



EMPOWER ADULT EDUCATORS TO SUPPORT DIGITAL SOCIAL INCLUSION

Cooperation partnerships in adult education

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# Social inclusion through digital learning and volunteering

## DigIN Report II



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# Social inclusion through digital learning and volunteering

## WORKSHOP II



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2023

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## Introduction

In today's world, digital technologies have become an integral part of our lives. The internet, smartphones, and social media have revolutionised the way we interact, learn, and communicate with each other. The emergence of digital learning and volunteering has provided a platform for social inclusion, where individuals from different backgrounds can access education and training to improve their lives.

Digital learning can reach a wider audience, particularly individuals who traditional learning opportunities have excluded. The internet has allowed people to learn new skills and knowledge from the comfort of their homes, at their own pace, and without the financial burden of attending a physical institution. It means that people who live in remote areas or cannot afford to attend school can access educational resources online and learn new skills that will enhance their employment opportunities.

Digital learning also promotes social inclusion by providing an opportunity for people to connect with others who share similar interests or goals. Online forums, social media groups, and virtual classrooms allow learners to interact with others and exchange ideas and experiences. It enhances the learning experience and creates a sense of community among learners, essential for social inclusion.

Volunteering is another way to promote social inclusion through digital technologies. Online platforms such as VolunteerMatch and Idealist.org connect volunteers with organisations that require their services. People can volunteer their time and skills regardless of location or physical abilities. It is essential for individuals with disabilities or those who live in remote areas, as they can now contribute to their communities without leaving their homes.

Volunteering also allows individuals to develop new skills, gain work experience, and build their social networks. Volunteering is crucial for people who face barriers to employment or those who lack social connections, and it helps them develop confidence, improve communication skills, and enhance employability.



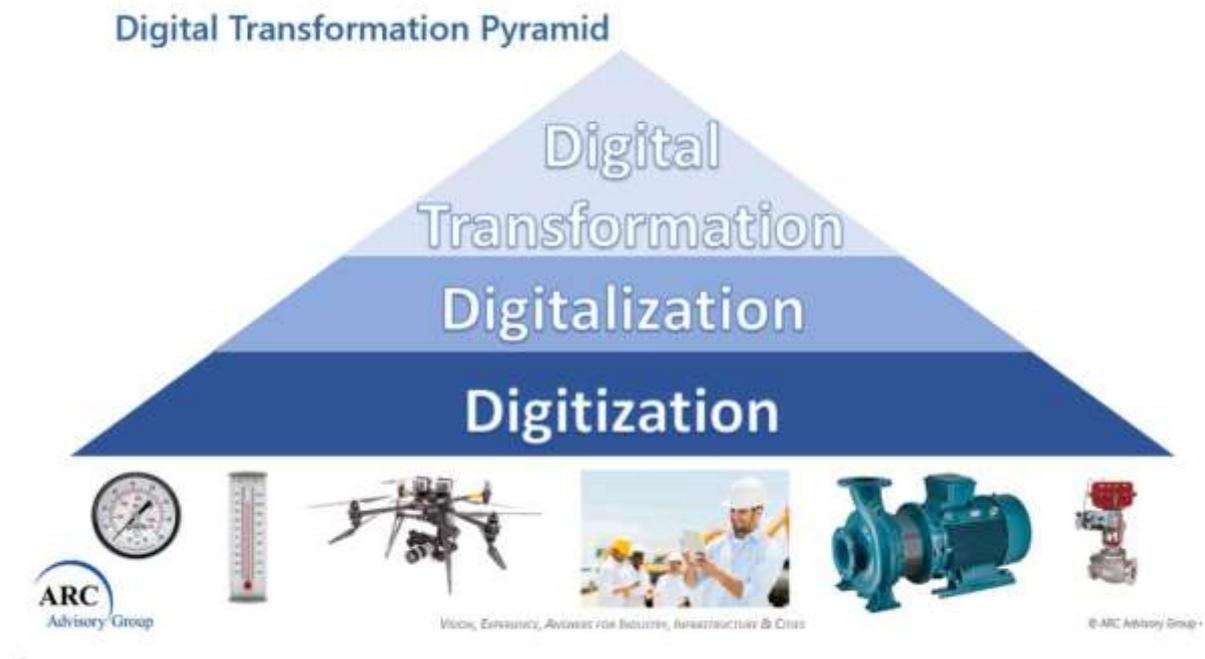
## Digitalization and Vulnerable Groups (elderly, migrants) (DALYA)

### 1. Digitalization

**Digitization** is the process of converting physical objects or attributes into digital representations. For example, we might scan a paper document and save it as a digital file (e.g., PDF). In other words, digitization is the process of converting a non-digital object into a digital representation or artifact. Computerized systems can then use it for a variety of purposes. In manufacturing, an example would be when a measurement is converted from a manual or mechanical reading to an electronic reading. Digitization is essential. This is the link between the physical and digital worlds.

**Digitalization** is the process of enabling or improving processes using digital technologies and digitized data. As a result, digitalization presupposes digitization. Simple examples include PLC logic or PID control in a microprocessor-based system, sequenced logic for a batch process, automated shutdown logic, and so on. It could also be something more complicated, such as a transmitter error generating a work order in the ERP maintenance system for a maintenance tech. Digitization boosts productivity and efficiency while decreasing costs. Digitalization enhances but does not change or transform existing business processes. That is, it transforms a human-driven event or series of events into a software-driven event.

**Digital Transformation** is simply business transformation made possible by digitalization. The term "digital transformation" is a bit misleading because the essence of digital transformation is the modification of business processes enabled or forced by digitalization technologies.



Source: <https://www.arcweb.com/blog/what-digitization-digitalization-digital-transformation>

Digitalization allows information of all kinds in all formats to be carried with the same efficiency and intermingled, digitization is critical to data processing, storage, and transmission. Though analog data is typically more stable, digital data has the potential to be more easily shared and accessed, and, in theory, can be propagated indefinitely without generation loss if migrated to new, stable formats as needed. This potential has resulted in institutional digitization projects aimed at improving access, as well as the rapid expansion of the digital preservation field. Digitization is the process of converting existing data and documents from analog to digital format. Consider scanning a photograph or converting a paper report to PDF format. The data is not altered; it is simply encoded in a digital format. Digitization can provide efficiency benefits when used to automate processes and improve accessibility — but digitization does not seek to optimize the processes or data.

If digitization is the conversion of data and processes, digitalization is the transformation of data and processes. Digitalization encompasses the ability of digital technology to collect data,

establish trends, and make better business decisions, rather than simply digitizing existing data.

Digital transformation is primarily a mindset shift that shifts the focus of organizational activities toward meeting customer expectations, identifying pain points, and resolving customer issues. A real-time lean manufacturing ecosystem will provide massive business benefits such as cost efficiency, increased innovation potential, and the all-important customer relationship. The unexpected arrival of the COVID-19 pandemic made health and safety a top priority, and the entire world scrambled to adjust to the new normal of remote working. As a result, to survive, most businesses converted to digitally operating businesses. Human interaction, customer behavior, and people's attitudes toward exploring digital possibilities underwent unprecedented change. There was a significant paradigm shift, and it is here to stay.

COVID-19 has evolved into a kind of "catalyst" for the adoption and increasing use of digitalization in work organizations and the office, while also presenting foreseen and unforeseen opportunities, challenges, and costs—resulting in negative and positive feedback loops. Adoption of emerging technologies may be hampered by vested external interests, nostalgia, and employer opportunism, as well as negative effects on employee well-being that undermine productivity, work-life balance, and the future of work. While digitalization creates new opportunities, it also introduces risks that are difficult to mitigate or plan for.



Source: <https://neewee.ai/understanding-the-difference-between-digitization-digitalization-and-digital-transformation/>

When the COVID-19 pandemic broke out, much of the world went online, hastening a decades-long digital transformation. Children with at-home Internet access began attending class remotely; many employees began working from home; and many businesses adopted digital business models to keep operations running and some revenue flowing. Meanwhile, mobile apps were created to help "track and trace" the pandemic's progression, and researchers used artificial intelligence (AI) to learn more about the virus and speed up the search for a vaccine. Internet traffic increased by up to 60% in some countries shortly after the outbreak (OECD, 2020a), highlighting the pandemic's digital acceleration.

While these activities demonstrate the enormous potential of digital transformation, the pandemic has also highlighted the remaining gaps. Although some digital divides have closed rapidly in recent years, others have not, leaving some behind in the COVID-induced digital acceleration. Furthermore, the increased reliance on digital solutions has heightened concerns about privacy and digital security. This poses a significant challenge to countries. The crisis has vividly demonstrated the potential of digital technologies, and some changes may now be too profound to reverse. Faced with a future in which jobs, education, health,

government services, and even social interactions may rely on digital technologies more than ever before, failing to ensure widespread and trustworthy digital access and effective use risks deepening inequalities and impeding countries' efforts to recover from the pandemic.

The OECD Digital Economy Outlook 2020 (OECD, 2020b) emphasizes the growing importance of digital technologies and communications infrastructures in our daily lives, as well as the fact that governments are increasingly putting digital strategies at the center of their policy agendas. As countries respond to and recover from the COVID-19 crisis, the time has come to ensure an inclusive digital transformation through coordinated and comprehensive strategies that build resilience and bridge digital divides for a post-COVID era.

Whatever happens in the aftermath of the crisis, there is no doubt that digital technologies will continue to transform the way we live and work. The emergence of 5G and the Internet of Things will increase data production, adding urgency to ongoing policy discussions about data governance, privacy, and security. These issues may become even more acute as businesses weigh the costs and benefits of increasing automation - particularly in manufacturing facilities - to increase resilience against future health crises, thereby increasing the importance of data flows between businesses. As governments reconsider their existing digital policies considering the COVID-19 crisis, they face complex, interconnected issues that necessitate concerted international coordination, cooperation, and dialogue.



Source: <https://www.adb.org/news/leveraging-digital-technologies-key-asia-covid-19-recovery-adb>

The OECD's Going Digital Integrated Policy Framework shows how to proceed. The framework, which is organized around seven building blocks – access, use, innovation, trust, jobs, society, and market openness – brings together the policies that governments must consider in order to shape a common digital future that improves lives while also boosting economic growth and well-being. In light of the COVID-19 crisis, these pillars, as well as the indicators and policy guidance that support them, have become even more critical to policy decisions. More detailed information is given below.



Source: <https://www.oecd-ilibrary.org/sites/c5b3ea5den/index.html?itemId=/content/component/c5b3ea5den>

**Access:** With lockdowns and social distancing measures forcing many businesses and schools online, the COVID-19 crisis highlighted the importance of communications infrastructures and services, as well as access to and robust data governance.

**Use:** As more people and businesses "go digital" in the aftermath of the COVID-19 crisis, governments must work to ensure that all workers are equipped with the skills needed to succeed in the digital economy, and they must do more to increase use among small and medium-sized businesses. Individuals with a well-rounded skill set in terms of literacy, numeracy, and problem solving in a technologically rich environment can be expected to use digital tools more efficiently, perform more sophisticated online activities, and adapt better to digital transformations.

**Innovation:** As a fundamental driver of digital transformation, innovation gives rise to new goods and services, opens new business models and markets, and can drive efficiencies in the public sector and beyond.

**Trust:** Given the increased reliance on digital tools because of COVID-19, more attention is needed to ensure trust in the digital environment, particularly in terms of digital security, but also of privacy, data, and consumer protection. As the pandemic spread, so did the number of coronavirus-related scams and phishing campaigns, as malicious actors took advantage of the massive shift to online activity. Although most OECD countries have adopted whole-of-government digital security strategies, these strategies frequently lack an autonomous budget, evaluation tools, and metrics, and are not integrated with overall national digital plans.

**Jobs:** The digital transformation has already begun to change organizations and markets, raising serious concerns about the future of work. The outlook has become even more uncertain because of the pandemic, which has increased teleworking across many firms and raised concerns about the future of some jobs.

**Society:** Because people are spending more time online during the pandemic, whether for work, school, or social interaction, extra care is required to support their well-being. Governments should seize this opportunity to address the wide range of social issues raised by digital transformation, such as data-driven healthcare, disinformation, and screen addiction.

**Market openness:** The COVID-19 crisis has raised concerns about market consolidation, as start-ups and SMEs struggle to stay afloat, and large technology companies wield increasing power over digital lives. As fewer companies mediate access to the online world, governments must consider the implications for business dynamics and inclusion.

## 2. Digitalization and Effects on People

The COVID-19 pandemic triggered a massive, abrupt, and dramatic digital transformation in society. The pandemic compelled us to make extraordinary digital leaps in our daily lives and practices, including our children's education. Education was transformed from a traditional classroom practice to a remote, digitalized one in an instant.

Unfortunately, the digital divides were visible in the current COVID-19 new normal. Certainly, not everyone was in an equal position to participate in their digitalized basic education. There were issues with technology access and use among both adults and children involved: access to the internet, devices, and applications may be a problem. Furthermore, there may be issues with skills and competencies to use the tools, both among parents, children, and teachers, as well as issues with effectively integrating digital tools into learning and teaching practices and reaping benefits from them.

Some young people appear to benefit greatly from the digital transformation: they are said to enjoy, be capable of, and benefit from independent, self-directed, and personalized learning, while others fall short in all these areas and suffer greatly because of the current state of

affairs. Some people dropped out of school entirely. Some parents are reported to be active and capable of supporting their children, whereas other parents are reported to be less well-equipped to do so. Children relied heavily on their parents to participate in their education. Parents' support would have been critical for some children during these critical times, but parents may not have been present or unable to offer support due to other reasons.

Furthermore, there were differences in digital skills and competencies among teachers. Some teachers may have relied on technology-savvy family members to digitalize their classroom instruction. Teaching and preparation may have been extremely taxing on teachers. Again, the teachers demonstrated great resilience, creativity, and perseverance in responding to COVID-19's challenging situation. Some people identified valuable digital practices that they intend to use in the future. Schools and educational administrations may have helped. However, teachers expressed concerns about their students, citing a lack of access to some of them and apprehension about the consequences of the lock-down for their future education.

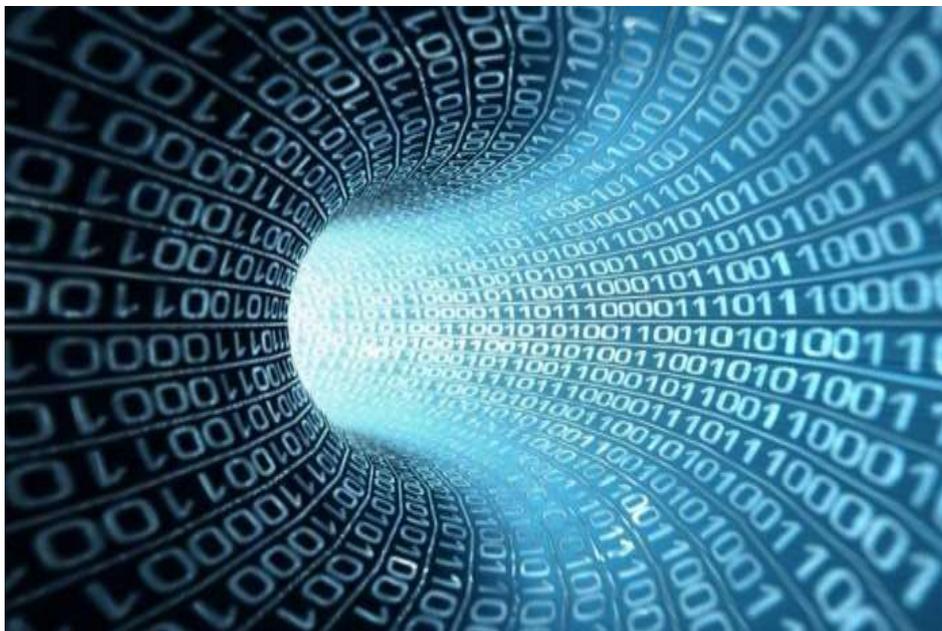
Digital technologies are how future paths can be identified.

COVID-19 provided an opportunity to increase efforts to bridge the digital divide.

- Digital tools enable us to continue providing essential services while also providing a revenue source.
- As part of the crisis response, digitalization supports human rights as part of public health.
- Digitalization provides resources and capacity solutions that directly benefit citizens' well-being.
- Digital tools are critical for coordinating government mandated actions such as hospital facilities, PPE, worker health, medication, vaccines, and so on.
- Even when used remotely, digital technology promotes culture, social interaction, and community engagement.

### 3. Advantages and Disadvantages of Digitalization

There are certain advantages of digitalization for governments and the general population. Almost every aspect of modern life has been altered by digital technology. Travel, work, shopping, entertainment, and communication are just a few of the areas that have changed in the last few decades. It is now uncommon to come across an electronic device or piece of machinery that does not incorporate digital technology in some way. Massive amounts of information can be stored locally or remotely and moved around almost instantly. Even the term "information" has evolved to include media such as photos, audio, and video, rather than just words and numbers. The advantages can be listed as follows:



Source: <https://blog.universalbusinessschool.com/advantages-of-digital-technology/>

**Social connectivity:** Even if you're on the other side of the world, digital technology makes it simple to stay in touch with friends and family and work remotely. Communication is enhanced using words, pictures, sound, and other forms of media. Software, apps, and

websites have all been created to encourage social interaction among users, who are frequently renewed by local news and events.

**Communication speeds:** Since the earliest dial-up days, the speed of the internet has increased exponentially. Ever faster broadband makes it possible to send and receive large data files almost instantly across the web, allowing users to access data from almost anywhere in the world and stream video and audio in real-time.

**Versatile working:** Digital technology has changed the nature of work. As remote working becomes more prevalent, more people now have far more opportunities thanks to improved connectivity options. Today, many tasks can easily be completed from hundreds or even thousands of miles away. Numerous other flexible working arrangements are now feasible without requiring that all employees be present in the same building.

**Learning opportunities:** Anyone with internet access has immediate access to a significant portion of the world's knowledge online. Courses and lessons can now be delivered online virtually. Due to advancements in communication, it is now simple to interact with most of the world's population and learn directly from sources, such as when trying to record foreign events or learning a new language. People with disabilities may find it simpler to use digital technology and frequently have regular access to it.

**Automation:** Most of the knowledge in the world is immediately available to anyone with internet access. Lessons and courses can now be delivered virtually online. Most of the world's population can now be easily interacted with, making it simple to learn directly from sources when recording foreign events or learning a new language. Digital technology may be easier to use and more accessible to people with disabilities.

**Information storage:** Machine intelligence is being increased by digital technology. In some cases, the machines can function without human input, freeing up workers from repetitive, often boring tasks to engage in more interesting activities. Other times, smarter technology

translates to higher safety standards or a better user experience. As technology advances and becomes more widely used, prices for goods and services decrease. Nowadays, customers can perform many tasks without the need for an intermediary, such as booking a vacation, directly on their own.

**Editing:** The information may be simpler to edit or manipulate with digital technology than with traditional media, which is one of its major advantages. Text editing has undergone a revolution because of word processing. Today, video editing can be done on a laptop in a bedroom instead of in expensive studios and equipment. There are many different photographic impressions available today, along with the option to artistically modify photos.

On the other hand, there are some disadvantages of digital technologies as well. Some of them can be listed as follows:

**Data security:** In today's digital world, data security is a major concern. A tremendous amount of information (text, images, and videos) is gathered and stored thanks to digital technology. The stored data may pertain to people or organizations that are at risk of theft. Since all electronic devices are connected to the internet globally, this information may fall into the hands of terrorists, enemies from other countries, and other criminals.

**Social isolation:** With the advancement of digital technology, face-to-face interactions are becoming increasingly rare. Through digital technology, including the internet, people can interact and communicate. This interactional style occasionally breeds doubt and ambiguity among them. According to studies, many people experience depression and other types of mental illness because they don't interact with others in real life.

**Work overload:** Although working with digital technology speeds up and improves performance, there are also drawbacks to using it. It can be stressful for workers from all over the world to manage and process a large volume of emails. Daily data collection and analysis must be done with a lot of attention and dedication, which leads to stress and isolation. It can

be extremely difficult to organize the vast amount of data, including meeting minutes, training videos, pictures, and reports.

**Lessening of job opportunities:** Nowadays, you can work or complete tasks remotely using the internet, so you don't need to be physically present in the office to do your job. Through the Internet, workers in developing nations can complete the same task for the minimum wage. Your chance of finding a new job may be reduced as a result. There are some tasks that were previously carried out by humans but are now completed by automated machines. The likelihood of finding employment is declining as more and more digital equipment is used in the workplace.

**Addiction:** Computer games, messaging, social media platforms, chat rooms, dating websites, and other online content can all develop an addictive nature both online and offline. A user of the internet ends up wasting too much money for little to no gain. The ability and time you must complete a task that is even more crucial to your daily life may be destroyed by computer games because they are so addictive. Computer users who spend a lot of time playing games and surfing develop an addiction to them.

**Manipulation of digital media:** There are numerous ways to edit, change, and manipulate digital media. Digital media manipulation is more prevalent than it once was, which raises the risk of false reports and leads to more confusion than reality. Tools like Photoshop and After Effect can change the original data into something new, clouding the original ideas and thoughts of the author or creator. Editing is simple for audio, video, and photographs. The true voice of the singer, as well as the image's size and quality, are changed to create something new that lacks authenticity.

## 4. Vulnerable Groups

Vulnerable populations, such as the elderly and migrants, are at risk of alienation because of digitalization. Many of these people are reliant on the government due to allowance and benefits. If they lack the skills to read and comprehend texts and/or use the internet, it is difficult for them to access the services. Everyone ought to be able to participate in society and carry out their civic responsibilities. Every citizen should be able to contact the government.



Source: <https://uil.unesco.org/literacy/mobile-technologies/reaching-vulnerable-populations-digital-solutions>

Despite improvements in the global literacy agenda, 750 million adults, with two thirds of them being women, still struggle with basic reading and writing skills. Under the premise of "learning anywhere, anytime," the application of information and communication technology (ICT) to the achievement of youth and adult literacy plays a crucial role in enhancing the wellbeing of vulnerable populations, enhancing employability, and facilitating active participation in society.

Those who are at risk for a variety of physical, cognitive, emotional, or social reasons are vulnerable. Many parts of the population are still regarded as vulnerable today. Due to

a variety of factors, such as culture, class, ethnicity, race, ideology, religion, gender, etc., citizens deal with a wide range of problems daily, including social injustice, social marginalization, and lack of impartiality. A person may not necessarily be vulnerable just because they belong to a vulnerable group.

The main sources of vulnerability can be listed as follows:

**Gender:** In the end, the gender digital divide or the gender gap is what makes a large portion of the population vulnerable. Since digital exclusion is particularly severe among female citizens and other subgroups, such as rural older women, for example, it disproportionately affects women.

**Geographical location and race:** Living in rural areas, in developing nations or communities, or in poor communities, as well as not having universal access to the internet, not using it, or having difficulty accessing websites, are all factors that contribute to digital exclusion.

**Education and poverty:** Low level of education is also a result of low income or limited financial resources from a young age. Because of this, both sources are frequently linked to a variety of vulnerabilities. People who are "disadvantaged in areas of economic, social, and personal wellbeing" are least likely to engage with ICTs, according to socioeconomic factors and cultural practices.

**Individual limitations:** Physical and mental impairments make people more vulnerable. A vulnerable group also includes those who are disabled or suffer from long-term illnesses.

**Age:** Children and young adults are viewed as less vulnerable groups. Other vulnerable groups include older adults, older residents of rural areas, and older people with disabilities.

Many people's daily lives now include smartphones and home computers, but not everyone who belongs to the Silent Generation, or those who were born between 1927 and 1946, has kept up with the most recent technological advancements. Half of people aged 65 and older

did not have access to the internet at home, and one-third had never used it. Most systems are digitized, which makes it difficult for elderly people to complete basic tasks like purchasing tickets or renewing bus cards or claiming old-age benefits. Another issue is the social exclusion that older people experience because of their inability to connect with peers through digital networks due to a lack of digital literacy. Although elderly people in developing nations receive immediate assistance from family members due to the family system of shared living, developing nations also experience this situation.



Source: <https://www.insideedition.com/how-technology-is-isolating-our-elderly-and-how-to-fix-it-66490>

Most people who have trouble using digital health services are older adults. It has been demonstrated that older people's chances of utilizing digital health services are hampered by a lack of technical knowledge, lack of experience using technology, lack of motivation, financial constraints, and poor technical skills. In addition, aging, cognitive decline, inadequate support and guidance, inappropriate technology or internet access, and poor health may prevent older people from using digital health services.

Migrants are another vulnerable group in terms of digital divide. The use of digital services in their new home country can be difficult for migrants, who can have a variety of reasons for moving there, including family, employment, or refugee status. Indeed, in various societal

contexts, disparities have been found in digital health and in migrants' access to digital health services. For instance, prior research has revealed that ethnic minorities and migrants use the internet for health information less frequently than the general populace. Low understanding of online health information has also been linked to migrant backgrounds.



Source: <https://time.com/4029608/these-5-facts-explain-europes-confused-reaction-to-the-migrants/>

Digital services, such as those for health and social welfare, have grown significantly in recent years. Many processes can be streamlined and accelerated using technology, which also raises the caliber and accessibility of services. Recent research reveals that several vulnerable groups, including immigrants and the unemployed, struggle to use digitalized services because they are designed with the assumption of a knowledgeable, independent user in mind. Particularly, the requirements of applying for welfare services online through self-service solutions run the risk of further excluding those groups of citizens who are already on the periphery of the welfare system.

Social inclusion is the process of enhancing opportunities, access to resources, voice, and respect for rights for people who are disadvantaged due to their age, sex, disability, race,

ethnicity, religion, economic status, or other status. Social inclusion is the process of interaction and mutual adaptation of migrants, asylum seekers, and beneficiaries of international protection as well as of the host society, as it relates to immigrants, refugees, and asylum seekers. The integration of immigrants, refugees, and people seeking asylum is a particular area and a crucial component of both a state's immigration policy and its general social policy for its entire population.

## Digital volunteering as a learning form and social inclusion [S.A.F.E.Projects]

### 1. Digital volunteering conception

Worldwide access to the Internet, and universal use of digital services has stimulated the development of online solutions targeting several life domains, with the potential to improve people's health, as well as their cognitive, social, and emotional well-being.

The concept of digital volunteering starts from a minimum of three components (volunteer, computer/internet and a person receiving volunteering services). The last twenty years, development of information and communications technology (ICT) was made a huge leap forward to connect people around smaller or bigger circle. Digital volunteering causes could be different, for example, volunteers and people getting volunteering services separate physical big distance, or, volunteer/ people getting volunteering services do not have abilities to meet physically or other constraints. Digital volunteering offers many benefits, including increased flexibility, lower costs, and the ability to reach volunteers from different locations and backgrounds.

Digital volunteers use their competences and devote time remotely for good goal and reasons. Digital volunteering could have different forms but most common is online mentoring or services could be done in a distance, review, translations or other.

Anthropological approach to volunteering provides valuable insights into the motivations and impacts of volunteering. An anthropological approach to volunteering involves examining the social, cultural, and historical contexts in which volunteering takes place, as well as the relationships and power dynamics that exist between volunteers, organizations, and the communities they serve. Anthropologists emphasize that in some cultures, volunteering may be seen as a religious obligation, while in others, it may be viewed as a way to gain social status or honor. Anthropologists would also be interested in understanding the power dynamics that exist between volunteers, organizations, and the communities they serve. For example, they

may examine the ways in which volunteers from Western countries can unintentionally reproduce colonial power structures when working in developing countries.

Impact of volunteering on the communities and individuals consider factors such as whether volunteers are addressing the actual needs of the community, whether they are inadvertently perpetuating stereotypes, and whether they are helping to build long-term, sustainable solutions.

Some volunteers may be motivated by a desire to make a difference in the world, while others may be motivated by the desire for personal growth or a sense of belonging to a community.

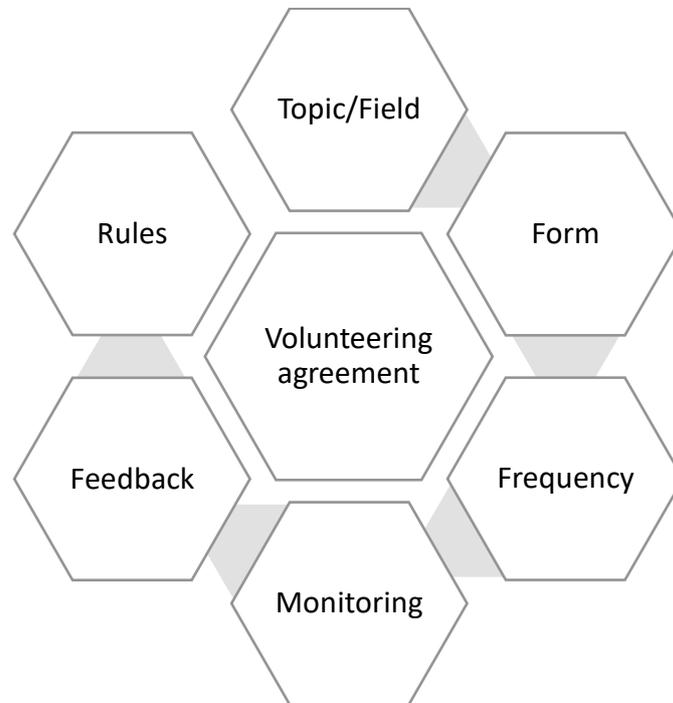
Overall, an anthropological approach to volunteering can help to illuminate the complex social and cultural dynamics that underlie volunteering and can provide insights into how to make volunteering more effective, ethical, and impactful.

The development of technical and operational skills aligned to the ability to understand technical information could contribute to reducing the digital gap. Digital communication and work/volunteering possibilities help to face life challenges, increasing learning demand and take up through effective guidance and motivation.

## 2. Digital volunteering principles

Digital volunteering as one of the volunteering forms should follow several common principles of distribution. Volunteering should always have official agreement to escape misunderstanding. Clear volunteering topics - digital volunteers' assignments should be defined in agreement. The role of volunteering should be clearly defined and explained for volunteers. Digital volunteering principles should be based on several main rules: first, should be agreed volunteering topic, time, frequency, mutual respect, monitoring of results, feedback. In the graphic below you can see visualized volunteering agreement elements. Each

digital volunteer should know exactly what is expected from him to be able to keep on agreed volunteering area. If it is needed mostly digital volunteers as usual volunteers should be guided and supported in the volunteering process. Support and guidance of (digital) volunteers doing different non-profit, non-governmental organizations.



1 graphic: Volunteering agreement (Ž.Navikienė, 2023)

Virtual volunteering is simply an act of service that can be accomplished over the phone or internet. Aside from the obvious awesomeness of being able to give back without leaving bed, virtual volunteering experiences are also particularly convenient for those with difficult mobility (disability, big distances, busy schedules and etc.), as much of the work is flexible, both in terms of how much and how often you do it. Digital volunteering principle based on usual volunteering principles (devote time, support, help and be useful). Digital volunteering principles should be agreed between all parties involved.

### 3. Digital volunteering as a learning form

Volunteering can be one of the non-formal learning forms. You are a volunteer and help others but at the same time you are learning new things and trying new situations. Non-formal learning and informal learning could inspire you to learn new things or develop skills. It could be done through volunteering – serving and devoting time to good goals. Digital volunteering conception covers many forms of learning

In the modern environment, technical possibilities such as mobile and smart phones, internet, on-line or distance education etc. are only a few practical examples of how to be involved in volunteering activity as a form of non-formal learning. There is a lack of instruments how to connect and empower different generations for common non-formal learning activities. At the same time, there is a strong link between learning and better health, particularly for older people. Participating in adult learning courses is a form of civic participation, and in its turn can lead to involvement in voluntary activities and larger social networks. That improves health and mental well-being. Level of participation in non-formal adult learning activities will ensure socio-economic benefits and gives direct benefit not only for elderly people but also for the whole community.

Digital volunteering is a great way to learn new skills and gain experience while making a positive impact on the world. As a form of online volunteering, it offers a flexible and accessible way to contribute to causes you care about, regardless of your location or schedule.

There are many ways that digital volunteering can help you learn and develop new skills. For example, if you're interested in marketing or social media, you could volunteer to manage a non-profit organization's social media accounts or run a digital marketing campaign for a charity. This will give you hands-on experience and allow you to develop practical skills that can be used in a future career.

Additionally, digital volunteering can help you develop a range of soft skills, such as communication, teamwork, and problem-solving. Many digital volunteering opportunities

involve working with people from diverse backgrounds and cultures, which can help you develop cultural awareness and sensitivity.

Moreover, digital volunteering allows you to learn more about the issues facing our society and the ways in which different organizations are working to address them. By volunteering with different organizations, you can gain a broad understanding of social and environmental issues and the different strategies being employed to address them.

Overall, digital volunteering is a valuable learning form that offers a range of benefits, including the opportunity to develop new skills, gain practical experience, and make a positive impact on the world.

Volunteering develops social and transferable skills and fosters non-formal learning. Keeps develop of elderly communication and motoric skills. During non-formal or informal learning elderly constantly keeps busy and learning daily things. This is very important for elderly health being because they are not any more in active work phase, but physical, mental condition could be maintained through volunteering activity. Elderly digital volunteers could develop personal, social, and learning to learn competence, be active citizens and bring a meaningful stone to the community building.

Non-formal learning can certainly be a form of volunteering, as it involves sharing knowledge and skills with others in a way that is outside of traditional formal education. Volunteering through non-formal learning can take many forms, such as mentoring, tutoring, teaching workshops or classes, leading community programs or events, and more.

Volunteering through non-formal learning can be a rewarding experience for both the volunteer and the learners, as it provides an opportunity for individuals to develop new skills, connect with others in the community, and contribute to the personal and professional development of those around them. Additionally, non-formal learning can often be more

flexible and adaptable than formal education, which can make it more accessible to those who may not have the time or resources to pursue traditional education.

If you are interested in volunteering through non-formal learning, there are many organizations and programs that offer opportunities to get involved. Consider reaching out to local schools, community centers, or non-profit organizations to inquire about volunteer opportunities or check online for programs that match your interests and expertise.

Digital volunteering as a form to devote time for those who are still active in labour market is one of option to do volunteering.

Digital volunteering can be done from your home:

- if you don't have time physically do volunteering.
- if you are disabled and have difficulties to do volunteering physically;
- if the distance of volunteering is too big to be involved in volunteering physically you can choose to do it virtually.

For digital volunteering you need:

1. Wish to devote your time.
2. Motivation to help other.
3. Digital volunteering place
4. Digital volunteering guidance.

The need for volunteers comes from inner motivation but mostly for elderly important social contacts, to feel needed, importance to share experience and competences. Morawski, L., Okulicz-Kozaryn, A. & Strzelecka, M. (2022) emphasize that aging depends on social inclusion. Volunteering enables older people to remain socially connected and it helps to build social bonds and overcome adverse life events. Given the social importance of volunteering in the elderly, this study examined the association between volunteering and quality of life in European and Israeli volunteers aged 50 and over. The association between volunteering participation and subjective aspects of well-being depends on the popularity of volunteering

in a particular country. Their results were obtained by Pearson's linear correlation approach for a geographically restricted set of countries. Intrinsically motivated volunteerism benefits people more than extrinsically motivated ones. Volunteering positively associated with desirable outcomes such as well-being.

Social engagement and connections prevent loneliness. Constant motivation to develop competences prevents disease. Technology development assures us to take advantage of being online and connecting with other people.

As a process, social inclusion seeks to ensure that everyone, regardless of their circumstances, age, and background, has the possibility and means to participate more fully in society. Social services should lead to a more inclusive society: a society characterized by open and accessible structures and services, reduced inequality, respect for human rights and increased social cohesion, and increased quality of life for senior citizens.

As Europeans expect to live increasingly long lives, their attention turns to how they can make the most of their retirement. The number of older people engaged in different kinds of activity or volunteering grows: some take-up new pastimes/sports or learn new skills, others decide to volunteer or travel, while some may work on a part-time basis. Serrat-Graboleda E, González-Carrasco M, Casas Aznar F, Malo Cerrato S, Cámara Liebana D, Roqueta-Vall-Llosera M. (2021) described the concept of productive aging and importance of for well-being. Anne Cattagni Kleiner, Yves Henchoz, Sarah Fustinoni, Laurence Seematter-Bagnoud (2022) emphasize that retirement is a new commitment of social roles in community.

Seniors after retirement want to be helpful and share their life experience, actively participating in social environment. There are important elements of knowledge and age wisdom, traditional and cultural ways of doing things as well as national narrative of history and epos carried by older generations that are getting lost since there is a physical and tangible detachment from younger groups and different generations.

## Adult Educators' digital skills to Support Social Inclusion [INBIE]

It is widely acknowledged that modern society in the 21st century is changing rapidly. Seniors have the very difficult task of keeping up with the hectic pace of technological evolution in every aspect of their lives. Digital skills play a significant role in lifelong learning, as people without digital skills are now considered illiterate. It is widely accepted that lifelong learning is an inevitable part of modern people's lives to survive in an extremely competitive working environment.

Today, around 90 per cent of jobs require some level of digital skills, and both the Council Resolution on a renewed European Agenda for Adult Learning (2011) and the Pathways to Better Skills initiative (2016) recommend strengthening adult learning provision to improve the digital skills of the many millions of low-skilled or low-qualified adults who are most vulnerable in the labour market. How seniors can adapt to the changing environment; how to teach them, what tools to use and, on the other hand, what competences and skills educators should have - to efficiently transfer knowledge to seniors. What soft and hard competences should seniors' educators have to keep up with the changing trends in education and what tools can be used to make seniors' learning more effective, accessible, and focused on acquiring practical skills.

On the other hand, the skills/educators of senior teachers related to the use of new technologies are still insufficient. In their own words, they are not trained in the appropriate use of new technologies, which has a very negative impact on their confidence, as well as on the quality of their classes. How to meet their own and their seniors' educational needs and enhance their digital skills? So even teachers who want to use digital learning are confronted with so many digital and cloud-based learning tools, platforms and learning environments that it can be difficult for them to decide where to start. To make it easier, digital skills can be identified and divided into several areas so that this knowledge can be shared with seniors.

What kind of seniors can be encountered when conducting training or workshops? They can be divided into 5 main groups; and these are:

- **Digital pioneers:** who blog; trained by grandchildren; or self-taught
- **Creative producers** build websites, publish videos, photos, and music to share with friends, family and beyond; these seniors have put their knowledge to work; they are open to new software.
- **Seniors on the move** - the internet and instant messaging make their lives easier by sending text messages, contacting them on WhatsApp or uploading photos on Facebook (Messenger); they pay their bills through m-banking.
- **Information gatherers** are Google and Wikipedia addicts, able to search for information on anything from medical knowledge to building a house (but using apps is already becoming a hassle);
- **Technologically illiterate** - seniors who do not use a computer daily are able to send text messages; however, they are "afraid" to use the wealth of new technologies in their daily lives.

Based on these types of users, we have developed a list of 14 digital skills that we believe teachers need to have to confidently and creatively use technology that is appropriate for their learners:

## 1. Possibility to set up a blog

Online collaboration has become second nature to young people playing multiplayer online games, but it is also reaching Seniors. It is quite common for family members who are either ill (as during the COVID pandemic they had to stay in isolation) or live far away from each other to teleconference. Working on travel blogs provides an excellent opportunity for seniors to collaborate both offline and online. How these skills can be developed among seniors, for example, the following activity ideas can be used:

- Introduction to blogging - e.g. in English
- Blogging tips for seniors
- Programmes to help with blogging

## 2. Ability to create engaging visualisations

Posting is changing storytelling and our seniors live in a world where visual elements are as important as text. Most seniors have phones that are equipped with a tool to take good quality photos.

How these skills can be developed with seniors:

- Create infographics and charts online with info.gram
- Check out the tutorials on creating visualisations in Canva
- compile a list of free graphic organisers.

## 3. Ability to use and create video content

Consider how video can inspire and engage seniors and transform the learning process. Remember that with video we can reinvent education. Today, most phones on the market can take photos and record good quality videos. Seniors can learn in a friendly way, adapting their time, opportunities to their technological competence. Seniors can play teacher-prepared material as well as record their own content. Which can help us to develop this skill:

- YouTube tutorials
- Look for examples of video content creation on blogs.

#### 4. Ability to create digital audio content

The ability to create digital audio content enables teachers to create multimodal texts, which emphasises the quality of teaching. Seniors can play files and record their material at any time.

How to develop these skills:

- there are many online instructional videos on YouTube on how to create sound.
- Search for free audio tools available on the web

#### 5. Ability to use social media for professional development

Teachers are expected to belong to and contribute to professional networks, and social media provides a unique opportunity for teachers to connect with colleagues and contribute to their professional learning. Many tools are available for free and online, including through ERASMUS + projects for education.

How to develop these skills:

- Search the web for comprehensive guides to using social media in education
- Encourage Seniors to create a base page in English. Learning by creating a page based on interests will certainly accelerate the educational process

#### 6. Ability to use social networks

The Internet provides a huge amount of learning material. How do we select all this online content for use in senior education? Here are some great social bookmarking sites that help you discover, share, and organise resources to access them effectively. Look for any of the following in developing this skill:

- Pinterest

- Scoop.it
- Delicious

## 7. Ability to carry out efficient and effective web searches

As a teacher, try to look for relevant materials beforehand so that time is not wasted during the class. Also prepare a lesson plan for the next few meetings - so that seniors can search for the information they need in good time before class. Being able to find the necessary resources in good time is a must for the teacher as well as for seniors who have little time and may have limited access to the Internet.

How these skills can be developed:

- Google search guide
- some introductory exercises on how to effectively enter search terms into the goggle search engine, how to use the translator and others.

## 8. Ability to adopt game-based learning

A new feature is game-based learning, which engages seniors and enables them to develop skills in problem-solving, decision-making, collaboration, senior-centred learning, and creativity.

Interactive simulation games allow you to immerse yourself in each situation, to experience online, in a relaxed way, a visit to a restaurant or an airport.

## 9. Augmented reality / Virtual reality / Mixed reality

Long gone are the days when students (including Seniors) are expected to sit quietly at their desks. Educational technology is successfully making learning collaborative and interactive. Augmented reality, virtual reality and mixed reality are examples of transformative technologies that enhance teachers' teaching while creating immersive lessons that are also fun and engaging for Seniors. Virtual reality makes it possible to bring the outside world into the group and vice versa. Apps such as “Unimersiv” can transport seniors to ancient Greece. Seniors can travel virtually and thus maintain their motivation to learn languages.

Virtual reality has the potential to increase visual literacy, technological literacy and audience attention. The idea of combining AR/VR/MR is highly anticipated.

## 10. Class set of equipment

Educators and teachers bring their own devices like laptops or tablets, and seniors are increasingly accessing multimedia tools like tablets, smartphones, and laptops; to access a computer or laptop. Recent years have shown an increase in the number of computer kits in seniors' homes, as this number continues to grow, so does the need for a greater focus on programmes that teach digital citizenship skills. Today's ubiquitous online environment presents exciting opportunities that require seniors to be properly trained in cyber security and individual responsibility.

## 11. Redesigned learning spaces

The implementation of technology has supported teachers' efforts to make learning based on collaboration and the use of practical knowledge. Classrooms in the 21st century are SMARTboards instead of chalkboards. Seniors are going on virtual field trips instead of simply

reading a text; they are creating media instead of just looking at it. Redesigned learning spaces are filled with integrated technology, meaning that seniors not only use these things, but understand how to use them to achieve a specific purpose. What's more, some of these learning spaces aren't even in a classroom or a Hall - Colleges and universities are creating more informal campus learning spaces because they understand the importance of creating and collaborating 24/7, not just during class.

## 12. Artificial intelligence

The use of artificial intelligence in higher education has already proved successful. Australia's Deakin University used IBM Watson to create a virtual counselling service for students that was available 24 hours a day, seven days a week. Another application of artificial intelligence is chatbots. Because chatbots are equipped with natural language progression, as in the case of Siri, they have the human ability to answer questions about homework, helping students with the paperwork process, such as financial aid or paying bills, and relieving the burden on the humans who would normally handle the roles. Other applications of artificial intelligence in education include personalising learning (as discussed in more detail below), assessing the quality of curriculum and content, and facilitating personalised learning using Intelligent Tutoring Systems. The technology is not intended to replace teachers, but only to complement them. Such solutions are also fulfilling in English language learning.

## 13. Personalised learning

We are now able to personalise learning more than ever. From the choice of school - public, private, charter, virtual - to the options available for how a student learns, education can be tailored to each person's needs. Blended learning places more responsibility on the student as it involves less direct instruction from the teacher and more discovery-based learning

methods. Blended learning is an example of how students can control certain elements of their learning by making decisions about where and at what pace they go through the material. This type of learning system works well for Seniors; where they have the freedom to choose the timing of learning content. Adaptive learning is like blended learning in that it allows students to make decisions about issues such as timeframe and learning path. Adaptive learning technology collects information about students' behaviour when answering questions, and then uses this information to provide immediate feedback to adapt learning accordingly. Learning tools with adaptive SECENCE constantly analyse student data in real time and make split-second decisions based on that data. It automatically changes what is next in the sequence, be it altered content or a different order of skills, in response to how the learner is performing. Another learning platform, Osmosis, was created by doctors for doctors and has revolutionised the way medical students' study: "Using evidence-based learning concepts such as questions, flashcards and videos, images correlated with memory anchors, adaptive spaced repetition, collaborative learning and gamification, Osmosis maximises learning and memorisation." Such personalisation transforms education into a 'choose your own adventure' method of learning, harnessing the interest and engagement of the students - Seniors.

## 14. Gamification

Fun and learning collide when classrooms use games as an instructional tool. Game technology makes learning difficult subjects more exciting and interactive. As technology evolves, it is rapidly being used to enhance educational games in every discipline. Susan Aldridge, Drexel University's vice-president of online learning, has authored these games with mirroring real-world problems, requiring students to use a valuable skill set to solve them: "These virtual game worlds provide a unique opportunity to apply new knowledge and make critical decisions while identifying obstacles, considering multiple perspectives and trying out

different responses." Because these games are designed to provide immediate feedback, students are intrinsically motivated to play them and improve their skills all the time.

This kind of use of games supports the process of educating seniors; and it opens endless possibilities for teachers to use the tools available to add variety to their teaching and information techniques.

Therefore, teaching with new technologies has a clear objective: to increase the capacity and motivation of educators working with low-skilled, low-qualified adults to use digital learning strategies and tools to make learning more attractive, more useful and to accelerate their professional and personal development. This should be pursued through the following specific objectives:

- Create compendia of good practice in collaboration with educators from your organisation; and then try to create a platform for international exchange. Publish them digitally to encourage other educators to share knowledge and peer learning between adult education organisations and stakeholders by identifying and sharing leading innovative approaches to using digital adult learning, with a particular focus on disadvantaged adults.
- Create digital toolkits. An interactive publication featuring 20 of the best digital learning resources, tested and trialled by our team, with practical tips on how to use them.
- Create online digital courses - both in English, and in other areas of adult education like blogging. A course that adult education teachers can use to enhance their own digital skills. Uniquely, each module of the course will be taught using a different platform, thus integrating learning outcomes with the delivery mechanism.

All these elements are expected to improve the skills and attitudes of adult educators to increase their use of digital tools, this will not only affect the effectiveness of the training of individual participants and groups but will also be able to create a wave of change regarding the use of digital technology in adult education in Europe.

At a national level, the training of adult educators will have an impact on adult learning, showing how it can and must adapt to harness the power of digital technology or risk failing itself, its trainees, and its clients. At an international level, these activities will have a positive impact on the ongoing work of EU bodies to develop a robust but practical framework for competence development and to close the digital skills gap.

Teachers from all areas of adult education are beginning to see the benefits of using technology when working with seniors. Typically, education is one of the last industries to make sweeping changes, clinging to outdated methods and practices. However, thanks to the digital transformation and advances in educational technology, teachers have begun to make drastic changes to their instruction, assessments and even the physical appearance of their classrooms, and at a much faster pace than expected. These current trends are hitting the headlines in education because of the way they affect student learning:

New technologies and new learning models are exciting and offer students opportunities that were previously unthinkable but require ongoing IT support. As educational institutions continue to follow fashion and embrace digital transformation trends, we need to consider the current paradigm of teaching technology and move towards a team-based approach. As students' expectations increase, so must their ability to respond to these needs.

The exchange of experience in improving digital skills among adult educators (staff, trainers, teachers) supports the management of senior learning. To teach and motivate seniors to learn, we should use available technologies. Using solutions available online, we can reach public employees living and working in remote areas, as well as those doing shift work. Despite facing obstacles such as educators working several jobs - they do not have much time to explore new ways of teaching. In the online area, there is no shortage of tools or software to enhance knowledge and digital competence. The biggest hassle is that, but it is still not established exactly what skills and competences need to be strengthened so that teachers are better prepared to use this new way of teaching and new approaches to teaching and learning. Teachers, educators, and lecturers working with Seniors have different levels of knowledge -

just like Seniors - they use digital tools daily to varying degrees. It would therefore be interesting to learn about the experiences of others, share best practices and identify what skills need to be strengthened among adult teachers, trainers and educators working with Seniors.

## Game-based Learning for Adult Learners [UJI]

Game-based learning, also known as "gamification," refers to the integration of gaming elements into the learning process to enhance engagement and motivation. While it has traditionally been used in children and adolescent education, game-based learning can also be effective for adult learners.

In today's world, educational games are available in a wide range of formats, from online games to mobile apps and virtual reality experiences. These games offer adult learners the opportunity to acquire new skills and knowledge in a fun and interactive way. They can help to reinforce important concepts, develop problem-solving skills, and promote critical thinking.

One of the major advantages of game-based learning is its ability to address the unique learning needs of adult learners. Adults may have different learning styles and preferences, and game-based learning can provide a variety of challenges and feedback that cater to these differences. Additionally, games can offer a low-risk environment for adults to experiment and practice new skills, without the pressure of real-world consequences.

Another advantage of game-based learning is its ability to increase motivation and engagement. Adult learners may struggle to stay engaged with traditional lecture-based learning, but games offer a fun and immersive experience that can keep learners invested in the learning process. Games can provide instant feedback and rewards, which can help to reinforce positive learning behaviors and build confidence.

Game-based learning can also be an effective tool for adult learners in the workplace. Many industries use gamification to train employees on complex topics or new procedures. For example, a healthcare organization may use a virtual reality game to train nurses on patient care, or a financial institution may use an online game to teach employees about risk management.

Despite its many benefits, game-based learning is not without its challenges. One potential issue is that not all learners may be equally adept at playing games, which could lead to

frustration or feelings of exclusion. Additionally, creating high-quality educational games can be time-consuming and expensive, which may limit the availability of these resources for adult learners.

In conclusion, game-based learning is an innovative approach to education that can offer many benefits for adult learners. By providing an engaging and interactive learning experience, games can help to reinforce concepts, develop problem-solving skills, and increase motivation and engagement. While there are challenges to implementing game-based learning, it has the potential to revolutionize the way we think about adult education.

## 1. Addressing Unique Learning Needs

In today's world, adult learners have unique learning needs that require innovative solutions to be successful. One solution that has gained traction in recent years is game-based learning, which integrates gaming elements into the learning process to enhance engagement and motivation. Game-based learning can be particularly effective for adult learners due to their varied learning styles and preferences.

One of the key advantages of game-based learning is its ability to address different learning styles. While traditional lecture-based learning can be effective for some adult learners, others may require a more hands-on approach. Game-based learning offers a variety of challenges and feedback that cater to different learning styles. For example, a visual learner may benefit from a game that incorporates graphics and animation, while a kinesthetic learner may prefer a game that involves physical movement.

In addition, game-based learning can also cater to different learning preferences. Adult learners may have preferences for specific learning activities, such as problem-solving, collaboration, or competition. Games can provide a range of activities that cater to these preferences, allowing adult learners to engage with the learning material in a way that is most meaningful to them.

Another advantage of game-based learning for adult learners is its ability to increase motivation and engagement. Adult learners may struggle to stay engaged with traditional lecture-based learning, particularly if the material is dry or repetitive. Games offer a fun and immersive experience that can keep learners invested in the learning process. Games can provide instant feedback and rewards, which can help to reinforce positive learning behaviors and build confidence.

Moreover, game-based learning offers a low-risk environment for adult learners to experiment and practice new skills. Adult learners may be hesitant to try new approaches or skills in real-world situations due to the fear of failure or negative consequences. Games can provide a safe space for adult learners to practice and experiment without these fears, helping them to build confidence and skill.

In conclusion, game-based learning is an effective approach to education that can address the unique learning needs of adult learners. By offering a variety of challenges and feedback that cater to different learning styles and preferences, games can enhance engagement and motivation. Games can also offer a low-risk environment for adult learners to experiment and practice new skills, building confidence and skill.

## 2. Increasing Motivation and Engagement

One of the key advantages of game-based learning for adult learners is its ability to increase motivation and engagement. Adult learners can often find traditional lecture-based learning to be dry and uninspiring, leading to disengagement and poor learning outcomes. Games offer a unique and exciting learning experience that can keep adult learners invested in the learning process.

One way that game-based learning can increase motivation and engagement is by offering instant feedback and rewards. In traditional learning environments, learners may have to wait days or even weeks to receive feedback on their work. This delay can be demotivating and

may cause adult learners to lose interest in the learning process. Games, on the other hand, can provide immediate feedback and rewards for completing tasks or achieving goals. This instant feedback can reinforce positive learning behaviors and encourage learners to continue engaging with the material.

Another way that game-based learning can increase motivation and engagement is by providing a sense of accomplishment and progress. Games often incorporate a system of levels or achievements that can give adult learners a sense of progress and accomplishment as they work through the learning material. This sense of achievement can be particularly motivating for adult learners who may be juggling other responsibilities, such as work or family, outside of the learning environment.

Moreover, game-based learning can increase motivation and engagement by making the learning process fun and immersive. Games can offer a unique and exciting learning experience that can capture the attention of adult learners and keep them invested in the learning process. By incorporating game elements such as storytelling, graphics, and sound effects, games can create a rich and engaging learning environment that stimulates the senses and makes learning more enjoyable.

Lastly, game-based learning is a powerful tool for increasing motivation and engagement among adult learners. By offering immediate feedback and rewards, providing a sense of accomplishment and progress, and creating a fun and immersive learning experience, games can keep adult learners invested in the learning process and lead to better learning outcomes. As the field of game-based learning continues to evolve, it holds immense potential to revolutionize adult education and improve the lives of learners around the world.

### 3. Fostering Collaboration and Communication

Collaboration and communication are key skills that adult learners need to succeed in the workplace and in life. Game-based learning can be a powerful tool for fostering collaboration

and communication among adult learners, as games often require players to work together to achieve a common goal.

One way that game-based learning can foster collaboration is through team-based games that require players to work together to solve problems or achieve goals. These games can help adult learners develop important teamwork skills, such as communication, negotiation, and conflict resolution. In addition, team-based games can help adult learners build relationships with their peers and create a sense of community within the learning environment.

Another way that game-based learning can foster collaboration is through gamified simulations that simulate real-world scenarios. These simulations can allow adult learners to practice their collaboration and communication skills in a safe and controlled environment, without the risk of negative consequences in the real world. For example, a business simulation game could allow adult learners to practice communication and collaboration skills in a simulated workplace environment.

Moreover, game-based learning can foster communication skills by requiring players to interact with non-player characters (NPCs) or other players in the game. This interaction can help adult learners develop important communication skills, such as active listening, empathy, and persuasion. In addition, game-based learning can provide a platform for adult learners to practice using new communication tools, such as chat or video conferencing.

To conclude, game-based learning is an effective tool for fostering collaboration and communication among adult learners. By providing team-based games, gamified simulations, and opportunities for interaction with NPCs and other players, games can help adult learners develop important collaboration and communication skills that are essential for success in the workplace and in life. As the field of game-based learning continues to evolve, it holds immense potential to revolutionize adult education and improve the lives of learners around the world.

## 4. Providing Personalized Learning Experiences

One of the advantages of game-based learning for adult learners is its ability to provide personalized learning experiences. Traditional lecture-based learning often assumes a one-size-fits-all approach, which can be ineffective for adult learners who have diverse learning styles, backgrounds, and experiences. Games, on the other hand, can adapt to the individual needs and preferences of adult learners, providing a more tailored and effective learning experience.

One way that game-based learning can provide personalized learning experiences is through adaptive learning technologies. These technologies use algorithms to analyze data on the learner's performance and adjust the difficulty level of the game accordingly. For example, if a learner is struggling with a particular concept, the game might provide additional scaffolding or offer more opportunities for practice to help the learner master the concept.

Another way that game-based learning can provide personalized learning experiences is through branching narratives. Branching narratives are game structures that allow learners to make choices that affect the storyline and outcomes of the game. This approach can provide a more engaging and immersive learning experience, as learners have a sense of agency and control over their learning journey.

Moreover, game-based learning can provide personalized learning experiences by incorporating multiple learning modalities. Games can incorporate visual, auditory, and kinaesthetic learning modalities, allowing learners to engage with the material in ways that suit their individual learning styles. For example, a game might use graphics and animations to appeal to visual learners, while incorporating sound effects and music to engage auditory learners.

Finally, game-based learning is a powerful tool for providing personalized learning experiences for adult learners. By using adaptive learning technologies, branching narratives, and multiple learning modalities, games can adapt to the individual needs and preferences of adult learners, providing a more effective and engaging learning experience. As the field of game-

based learning continues to evolve, it holds immense potential to revolutionize adult education and improve the lives of learners around the world.

## 5. Enhancing Motivation and Engagement

One of the main advantages of game-based learning for adult learners is its ability to enhance motivation and engagement. Traditional lecture-based learning can often be boring and demotivating for adult learners, who may have other competing demands on their time and attention. Games, on the other hand, can provide a more engaging and rewarding learning experience, which can help adult learners stay motivated and invested in their learning.

One way that game-based learning can enhance motivation and engagement is using gamification. Gamification is the process of applying game mechanics and elements to non-game contexts, such as learning. By adding elements such as points, badges, and leader boards to the learning experience, games can increase the motivation and engagement of adult learners. For example, a language learning game might award points to learners who successfully answer vocabulary questions and display a leader board of the top performers to encourage competition and engagement.

Another way that game-based learning can enhance motivation and engagement is using intrinsic rewards. Intrinsic rewards are rewards that come from within the learner, such as a sense of accomplishment or mastery. Games can provide intrinsic rewards by giving learners a sense of progress and achievement as they work through the game. For example, a history game might reward learners with a sense of mastery as they successfully answer questions about historical events.

Moreover, game-based learning can enhance motivation and engagement by providing immediate feedback and opportunities for practice. Games can provide instant feedback to learners, allowing them to see the consequences of their decisions and adjust their strategies



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