, and Word Learner will help you use English better.

Highrise - the virtual Metaverse

Improving social skills is also part of the learning experience. In the social networking app Highrise - Virtual Metaverse you can create your avatars, chat privately or in groups with other users, go to virtual events, construct your virtual worlds and much more. You can even get pets and customise

them. This life simulator is a dynamic virtual environment where you can play as your preferred character in a variety of activities.

AngVarta

With the EngVarta educational app, users can communicate with English teachers in real time. These experienced instructors can help users increase their vocabulary and communication skills. It covers a range of topics, including idioms and meanings, advanced words, slang words and more. You can also save information to read at a later time.

Science360

The National Science Foundation has created a free iPad app called Science360. This app provides engaging media on science topics. The app also provides a news feed with the latest news from organisations receiving NSF funding. NSF either creates the content itself or collects information from NSF researchers, academic institutions and science and engineering centres.

Memrise

Memrise is a course website designed to make language and vocabulary learning fast and effective. Phrases are repeated at intervals to speed up learning on this UK-based website. It provides an app for iOS and Android smartphones. So you can follow the lessons from anywhere. It has many courses for learning French, Spanish, German, Japanese and other languages.

STEP application

STEPapp is the place to go if you are looking for a fun and engaging approach to learning difficult subjects such as maths and science. The app offers a distinctive, gamified learning format. High quality information is tailored to your curriculum in a fun and engaging way.

Go Coding Academy

One of the most in-demand skills today is coding. That's why Codecademy Go is the app you can trust if you want to learn to code or improve your coding skills. It's a fantastic app for teaching beginners how to code and includes courses on a range of coding topics. You can choose courses on Python, HTML and CSS, Java, Ruby, Data Science, Cyber Security and so on.



Proloquo2Go

With the help of the Proloquo2Go assistive and alternative communication (AAC) app, people who do not speak can express themselves. This app can be used by anyone who has a speech impairment caused by diseases and disorders such as autism, Down syndrome, cerebral palsy, etc. Through the use of research-based vocabulary, it aims to enhance language development and improve communication skills. Its state-of-the-art features enable therapists, teachers and parents to apply best practices to improve speech.

Blinkist

The Blinkist app is your salvation if you are one of the adults who cannot afford to read a book for hours on end. The Blinkist app offers podcasts in addition to an extensive library of summaries from several non-fiction books in 27 different categories. The books are also available as audiobooks if you prefer to listen to them.

4.6. The most interesting mobile apps straight to your phone

Smartphones are excellent communication tools, increasingly better cameras and endless sources of entertainment. This is how we usually use them. However, there are services and applications that will transform our phone into an inexhaustible source of knowledge on every subject.

We live in an age where more and more activities that were the domain of stationary devices are now being carried out on mobile. A similar process is taking place in the field of education. The mobile applications presented above are worth trying out because of their developmental as well as purely practical dimension. Have we described all the educational apps that are worth using? Of course not. This is just a drop in the ocean of programmes that are worth testing on your mobile phone. At the very least, the list above is worth using, because you have to start somewhere.

You are less likely to hesitate to buy an app if it contains fantastic content that may interest you. Many adults spend money on gaming apps. So why not on educational apps that give you the chance to gain new knowledge or develop the knowledge you already have?

Educational apps for adults are a type of app that enables more mature people to learn new languages and skills. As a result, they offer slightly more advanced topics than apps aimed at younger users. In



addition, they usually allow the use of more advanced learning techniques, which has a positive impact on the amount of knowledge we learn.

Given that people want to learn and upskill more than ever, it is time for educational institutions and adults to think seriously about this



5. Barriers and challenges in adult education

Metin Demirci
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A variety of theoretical perspectives, including those on global citizenship, human rights and tolerance, and welfare state theories, have influenced research aiming to understand the complex relationships and interdependencies between education, life, and an individual's opportunity to exercise his or her active citizenship. The current role of adult educators in promoting active citizenship through their teaching is not very clearly defined, even though these theoretical approaches and studies offer useful windows into the ways in which people can develop their civic engagement through a variety of learning and life experiences.

Adult educators now have the challenging task of adapting instruction to learning as the role of an adult educator changes to meet new social and economic considerations. Adult educator's role can be divided into two parts: imparting knowledge and skills related to their field of study and area of expertise, and contextualizing such knowledge and skills in terms of the economic, social, and political aspects necessary to increase adults' participation in society and communities. For educators, this frequently entails assuming a position where they can foster an inclusive environment. The topic of how active citizenship may be practiced in a way that would encourage inclusiveness and participation has served as a strong foundation for the recent debate on active citizenship and adult education.

Older adults can benefit from the positive effects of physical, mental, and social activities through lifelong learning. While there are factors that encourage involvement in lifelong learning, many people are prevented from doing so by practical and discriminatory impediments.

Adult learners have different learning motivations and needs than younger generations. Any context providing education to older adults should acknowledge barriers to adult learners' participation in learning. The literature has documented many barriers to adult learners' learning experiences. This chapter focuses on these barriers.

5.1. Barriers in adult education

Before explaining the barriers and challenges in adult education, it could be wise to provide the definition of the term barrier. Dictionary.com provides the following definitions for the term barrier:

- any natural bar or obstacle
- anything that restrains or obstructs progress, access, etc.
- a limit or boundary of any kind.





Source: <https://www.edsurge.com/news/2020-01-30-to-better-serve-adult-learners-eliminate-the-barriers-between-work-and-learning>

A barrier is a situational boundary that may arise in one's life. This barrier may stymie one's self-motivation for adult education. Adult learners have many responsibilities that must be balanced against the demands of learning. They may face barriers to participation in learning as a result of these responsibilities. Some of these barriers are reported by Lieb back in 1991 as follows:

- a) a lack of time,
- b) a lack of confidence,
- c) a lack of information about learning opportunities,
- d) scheduling issues,
- e) a lack of motivation, and
- f) "red tape".



Source: <https://www.linkedin.com/pulse/barriers-learning-aashna-verma-ahuja>

Ritt (2008) identifies personal, professional, and institutional barriers that adult learners face. Personal barriers include geographic location, personal and family obligations, work and family schedules, previous college experiences, child care issues, financial constraints, and a general fear of returning to school.

Goto and Martin (2009) refer to these personal barriers as psychological barriers and claim that educators assume that these psychological issues are beyond their control. Personal barriers that the adult learner may be concerned about include student loans and loan repayment, as well as not being able to afford the loan balance.

Older persons may choose not to take part in a learning program for a variety of reasons, some of which are simply a result of their personal circumstances. Some of the barriers and challenges listed in various studies can be summarized as follows:

- a) a lack of mobility
- b) poor health
- c) a lack of time
- d) lack of interest in learning
- e) family care obligations
- f) financial difficulties
- g) personal discomfort (with the learning environment),
- h) logistical concerns/fear, and

- i) physical concerns/fear
- j) lack of educational topics to participants' interest
- k) feelings and perceptions about ageing and learning
- l) perceptions about poor memory and learning performance
- m) learning activity expectations (assignments)

To summarize the barriers and challenges, it can be said that balancing work and family obligations while maintaining some sort of social life is difficult. When it comes to adult education, money is a huge factor. With bills to pay and mouths to feed, paying for a class may seem like an unnecessary luxury. While studying may ultimately be the key to career advancement, raising the necessary funds is not always easy.

Aside from time and money, one of the most significant barriers for adult learners is self-doubt - the feeling of "am I really cut out for this?". When combined with a lack of time and money, this could be enough to discourage adult learners for good.

Older adults' participation in learning is a must in the rapidly digitalized world. The need for the use of digital technologies in everyday life is increasing day by day, making the integration of this population into society. Various activities and organizations aim to encourage older individuals' learning and become engaged in social life by teaching them digital skills and information technologies. On the other hand, besides these barriers listed in the literature, it has been demonstrated that computer anxiety and computer self-efficacy have an effect on people's success using computers and information and communications technology in general. Anxiety, frustration, and other negative emotions can have a negative impact on a learner's performance, progress, and general well-being. The impact of computer anxiety on learning is crucial for educational systems since it has been hypothesized that it is influenced by self-efficacy and attitudes toward utilizing computers. Additionally, it was discovered that computer self-efficacy (CSE) serves as an effective mediator of anxiety's effects, with higher CSE reducing anxiety's negative effects on successful computer use.

Older persons may choose not to take part in a learning program for a variety of reasons, some of which are simply a result of their personal circumstances. A lack of mobility or poor health are obstacles to lifelong learning (Dench & Regan, 2000). A lack of time and a lack of interest in learning are the two most frequently reported barriers to learning. Some people argue that they have learned enough in their lives and that they are too old to learn new things. Family obligations are a significant consideration because non-learners are frequently watching the kids or spending time with the grandchildren.



5.2.Social inclusion of older adult learners

Social inclusion of older adult learners can be possible by encouraging them to participate in various learning activities. However, because adults have a lot on their plates, they cannot attend classes at specific times and locations. In such case, the most practical solution would be to enroll in an online course with a flexible completion schedule. This allows the adult learner to study at their own pace while also working.

Next, adults have a number of financial obligations in their lives. As a result, educators should consider options that will not put a strain on their finances. One option is to see if the employer will cover the fees if the study is related to the job being performed. If this is not possible, the fees can be paid in installments. Some college banking options may offer loans or scholarship opportunities.

Adult learners may need to connect with others who are going through similar experiences. This gives them confidence that they are on the right track. Some online courses combine the best of both worlds: flexibility and a tutor who acts as a mentor for adult learners. This reassures the learner and lowers the likelihood of student dropout due to disconnect. With the right mindset and learning options, one can improve their skill sets without having to give up their jobs or career goals.

Adults should have opportunities to exercise self-direction in the identification of personal goals, selection of learning strategies, and modes of assessment. According to Grow's (1991) stage model of self-directed teaching and learning, this may need to happen gradually, taking into account the learners' background in the content, developmental stage, and prior experience with exercising learner control in a formal learning environment.

In addition to addressing obvious vulnerabilities (such as a lack of fundamental skills), adult educators must discover methods for addressing vulnerabilities that may be less obvious or appear to be hidden (e.g. mental health problems, social deprivation, poverty). As the implementers of training programs, adult educational professionals must take into account the diversity of adult learners rather than regarding them as a homogenous target population with preconceived or presumed weaknesses and educational needs.





Source: <https://online.pointpark.edu/education/strategies-for-teaching-adults/>

Historically, educators have taught utilizing the pedagogical method whether they are imparting knowledge to adults or young learners. According to Knowles, andragogy is the art and science of instructing adults. Its main pillars are founded on the presumptions that adults (a) have an independent self-concept and can direct their own learning, (b) have accumulated a reservoir of life experiences that is a rich resource for learning, (c) have learning needs that are closely related to changing social roles, (d) are problem-centered and interested in the immediate application of knowledge, and (e) are motivated to learn by internal rather than external factors. However, cultural diversity is a further element that is crucial in today's training and development setting. As a result, adult educators not only need to comprehend the adult learner according to andragogy but also have cultural intelligence. The capacity to interact with people from various cultures more effectively is known as cultural intelligence. Most pedagogy-trained educators approach every learner in the same manner. Dropouts, or learners who chose not to continue or pursue additional education, are one of the negative effects of this. Adults enjoy imparting their wisdom and expertise.

An inclusive and participatory information society can be envisioned thanks to ICT. But for this to happen, it needs to be built on the needs, expectations, contributions, and priorities of everyone.

Information is relayed by ICT; this information must then be converted into knowledge, and knowledge must then be translated into action to support empowerment. Similarly, employing ICT to deliver an education program that does not take into account the special social, economic, and cultural demands of adult learners would not lead to their empowerment or the eradication of poverty.

It takes a lot of training to develop computer knowledge and skills in older persons (55 and older). Access to essential resources for enhancing older people' health and preserving their relationships with family and society may be made possible by using computers and the Internet.

Choi and DiNitto looked into the digital divide faced by low-income, housebound seniors and looked into ways to improve their computer and Internet use. They provided suggestions on how to accommodate the elderly and/or disabled citizens, including the following: (a) ICT could be designed to be user-friendly, such as using touch screens or voice activation; (b) people with low self-efficacy about technology could be encouraged through demonstrations and education; (c) volunteers or paid individuals could be employed to teach older adults how to use e-mail, the Internet, or other ICT; and (d) older adults should be made aware of the numerous advantages of ICT.



Source: <https://www.fraserhealth.ca/health-topics-a-to-z/seniors/lifelong-learning-and-healthy-aging#.Y9lhFexBxao>

5.3. Lifelong learning policy

Lifelong learning policy must be based on the recognition that society is experiencing an increase in the number and proportions of older people, and that this continued growth and development should be fostered through new forms of formal and non-formal learning opportunities. EU policy must ensure that older people have genuine learning opportunities in order to maintain their mental and physical health and ability to function independently, as well as to transform their social lives. Life chances, and thus opportunities for learning at any age, are shaped, if not determined, by powerful socioeconomic factors such as social class, gender, ethnicity, and geography. In today's world, it is

critical that older people are not viewed as passive consumers of learning cultures, but rather supported in making active decisions about which educational courses to pursue in both formal and informal settings, and for what purposes.



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