Aid Kit

Aid Kit for Autonomous Online Classes

MOTIVATIONAL GUIDEBOOK OF BEST PRACTICES

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Motivational Guidebook Of Best Practices

Project result 1

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1. INTRODUCTION

"Digital education does not come naturally. You have to organize teaching in a completely different way than you're used to..."[1]

The **AiDKiT** project has its background in the general teaching/learning experiences that emerged during the global COVID-19 pandemic and the lockdowns of face-to-face educational environments in its wake. This is especially true of the general experience that many adult teachers and trainers were unprepared to conduct a teaching totally based on digital approaches and tools. Similarly, a large drop-out rate from non-formal education reflected that many adult migrant and unemployed learners in language-job-promoting education did not possess the necessary skills and technical prerequisites to continue in the digital teaching/learning universe.

The development in digitalization and the transnational experiences from the COVID-19 crisis lockdowns of physical attendance within the educational sector and all other sectors also led the EU Commission, via the Erasmus+ programme, to increase the focus on digitalization in the prioritization of efforts and projects, a.o. aimed at:

- Increasing the proportion of projects aimed at strengthening learners' digital knowledge and skills - and aimed at raising the quality level within teaching and learning materials based on digital tools.

- Using virtual mobility to strengthen opportunities to participate in transnational exchanges and collaborative projects among learners who are not able to physically participate in such activities[2].

However, the EU-Commission has also stated that the COVID-19 pandemic actually boosted the digitalization process in terms a.o. of government services, which is one of the EU priorities. At the same time, this development points back to the need to ensure that the populations are able to access governmental and civil services in digital form. This again highlights the general need to upgrade citizens to digital skills - not only in relation to education and learning in general - but precisely when it comes to access to citizen services, being increasingly digitalized[3].
In line with the EU's objectives, the United Nations has presented goals for lifelong learning and communicative skills for the world's populations. These goals are to be measured, not least, based on the growth in the number of citizens - both young peo-

[1] Quoted from Kristensen, Claus B. (2021): "Digitization is more than technology". In The Danish Agency for Higher Education and Science (2021): "Digital opportunities in Erasmus+".
[2] Cf "Digital opportunities in Erasmus+", op.cit.
[3] Cf the European Commission (2021): "eGovernment Benchmark 2021. Entering a New Digital Government Era".

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ple and adults - who have relevant skills to handle information and communication technologies[4].

Overall, there is broad international consensus that the digitalization of an increasing number of societal matters places extensive demands on parallel educational efforts to ensure equal digital access for all citizens, both in terms of technology and insight. This also applies to equal and democratic access to the learning and welfare opportunities that digital technologies represent:

> *"The virtual activities do something that we couldn't do before. And it is also in the new Erasmus+ programme that we will try to link the traditional physical activities with virtual activities. That, I'm pretty sure, is here to stay..."*[5]

In summary, the ongoing development reflects that digital education and upskilling of European populations is firstly a question of increasingly including digital teaching and learning strategies in general adult education. However, secondly, it is also a necessary way to ensure equality in access to basic societal information and communication. Thereby, the non-formal adult education sector actually has a **multi-faceted** purpose, which goes beyond the **educational aim** and has a central **democratic aim**.

1.1 CONTRIBUTIONS FROM THE AIDKIT PROJECT

Against this background, the overall aim of the **AiDKiT** project was to qualify adult teachers/trainers to develop and implement online based teaching/learning methodologies tailored to the needs and requirements of adult learners unfamiliar – or less familiar - with digital learning environments. Furthermore, the project aimed to research, adapt and disseminate digital good practice methodologies for improving non-formal educational settings for adult learners in need of strengthening their employability and inclusion in working life and in society in general.

From this perspective, the **AiDKiT** project has focused on teaching/learning methodologies being particularly suitable to utilize the educational potentials in contemporary digital pedagogy and EdTech strategies. Thus, the project intended to improve teachers´professional online teaching skills as well as adult learners´ skills and motivation for more self-driving and autonomous online learning. In summary, the concrete objectives were to develop the following resources:

- As a first step: the **Motivational Guidebook of Best Practices**. This initial activity aimed to carry out a national research of the state-of-the-art with regard to the

[4] Cf Slåtto, Torhild et al. (2020): ”Learning for everyone in a digital society”.
[5] Quoted from Kolling, Ole (2021): “The whole world visiting during corona”. In “Digital opportunities in Erasmus+”, op.cit.

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level of digitalization and digital pedagogy as well as concrete experiences and unmet needs in terms of digital education in each partner country. Thus, the Guidebook has served as a general baseline and reference for the development work that subsequently was conducted in the project.

- As the second step: the **Curriculum of Non-Formal Methodologies for Online Leaning**. As a direct follow-up to the findings in the initial research, this activity aimed to collect and describe examples of digital teaching and learning concepts and tools that could serve as best practices and be directly applicable in educational settings for adult education professionals.

- As the third step: the **Course Piloting for Adult Education Professionals**. This activity aimed to train a number of teachers from all partner countries in using the digital tools included in the project Curriculum. As part of the practical training, the participating teachers furthermore developed and described their own teaching courses, using these tools and providing examples of pedagogical exercises for learners.

- As the fourth step: the **Interactive Learning Space and Video Forum**. Finally, this activity presents and thoroughly illustrates all the methods and tools that have been developed and described in the AiDKiT project. On the final platform, teachers and other stakeholders thus get the opportunity to become familiar with and benefit from the AiDKiT tools in digital teaching situations.

In summary, from this approach, the **AidKiT** project aimed at contributing both knowledge and practical methodologies in line with the general efforts to increase the prevalence of digital pedagogy and online based learning in adult education throughout Europe. The project was implemented in a partnership between organizations in **5 European countries**: Germany, being the Transeuropean coordinator, as well as Romania, Poland, Lithuania and Denmark.

1.2 THE GUIDEBOOK OF BEST PRACTICES

The present guidebook was based on desk research and interviews in each of the 5 partner countries, focusing on:

- A national desk research of the state-of-the-art situation in terms of digitalization as well as prevalence of digital methodologies and programmes in adult education in general and, in particular, in adult education targeting various groups of vulnerable adult learners.

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- Practical experiences and unmet needs among adult teachers regarding the use of digital teaching methodologies and regarding challenges in motivating and retaining vulnerable adult learners in online-based education within the non-formal educational sector.

- Perspective of the possibilities in digital pedagogy and the need for new pedagogical-didactic approaches in adult education, based on experiences among teachers and educational experts.

The desk research and data collection through interviews with teachers and experts were structured from a uniform template in order to ensure that overall themes and issues would be identical across the national findings. The uniform template for desk research and interviews took its point of departure in the **European DigCompEdu framework**, which supports digital continued professional development (CPD) and furthermore reviews central themes and issues in dealing with and assessing digital competences among both teachers/trainers and various groups of learners. This included the following research themes:

1st Research Theme: The Professional Engagement
2nd Research Theme: The Digital Resources
3rd Research Theme: Teaching and Learning
4th Research Theme: Empowering and facilitating adult learners´ digital competences
5th Research Theme: Unmet needs and requirements in digital educational settings

1.3 THE STRUCTURE OF THE GUIDEBOOK

The guidebook is structured as follows:

Chapter 2 presents the national findings from the state-of-the-art research on digitalization and digital pedagogy in each partner country.

Chapter 3 proceeds with the results from the interviews among teachers, focused on both experiences and unmet needs in performing digital teaching.

Chapter 4 reviews the findings from the data collection and interviews among both teachers and educational experts in terms of digital pedagogical methodologies and their demands for new pedagogical-didactic practices.

Chapter 5 summarizes the results and conclusions in terms of best practice experiences from research and interviews in the partner countries.

Chapter 6 testing your digital skills according to the **DigCompEdu framework**

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2. NATIONAL FINDINGS FROM STATE-OF-THE-ART RESEARCH ON DIGITALIZATION AND DIGITAL PEDAGOGY

2.1 INTRODUCTION

The initial national desk research has aimed to form an overall state-of-the-art picture in terms of general digitalization and experience within digital pedagogy in adult education in the partner countries. This especially applies to teaching adult target groups who have generally not been experienced in receiving digital teaching, and for whom the long periods with lockdowns of physical teaching during the Corona periods were particularly challenging.

In summary, the national state-of-the-art research has aimed to clarify and give examples of the current status in each partner country in terms of experiences, needs and requirements in using digital pedagogical methodologies in non-formal adult education with special regards to vulnerable learners. Each partner conducted a short study of these conditions based on a common research guide. The national reports focused on both pros & cons when it comes to digital experiences and practices in non-formal adult education. Furthermore, the research paid a particular attention to the pedagogical-didactic methodologies, which in different ways are based on the idea of the **inverted classroom** - also known as Flipped Learning. Within this tradition, the basic idea is to strengthen the learners´ active and autonomous participation through the "inverted" learning process. According to the inverted methodology, learners will train and improve their competences through a systematic autonomous preparation on the basis of – not least - digital instructions and learning materials, whereas the teacher´s traditional lecturing and instructive role will change into a more facilitating and guiding function, supporting the learners in their independent solutions on learnings issues.

As previously mentioned, the research guide has been based on the **European DigCompEdu framework**, which supports digital continued professional development (CPD) and furthermore reviews central themes and issues in dealing with and assessing digital competences among both teachers and various groups of learners. In terms of the state-of-the-art research, the questions particularly dealt with the 1st theme and questions such as:

- How would you summarize in key words the state-of-the art and current trends in terms of national digitalization and a national digital strategy in your country?

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- What would be the state of digital competences and skills in the country´s population?

- What access do adult teachers have to national CPD programmes for digital pedagogy and capacity building? Please, describe examples.

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2.2 STATE-OF-THE-ART FINDINGS FROM GERMANY

2.2.1 STATE-OF-THE-ART OF NATIONAL DIGITALIZATION AND DIGITAL COMPETENCE LEVEL IN THE POPULATION

THE NATIONAL DIGITAL STRATEGY

In terms of national digitization strategies, politicians regularly discussed their desire to digitize the state. The realization of these digitization approaches has proven to be relatively slow compared to neighboring European countries. The desire to digitize is being slowed down by infrastructural limitations like **slow internet connections** relative to that of neighboring countries. The national digitization plan would specifically involve improving the digital grid in Germany.

In Germany digitization in the educational system is currently not very widespread. 2021 assessments of digitization of German classrooms as the result of the Covid pandemic show that in a survey of thirteen countries, Germany was the twelfth most digitized. Whereas the average percent of classrooms that use digital learning was 78.2% for countries assessed, the percent of German classrooms that use digital tools is at 60.2%. It is worth mentioning that the assessment performed does not look at what types of digital tools are included.

2.2.2 DIGITAL COMPETENCES AND SKILLS AMONG CITIZENS

Within the German population digitization is **widespread**. The younger generations use more technology than older generations. It should be noted that the older generation appears to use technology less than the same age population in neighboring countries.

VULNERABLE ADULT LEARNERS

However, in Germany there is a clear need for newly designed learning programs that **motivate learners** and transform them to active learners to engage them in continuous learning. As a result of teachers being overwhelmed or under prepared for digital learning, there is less time to focus on teaching & engaging their students. For this reason, dropout rates have increased amongst vulnerable group learners in adult education.

A 2021 OECD study found that Germany showcases some of the **largest inequalities** in continuous learning programs. Vulnerable groups, ie. adult learners, low wage workers, and workers in SMEs, have the lowest participation rates. This is found to be a result of *financial and temporal restraints and non-flexible learning opportunities*. For this reason, Germany should focus on creating more flexible learning opportunities for these groups to encourage participation rates.

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2.2.3 VARIOUS CPD PROGRAMMES AND NETWORKS AVAILABLE FOR TEACHERS

A 2018 PISA OECD report found that Germany is **lacking in its access to digital professional development in education**; Germany placed at number 76 out of 78 countries in appropriate digital teacher training access with just Hungary and Japan behind. This ranking is based on school principal's assessments who argue that only 40% of German students attend schools at which the digital education and training for teachers is appropriately professional. To placate this issue, the Federal Government and German states have come together to fund the 'Quality Offensive Teacher Education" (DE: "Qualitätsoffensive Lehrerbildung") to **strengthen teacher training** and attract more teachers. Specifically, there are two funds for digitalisation of teachers and teachers for vocational schools. Especially since the 2020 lockdowns, digitalisation has become a hot topic for teacher trainings and various projects are funded to provide additional training.

Nonetheless, continuous learning programs from the state are still limited due to complex government structures and the difficulty to coordinate and cooperate at a federal and state level. As a result, more support is provided by **private companies** in Germany. A study by the Robert Bosch Institute found that states only spend 173€ per teacher per year, while private sector companies spend an average of 423-561€ per employee per year on continuous education. This proves a real discrepancy in German teachers' access to continuous learning opportunities even though it is stressed as a necessary investment. In addition to the private sector, several non-profits provide teacher training opportunities in Germany; these are programs that focus on topics such as on digital pedagogy, informal learning programs and inclusive learning styles.

2.2.4. UNMET NEEDS

A study carried out by the DAK in Germany (11/2020) shows that every fourth trainer is regularly emotionally exhausted and shows burnout symptoms. It's stated that the pandemic is saturating our trainers and there is not much space for experimentation which is restricting the quality of distance learning programs. This highlights the unmet needs for trainers in digitalization upskilling and support. As a result of the pandemic, the potential of online learning by adults has been increasingly **recognized worldwide**, however, there are some major setbacks that must be addressed in Germany to increase the quality of the learning opportunities. According to a 2020 OECD report, these limitations are (1) the development of basic digital skills of adult learners and trainers, (2) motivating online learners, (3) broadening the range of the informal learning offers and (4) developing quality assurance mechanisms for online learning.

In Germany, according to research from the German Federal Institute for Vocational Education and Training (BiBB), more than 700,000 companies reduced their employees working hours in April 2020, but the VET sector was one sector that was required to continue providing training. The Covid crisis forced (VET) trainers to transition to digital learning very quickly and for most, this was the first time. The quick transition meant

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they didn't have adequate time to create innovative, interactive content but relied on simple **video conferencing**. This change to digital teaching has been difficult due to the fact that many (VET) educators do not have the digital skills and capacity to restructure their lessons. There is **no legal framework for non-formal and informal learning** approaches in Germany (unlike in Denmark, Finland and Portugal for example), which makes it difficult to create a coherent and coordinated teaching structure. *Time and support for improved digital literacy* is an unmet need for continuous learning programs to succeed.

2.3 STATE-OF-THE-ART FINDINGS FROM ROMANIA

2.3.1 STATE-OF-THE-ART OF NATIONAL DIGITALIZATION AND DIGITAL COMPETENCE LEVEL IN THE POPULATION

According to Eurostat Romania is the country with the lowest degree in digital literacy in Europe, as only 56 % of the young people have minimum or medium digital competences. The vulnerable ones come from disadvantaged categories of people who didn't have any access to digital learning or training of competences.

THE NATIONAL DIGITAL STRATEGY

The Covid 19 pandemics influenced the awareness of these significant deficiencies regarding people's' digital abilities and use of technology in education. As a result, Romania has adopted a 6 year strategy (2021 - 2027) for the digitalization of education with special focus on forming digital competences of its population that are relevant for this digital transformation of education and also on setting up a digital educational ecosystem.

The main target is to equip up to 82 % of the population in the age group 20-34 with enough digital competences in order to get them ready for emerging professions. This , however, leaves out an important and vulnerable part of Romania's population that is still struggling with professional reconversion after the age of 40.

Unfortunately, the current situation shows that the vulnerable categories of adults still **don't benefit from training of digital competences** through national programmes and only at a local level some NGO offer training programmes with the help of European funding. These, as well, are difficult to organise at a national level since Romania does not have a comprehensible statistics about the real number of the people who are not digital literate.

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2.4 STATE-OF-THE-ART FINDINGS FROM POLAND

2.4.1 STATE-OF-THE-ART OF NATIONAL DIGITALIZATION AND DIGITAL COMPETENCE LEVEL IN THE POPULATION

Poland is one of the **least developed** European countries in terms of digital literacy, especially when it comes to **people in age above 40**. This issue needs to be addressed, but there are not many initiatives that can allow this situation to be changed. It is very hard to find any courses that could possibly improve educators' competences in teaching digital skills in general, and it's even worse when it comes to adult education.

THE NATIONAL DIGITAL STRATEGY

There is no national strategy implanter to improve the educators' competencies and as a result to improve digital literacy skills of people.

2.4.2 VARIOUS CPD PROGRAMMES AND NETWORKS AVAILABLE FOR TEACHERS

Most of the available courses are provided by non-profit organizations or private companies. Just **a few of them are provided by national institutions**. If so, those are regional agencies. Also, in many cases those courses are related to improving skills in using specific software, like for example Microsoft Office, and how to implement it in educator work in order to make it easier and more effective.

The competencies related to educating others about digital technologies are usually somehow omitted, but not totally. There are few courses aiming to help educators to provide the higher level of teaching to their learners.

GOOD PRACTICE IN TEACHERS´ DIGITAL EDUCATION

There are very few national good practices but one of the examples is provided by **Lublin Self-Government Center for Teachers' Improvement**. They implemented a program that is called 'Use of multimedia educational resources in vocational education' which is specifically directed at adult educators. It is designed to help them understand how to prepare a proper education program, legal issues related to it, important stages or how and where to look for useful resources.

In general the term **'digital literacy' is well known** in Poland but it is not understood properly. The national strategies do not help to change that as there are no such thing implemented and only several courses are addressing the issue, and they are usually hard to find. The educational institution also does not encourage the educators to improve in that field.

2.4.3 UNMET NEEDS

There is a huge need to promote the ideas related to digitalization, what does it mean and what advantages are coming with acquiring this skill. Also, the educators have to understand that digital technologies are rapidly evolving and there is a constant need

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to improve the knowledge and skills. The programs for improvement of digitals skills have to be better disseminated among educators, and educational institutions have to start to require a development of that skill from their employees. This call out for national strategy to be implemented and more possibilities of development created.

2.5 STATE-OF-THE-ART FINDINGS FROM LITHUANIA

2.5.1 STATE-OF-THE-ART OF NATIONAL DIGITALIZATION AND DIGITAL COMPETENCE LEVEL IN THE POPULATION

THE NATIONAL DIGITAL STRATEGY

There are no official strategies in Lithuania in terms of the digitalization. However, the Lithuanians could choose from various basic ICT skills development courses (free or paid), offered by the wide rage of private companies, NGOs, Unemployment Agency and other organisations, providing trainings.

Concerning the digitalization of educational system, the situation is a little bit different. As the importance of digitizing education has become even more apparent with the advent of quarantine and distance learning, the part of the Lithuanian DNA Plan for the Future Economy funds will be allocated for the digitalization of Lithuanian education system.

2.5.2 DIGITAL COMPETENCES AND SKILLS AMONG CITIZENS

According to Digital Economy and Society Index (DESI) 2022 survey published by EC, in 2021 only 32% of Lithuanians had higher that basic level of digital skills. The same survey showed that only 9% of Lithuanians learn through online courses.

2.5.3 VARIOUS CPD PROGRAMMES AND NETWORKS AVAILABLE FOR TEACHERS

The national strategy of CPD of pedagogues stresses the importance of development of various skills, including digital literacy skills. However, it means that teachers can develop only basic ICT skills (using the computer, internet, Word, Excel etc.), which could be beneficial in the work of a teacher. There are a lot of ICT skills development programmes (free and paid) for development of such skills, which teachers or learners could participate in. It is really hard to find the course or programme improving educators' competences in teaching digital skills and it's almost impossible to find the programme related with improving teaching digitals skills within adult education context.

There are some programs provided by NGOs in the framework of EU projects, however most of them orients to improvement of various skills and competences of learners, while the trainers are taught how to promote digital inclusion and tackle disinformation through education and training. Thus, there is no direct impact on the teachers in improvement of their digital skills.

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OECD analyses declare that the COVID-19 crisis has resulted in a significant increase in online learning by adults, however, adult educators across Europe were plunged into the situation to pursue the training that had started as classroom-based to online, with non or very little professional training for this digital transformation.

In order to improve current situation, some of Lithuanian NGOs have started EU funded projects oriented to improvement of trainers digital skills and help them in transforming their face-to-face courses into online ones. However, these project are still ongoing, thus the trainings for trainers have not started yet.

In order to meet the increasing needs of online trainings, the teachers will have to learn how to use various digital tools in order to develop high-quality, interactive and user-friendly online courses, and motivating learners to attend them. Thus, the training institutions will have to start offering the courses for developing teachers digital competences making them to be able for developing such online trainings.

There is the existing need for promoting the importance of digitalization within Lithuania; for raising the awareness of teachers about the importance of the digitalization within their work; for ensuring the new possibilities of improving teachers' digital competences; for improving the quality of online courses.

Also, it is important to raise awareness of vulnerable adult learners about the possibilities to improve their skills and competences through online courses, presenting the importance of digitalization to them and stressing the quality, convenience and attractiveness of online training.

2.6 STATE-OF-THE-ART FINDINGS FROM DENMARK

2.6.1 STATE-OF-THE-ART OF NATIONAL DIGITALIZATION

Since 2014[6], the EU Commission has monitored and reported annually on Member States' digital progress. Thus, the **Digital Economy and Society Index** (DESI) presents Europe's overall digital performance and tracks the progress of EU countries in their digital competitiveness. As shown in figure 1 below, **Denmark** takes a front position when summing up all indicators for human capital, internet access, digital inclusion and digital public services. In 2021, Denmark was in first place, and in 2022, Denmark ranks second with an index score of 63.3 against the EU's overall score of 52.3.

According to the DESI Index[7], in terms of **human capital**, Denmark scored 69 pct compared to 54 pct on the EU level, thus ranking as number 5 of 27 EU countries. Within this indicator, the Danish Government agreed to strengthen digital education for children and young people in order to develop inspirational materials on digital technolo-

[6]CF The European Commission (2022): "Digital Economy and Society Index (DESI) 2022. Denmark".

[7] The European Commision 2022, op.cit.

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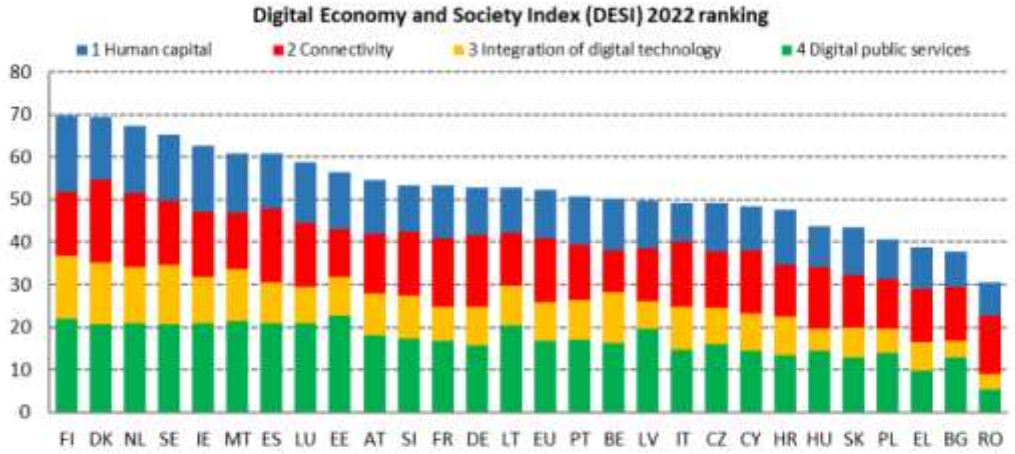
gies for teachers and educational institutions. A main goal is to promote both basic and more advanced digital skills on different levels in the total educational system.

Figure 1: The EU digital Economy and Society Index 2022



In terms of **connectivity**, Denmark ranks as number 2 in EU, by scoring 77,1 pct towards 59,9 in EU total. Denmark performs in connectivity with 95% of households connected to very high capacity networks and 74% to fibre networks. 5G coverage is well above the EU average and as high as 98% in populated areas.

In terms of **integration of digital technology**, Danish companies are in second place in terms of digital transformation, including also SMEs. Furthermore, the use of AI is three times over the EU average, and the use of cloud technologies and big data accounts for almost twice the EU average. In recent years the Danish Artificial Intelligence strategy has aimed at strengthening the framework conditions for using AI in both industry, public authorities as well as science and research.
Thus, one of the latest developments within public Danish digitalization is a growing utilization of data analysis, AI and machine learning.

In terms of **digital public services**, Denmark has for some years been at the forefront of digitalization of the public sector. This implies, a.o. that a very large number of public services can be accessed via a single point of entry, for example access to all personal health data and medical records online. This is due to the common digital infrastructure – the "MitID" ("My Identity") - working across sectors. As another point, for several years it has been mandatory for citizens to use Digital Post from the state and public authorities.

THE NATIONAL DIGITAL STRATEGY

[8]The Danish Government adopted a new digitalization strategy in 2022, inviting broad and binding collaboration on digital development across the public and private sectors.

[8] CF The European Commission (2022): "Digital Economy and Society Index (DESI) 2022. Denmark".

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At the heart of the new strategy are **9 visions** for Denmark's digital development, including a.o.:

- Strengthened cyber- and information security
- Coherent services for citizens and companies
- Digital SMEs
- A future digital healthcare system
- Green transition through digital solutions
- Danes equipped for a digital future
- Denmark in the heart of international digitalization

2.6.2 DIGITAL COMPETENCES AND SKILLS AMONG CITIZENS

One of the highest priorities is to ensure that citizens are empowered to benefit from digital solutions in society and feel confident in providing the data to use them.

A recent **Nordic report** on the current situation in the Nordic countries in terms of digitalization and digital challenges[9] explains how, over a number of years, the Nordic countries have followed digital strategies which a.o. have brought Denmark to an international front position in terms of the level of digitalization. However, the report also warns that there are still population groups that are not sufficiently prepared for the digital development. Consequently, targeted education remains a very important topic[10].

Even though the ICT infrastructure is quite outspread in Denmark, it has been pointed out in some interviews that teachers and learners may still experience barriers, when using digital teaching materials. This is sometimes due to unstable internet connections. However, insufficient ICT equipment is considered to be the lead barrier for introducing digital teaching methodologies and materials in the classroom.
The Danish Government has launched several educational reforms in order to secure continued welfare in DK. The reforms seek to give all citizens an opportunity to acquire basis skills that enable the development of new competences and qualifications. Adult education is based on a strategy for **lifelong education**: continuing training, competence development on-the-job, education activities in leisure time.

USAGE OF VARIOUS DIGITAL FUNCTIONS AND SKILLS

According to recent Eurostat figures[11], the digital society is gaining ground all over Europe. This applies in particular to the spread of the Internet. Thus, from recent Eurostat data collections it appears that 89 pct of adults aged 16-74 in the EU had used the Internet during the past 3 months. Behind the general figures there was a certain dispersion, insofar that the Danish population together with Ireland and Luxembourg reached 99 pct.

[9] Cf Slåtto, Torhild: (2020): "Learning for everyone in a digital society". Prepared for the Nordic Network for Adult Learning (NVL).
[10] Cf Slåtto, 2020, op.cit.
[11] Cf Eurostat (2022): " Key Figures of Europe 2022"

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Figure 2 below furthermore specifies how the use of the Internet was distributed between different functions. In terms of Danish users, sending and receiving i-mails is outspread in the age group. The same applies to a more specific function such as Internet banking, whereas participation in social networks is also significantly high among Danish Internet users.

In summary, the digital user's skills in the Danish adult population are reflected through different types of digital functions on both a civil and societal level.

Figure 2: The usage of the Internet among people aged 16-74, 2021.

POPULATION IN GENERAL ADULT EDUCATION

Digital upskilling is also linked to the general use of adult education, including non-formal learning activities. As shown in Figure 3[12], in comparison with the EU as a whole and selected European countries, Denmark can demonstrate a relatively high level of adult education in both formal and non-formal education. But as shown in the figure, the level has been declining over the period, and this may in particular threaten the labour market's need for skilled labour. However, the Danish government has provided an incentive to unemployed adults by increasing the level of unemployment benefit when adults participate in professional upskilling. In this connection, digital skills will

[12] Cf The European Commission (2021): "Education and Training Monitor 2021".

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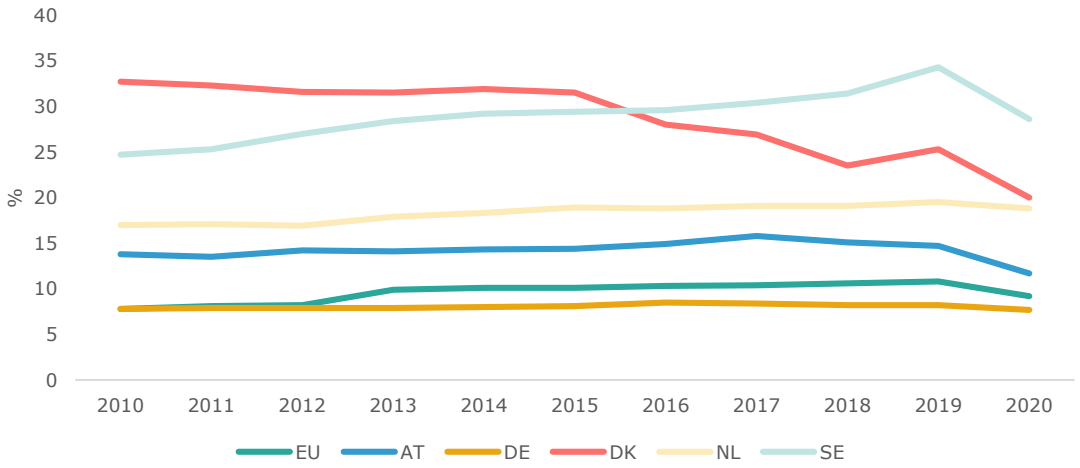
expectedly play an important role in view of the labour market's general competence requirements.

In 2018/19, nonformal educational activities accounted for 20 per cent of total course activity among non-skilled citizens[13].

Figure 3: Adult participation rate in education and training (25-64) 2010-2020



DIGITAL EDUCATION GOES BEYOND THE PURELY TECHNICAL LEVEL

The Danish educational sector have had access to digital learning and remote learning for several years. However, most educational programmes were nevertheless based on physical presence until the COVID-19 lockdowns. Due to the existing digital readiness and preparation, the push for the development of digital education in the wake of the COVID-19 crisis took place at a very high speed through platforms such as Zoom, Teams, Google Meeting and various other digital tools.

There is an ongoing evaluation of the pros and contras during the COVID-19 period in order to integrate the pros in the general educational contexts. It seems that learning does not arise from technical tools and technicalities alone, but can be seen as a combined interplay between **didactics, context and learners´ prerequisites** and characteristics. The Danish Institute for Evaluation presents seven recommendations that may **enhance quality** of digital learning:

1. Clarify the prerequisites for participating in a digital learning process.
2. Give participants a thorough introduction to the virtual space.
3. Create strong relationships between educators and participants in the virtual space.
4. Support relationships between participants.
5. Provide participants with professional support.

[13] Cf Statistics Denmark (2021): "Which employees participate in public adult and continuing education courses?"

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6. Use learning activities that activate the participants in the learning.
7. Support teachers in developing digital learning process.

In summary, the conclusion is that despite the fact that Denmark is characterized by a very high level of digitalization, there is still a need for improvements with regard to adult citizens lack of basic digital skills and difficulties in carrying out everyday tasks on a computer.

This testifies to the need to finding new ways to reach the most vulnerable groups[14] as well as a corresponding need for professional upskilling of adult teachers and trainers in the digital field, including the specific pedagogical-didactic requirements that digital teaching places on teachers.

2.6.3 VARIOUS CPD PROGRAMMES AND NETWORKS AVAILABLE FOR TEACHERS

According to researchers, the concept of digital pedagogy has until recently not quite the same prevalence in Denmark as abroad, despite Denmark's top position in digitalization. This applies at least within the university framework. But at the same time, other **digital teaching and research domains** with a focus on technology in teaching and learning activities have played an important role[15], for instance:

- **CAI** (Computer-Assisted Instruction), dealing with teaching based on a computer and computer programmes.
- **CSCL** (Computer Supported Collaborative Learning), dealing with ICT and computer programmes supporting learning as a social activity.
- **TEL** (Technology Enhanced Learning), dealing with the potentials of technology to strengthen learning and teaching.
- **VLE** (Virtual Learning Environment), dealing with design of virtual learning environments for improvement of teaching and learning.
- **DIP** (Digital Pedagogy and Learning in Higher Education), established as a University Pedagogical Network focused on both development and research in relation to digital pedagogy.

Furthermore, in terms of digital oriented CPD (Continuing Professional Development), a number of new professional programmes have been founded in the Danish education system in recent years. However, this primarily applies to academic programmes at different higher education institutions, for instance:

- It-Didactic Design

[14] Denmark follows UNESCO´s definition of vulnerable groups, thus including: “migrants and refugees, elderly adults, adults with disabilities, adults living in rural areas as well as adults with low prior educational attainment”. Cf Fourth Global Report on Adult Learning, 2019.

[15] Cf Hansen, Jens Jørgen & Nørgård, Rikke Toft (2022): ”What is Digital pedagog - contours of a new field of practice and research”. Danish article in Danish University Pedagogical Journal.

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- Interactive Digital Media
- Master in ICT and learning
- IT Product Design etc.

CPD FOR ADULT TEACHERS WITHIN PREPARATORY ADULT EDUCATION

As one outspread example, Denmark had for almost 20 years a Preparatory Adult Education Act, which allows **short-skilled** citizens access to improve their skills in Danish, Maths, English - and now also a **Digital Educational Line**.

Teaching takes place in small classes and is organised according to the learning prerequisites and requirements among the learners. The Preparatory Adult Education is free of charge by law and workplaces can receive subsidies when they refer employees to the education during working hours.

Many adult educational centres and language schools in Denmark offer the Preparatory Adult Education in several subjects both as face-to-face and online-based courses for short-skilled adult learners. However, this requires professional teachers to be further certified and to complete a special formal education in order to teach the preparatory subjects. This programme is offered by University Colleges in Denmark and has two tracks:

- **Basic Digital Skills** (10 ects), providing teachers with theoretical and practical knowledge of digital technologies and a.o. tools to assess adult learners' digital prerequisites, etc.
- **Teaching of digital skills for adults** (10 ects), providing teachers with competences to plan, implement and evaluate differentiated teaching of adults who wish to improve their digital skills.

Finally, it was mentioned by teachers in the research phase that ICT-based approaches are increasingly used to fit education into the everyday life of adults, and furthermore that ICT-based approaches in university study programmes are paving the way for new opportunities to complete part-time studies.

MORE NEEDS-ORIENTED OFFERS WITHIN CPD

According to the EU monitoring[16], there seems to be room for improvement in the Danish CPD efforts, when it comes to teachers' assessments. Accordingly, only 70.9% of teachers attending training courses felt that they had a positive impact on their teaching practices. Compared with their European peers, Danish teachers consider that the specific course content is less adapted to their needs, has a less coherent structure and does not provide sufficient training opportunities for active or collaborative learning. Nevertheless, Danish teachers are among the European teachers (along with Italian, Dutch and Swedish teachers) that devote the most time to teamwork.

[16] The European Commission 2021, op.cit.

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3. DIGITAL RESOURCES, DIGITAL EXPERIENCE AND UNMET NEEDS AMONG ADULT TEACHERS

3.1 INTRODUCTION

The aim of the data collection among teachers was to provide first-hand information about existing experiences from digital teaching programs applied to different groups of vulnerable adult learners. Furthermore, the aim was to gain insight into the pedagogical-didactic benefits and challenges by using digital methodologies, in the light of learning prerequisites, needs, motivation and retention among adult learners. This also indicated the question of unmet needs in terms of relevant CPD as well as the need for new digital methodologies, assessment tools, technology and equipment etc.

The AiDKiT project had its starting point in the experiences among educational institutions and teachers during the lockdowns of the corona crisis:

Firstly, institutions and teachers in general had to convert their teaching to digital solutions and online-based teaching.

Secondly, this situation generally led to the experience that digital teaching cannot in practice be completely equated with teaching where all learners are physically present in the same room. On the contrary, experiences confirmed that online-based teaching in reality challenge many of the basic pedagogical-didactic principles that most teachers know from the physical classroom. This applies both to the use of pedagogical methods and learning materials - and to the organization of the teaching itself.

Thirdly, many teachers learned during the Corona era that especially adult learners with limited learning prerequisites and learning experiences were challenged by the digital approach. This applies both in terms of the pedagogical and physical learning environments, where the lack of proximity to both the teacher and the other learners has eroded both concentration and motivation. As a result, there has also been a clear dropout among vulnerable adult learners in some teaching contexts.

Against this background, the partner organizations in the AiDKiT project conducted a data collection among teachers in the national contexts, who in past years have carried out digital teaching of adult learners with limited learning prerequisites in various institutional frameworks. The research and inquiries among teachers was aimed at collecting first-hand impressions from the teachers' practical experiences with online teaching. This particularly applies to the teachers' reflections on how their general pedagogical-didactic methods have been affected in either a positive or negative direction by the digital approach and practice. But this applies not least to the teachers' assessment

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of where their experience and routine from physical education has fallen short, and which digital upskilling needs they would point to.

In summary, this research was based on exploratory interviews with selected teachers. Each partner organization completed interviews with around 5 teachers with some digital teaching experience, however, with a common need to expand and improve their digital teaching skills and their insight into digital pedagogy.

Again, the European DigCompEdu framework formed the starting point for the general interview framework, focusing on the following questions:

- What digital resources do you use in your teaching/training practice?
- What experience do you have in terms of designing and creating digital educational resources?
- What pedagogical-didactic skills do you use to match your learners´ learning prerequisites and, needs?
- What methods and tools do you use to maintain your learners´ motivation for education - and in particular their motivation to engage in digital learning processes?
- Are you familiar with flipped learning/inverted classroom or other methodologies to promote autonomous learning process among vulnerable learners, based on digital resources, blended learning etc.?
- Could you point to good practice experience in terms of flipped learning/inverted classeroom/blended learning for vulnerable adult learners?
- What would be characteristic for the learning impact of these good practices?
- What unmet digital needs and requirements would you highlight from your daily teaching/training practice with a special view on vulnerable adult learners:

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- Needs among learners?
- Needs among teachers/trainers?

- What would you consider to be the most important challenges in the current situation in terms of promoting online learning among vulnerable adult learners?

3.2 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES – THE CASE OF GERMANY

March 2020 Germany was not really using digital tools in the classes. Migrants' courses necessarily needed to be in present format since the "Bundesamt for Migration" / Federal Office for Migration did not accept any digital format in the integration programs. For this reason most teachers did not really see the need to upskill themselves in digital contexts. After March 2020 the situation changed rapidly. All teachers were forced to adapt their programs to digital formats and the delivery of these classes was implemented in the most varied ways. The teaching formats went from simple video calls with the students to tailor made moodle courses with a diverse variety of digital exercises. Depending on the institution and the teacher delivering the course learners could participate in online language courses that were simply moved from the class situation to a skype call situation or participate in a class allocated in a professional learning platform with the continuous support of the teacher for the implementation of the activities.

3.2.1 TEACHERS AND LEARNERS PREVIOUS EXPERIENCES WITH DIGITAL TOOLS AND DISPOSITION TO USE DIGITAL TOOLS

Most teachers were not using any digital resources before the pandemic situation. Some of them used videos to present some of the topics or as part of listening activities. But the exercises in the classes were mainly focusing on traditional book centered or communicative lessons including some games but in a mainly teacher centered class. Regarding the digitalization skills of the learners, depending on the target group some would use learning platforms –specially the youngest that had previously used these tools at university – but most would not use any digital materials to improve their language skills. With the forced sudden digitalization teachers had to improvise their lessons and this included a strong commitment and many extra hours in digital upskilling, searching and adapting materials and a high degree of uncertainty about the efficiency of the created materials and lesson plans. To the problems related to the digital capacity and resources the integration programs teachers faced the problem of

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the refusal of many of the participants to attend digital formats. Many of the migrants attending integration courses had never used a computer before, they were able to use their smartphones for several social media apps but even the logging-in in a zoom conference represented a barrier to attend the classes regularly.

3.2.2 THE URGENT UPSKILLING NEED, SUPPORTING EACH OTHER AND SOLUTIONS FOR NEW TEACHING FORMATS

Parting from the fact that all courses suddenly needed to be moved to digital formats all state schools in Germany were equipped with hard- and software, state teachers were offered digital upskilling sessions and the Government invested to combat the infrastructural difficulties in rural areas. However, most teachers complain that there was no planed strategy for the upskilling programs and many of the education centers were expecting from the teachers to decide and create their own digital formats for their classes with no significant support. State school teachers also complained that in many regular state schools teachers were working in parallel with different digital platforms/tools making it more difficult for the students to get used to the digital formats. The main reason for this situation was the lack of digital skills of most teachers and learners in the classes. During the first months of the pandemic situation almost every teacher was offered upskilling sessions, guidelines were created and private centers offered numerous supporting opportunities for their trainers and learners. However, most trainers review this period as an overwhelming episode with high degree of frustration and incapacity to react. Some teachers also found some positive aspects in this experience since trainers and learners were supporting each other in the digital implementation as far as they could. The relationship in the classes with the most engaged participants improved and moved from a teacher centered format towards a more student centered one.

The several upskilling opportunities mentioned above focused mainly in transforming the face2face teaching solutions into a digital format. Most teachers state currently that they are able to impart their classes using several webinar solutions such as **zoom**, **Microsoft meets**, **Edmodo**. Most teachers are using digital boards and digital books or additional ready materials but they are not able to create any new ones. In order to motivate learners in the classes and try to prevent from dropping out many teachers use more games in the classes, especially the ones recommended by the school or the additional materials. The main problem teachers are facing currently is the lack of time to prepare their lessons. Teachers need to invest much more time in the transferring of the face to face curriculum to the digital format and they have almost no time to search or experiment with new teaching strategies. For this reason, most of them use the recommended materials of their teaching centers and try to focus individual support using break down / small teaching groups.

The concept of the flipped classroom:

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About 50% of the teachers were not familiar with the concept of the flipped classroom. Some had attended upskilling sessions were the methodology had been presented and had used it partly in their regular in person classes before the pandemic situation but none had adjusted it to a digital format. The advantages of the methodology, specifically, the role of the teacher as a coacher is considered as a very positive approach for the motivation and autonomy of the student in the learning process.

3.2.3 MOTIVATION STRATEGIES

According to the learners target groups teachers face different difficulties in the classes. For most learners improving their language skills in private initiatives the digital formats are as interesting as the in person classes and they praise many of the flipped online classes as more flexible, encouraging and more learner centered. However, for the majority of the integration programs' learners, the digital classes are mostly overwhelming, teachers need supporting strategies that will motivate the student during their daily 4 hours online lesson. **Games, quizzes and presentations/videos** seem to be the most motivating activities for big classes. The working in pairs or **small groups** activities with many **interactions** among different students keeps the groups alive. The learning atmosphere in the classroom can also be improved by "using" some of the **strongest students as assistant teachers for the weakest** of the group and creating **collaborative** working activities. **Good timing**, a high **variety of activities** and a **clear structure** also play a very relevant role in the motivation of the learners. Most learners prefer short and good described online exercises, classes with many different activities that are clearly presented in a regular and structured program.

3.2.4 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

Some of the main problems teachers faced when implementing their first digital lessons were the anxiety, uncertainty and the lack of confidence in their teaching skills. The majority of the teachers considered that the quality of the programs delivered during the first pandemic stage was low, their teaching skills were inappropriate and the results achieved by the learners did not match their expected goals. Teaching includes many techniques and strategies and the social aspect plays a fundamental role in the classes. Digital competences are definitely necessary for the creation and implementation of virtual activities, however, even the best digital developer can fail in teaching online if no social and collaborative skills are considered in the classes. In the same way, a teacher with low digital skills can definitely successfully deliver an online class if the group feels socially and emotionally supported by the teacher. Motivation, support, communication and interaction play a fundamental role in the classes. A virtual learning classroom in a zoom session with minimal digital supporting tools that promotes interaction, respect, inclusive activities and collaborative exercises to be practiced in a relaxing atmosphere can reach amazing results among the learners. Teachers need to be offered a supporting teaching framework that enables them to

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deliver their teaching program in the most positive attitude free of pressures and fear of failure.

3.2.5 FROM TEACHERS´ PERSPECTIVE: UNMET NEEDS AND CHALLENGES IN DIGITAL EDUCATIONAL SETTINGS

There are still many challenges in the digital education in Germany. When focusing in the classes for the most vulnerable groups the main problem continues to be the need for specific support for those that stay behind in the mostly big group classes offered in the framework of the integration programs (up to 25 students in a class).

There are several additional courses and programs that support these participants in specific topics, for example some of the teachers created materials in the project "Digital Practices for Inclusive Programs" that are now being used in the digital integration courses but these are just some specific exercises and practices and the problems of the participants in the digital courses are very numerous.

To this, teachers complain about the lack of ready to use digital materials for their classes. There are actually many materials available online and there have been many attends to list and present them in different initiatives but the searching materials process still represents a hard process for most of the interviewed trainers.

Finally one of the main complains refers to the need for regular upskilling sessions for trainers and learners in digital competences. Trainings are rapidly moving towards more digital formats however the delivery of the online classes are still linked to many challenges for both teachers and learners. Onboarding tutorials for both groups need to be more supportive and interactive.

3.3 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES – THE CASE OF ROMANIA

Before starting to teach online, all interviewed teachers had good skills in using the computer but most of them weren't familiarised with the digital resources and innovative methodologies in other integrative forms of teaching except the face to face courses.

3.3.1 FAST TRAINING TO ONLINE TEACHING AND LEARNING-BY-DOING DURING THE PANDEMIC

They were faced with a sudden need to integrate new digital tools and technologies and to develop new technical skills in order to adapt their classes to the online environment and interaction with their learners.

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Research showed that before the pandemic times teachers were somehow familiarised with some applications like Kahoot / Youtube / Moodle / Skype / and have heard of it, but they didn't actually use it during their face to face courses. Most teachers played safe with their courses and they focused on the pedagogical skills that were more related to using teaching methods, games and teaching resources (course books, printables, working sheets) that were mainly used in face to face teaching.

That is why, when they had to start online classes most teachers weren't satisfied with the learning resources available to students and they felt **the need to start using new digital resources** in order to adapt the content to online teaching and to increase student's motivation and engagement..

The only opportunities teachers had to adapt to the new online form of teaching were the **induction training** programmes organised by their working institution which were perceived at that time as very comprising as they contained a lot of new information for them and they felt overwhelmed. All of them emphasised that they had to spend an incredible amount of time learning how to use new digital tools, how to integrate them in their distance teaching and then, how to create themselves digital content to deliver their courses.

3.3.2 MUTUAL SUPPORT THROUGH PEER LEARNING

Therefore, the main challenge was to **learn by themselves the functionalities** of the new tools they were presented, and this part involved the process of developing new digital technology skills, but also precision and organisation in offering **technical explanations** to students. Concerning the methods they used to learn these skills, besides the teacher training they attended, they all did it in a similar way by searching **video tutorials and teachers forums**. What is remarkable in our findings is that all teachers agreed that the best help they got was to talk and to get help from some of their fellow teachers which boosted their confidence and gave them a stronger sense of belonging. All interviewed teachers manifested a good and very good attitude towards new technologies and they showed a strong positive attitude and desire in using and developing digital skills.

DIGITAL TOOLS AND FLIPPED LEARNING IN ONGOING PROGRESS

The research shows that all the interviewed teachers weren't familiarised with some pedagogical-didactic methodologies like **inverted classroom** also known as Flipped learning or blended learning or if they heard the concept, they didn't use it in their face to face or, later, in their online classes. This shows that teachers **lacked the abilities to motivate** and engage students in autonomous learning and did not have the necessary means to integrate this methodology when they were faced with online teaching.

We must mention that in adult learning, most participants in language classes for example come to courses because they can't learn on their own or they lack the motivation to learn a language autonomously, therefore it is understandable that before the

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COVID-19 pandemic there wasn't such an urgent need or interest in the flipped classroom methodology.

From the interviews we found out that the common practice was that in the first 3-4 weeks of online classes, teachers could slowly blend little by little digital tools and new technologies into their teaching practices but **without making significant changes to classical teaching methodology**. For example, they continued to use PowerPoint presentations containing graphical images and examples, to read or to do controlled exercises.

In time, teachers tried and have succeeded to adapt the learning content and their digital skills through a more **humanistic approach,** by showing their vulnerability and asking students to be patient.

3.3.3 LEARNERS´ MOTIVATION THROUGH LEARNING-BY-DOING

Finally, an important aspect from the our research is the fact that all interviewed teachers mentioned their struggle with the **lack of consumables** when they transitioned to online teaching and how important it is for a teacher to know exactly what to invest in:

good internet access, good computer, speakers and microphone, etc.

Regarding used methodologies in digital classes, the interviewed teachers admitted that motivation in online courses is an important element but is still affected by individual traits and specific contexts in each course. Unanimously, they all agreed that the best way to motivate learners to use the digital tools for further autonomous learning was to invite students to **learn by doing**. Also, teachers can create and offer students meaningful and relevant tasks in order to engage students in learning. Interviewed teachers discovered that a dynamic interplay between learners' motivation and a positive classroom experience is the best way to have a successful online course.

3.3.4 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

It is known that the pandemic situation and the contextualised need to move courses in an online environment showed a general lack of knowledge and information regarding the effective digital learning languages delivery.

Therefore, in the beginning organisations relied mainly on their teachers' ability to cater for the learners' needs and try to make this new online learning experience as enjoyable as possible.

Teachers' experience together with the direct feedback from the learners showed some directions organisations had to focus on in order to maintain the number of learners who continued to participate in online classes. It was soon clear that the main reason for the number of dropouts was the **lack of motivation and digital skills** of some categories of learners, mainly adults of 50 + or people who didn't have the minimum digital skills to connect online to classes.

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Organisations ensured all categories of learners could access their online courses by training the teachers on how to give specific instructions or guide their learners in using the digital platforms for online learning and dedicating a whole session at the beginning of each course for the use of the main learning platform. Moreover, each learning centre tried to solve this issue by offering the vulnerable students **written instructions** and , then later, easy to use tutorials on how to use the digital tools to login and connect to the course.

However, it was clear that it was up to the teachers to provide guidance and motivation for these vulnerable participants to continue and access the courses.

3.3.5 FROM TEACHERS´ PERSPECTIVE: UNMET NEEDS AND CHALLENGES IN DIGITAL EDUCATIONAL SETTINGS

NEED FOR SPECIFIC DIGITAL TEACHING-LEARNING MATERIALS

Research suggests that a main problem in online teaching after discovering and starting to use new tools and applications was the **lack of digital materials for teaching**. Transforming normal books in digital books was a big issue for the institution and the teachers who had to scan, take photos and start to use any kind of real life situations materials on internet and start to be creative, inventive and original in order to increase learners' motivation and have a personal positive attitude as a teacher. **The creation and adaptation of digital resources** or the experience in creating them was another main issue for these teachers because it took them a lot of time and energy.

All the interviewed teachers emphasised that the first 2 or 3 classes within a course that started online wasn't about teaching content or language skills, for example, but rather about **explaining the technical part** of online teaching.

3.4 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES – THE CASE OF POLAND

Before pandemic and wide spread of online teaching across all types of educational institutions, digital tools were very **seldom used by teachers**. In most cases digital tools were used to organize classes, create a plan, check attendance and so on, rather than to actually contribute to the quality of content. In most cases the respondents mentioned that the only digital tools they use are computers and projector which is a very basic set of almost every classroom in Poland. Besides that, they occasionally implement some materials they found on the web, like video or image that can help them visualize some specific content that they are trying to teach.

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3.4.1 THE PANDEMIC ACCELERATED THE USE OF ONLINE TOOLS – BUT ON FACE-TO-FACE CONDITIONS

Obviously, each of them was forced to change their teaching methods when pandemic started and all of their teaching activities were transferred to the web. That created huge problem for many educators as they were **not familiar with using online tools**. Majority of their teaching methods did not include any online tool at all, and the traditional tools become irrelevant in those conditions. The issue had to be addressed immediately, but a lot of educators had no previous experience or knowledge how to prepare proper teaching program for that situation and in result they've been using same methods online as in face-to-face condition. They were usually ineffective and results in low engagement of learners.

3.4.2 DIFFERENT LEVELS OF DIGITAL LITERACY AMONG ADULT LEARNERS LOWERED LEARNING MOTIVATION AND EFFECTIVENESS OF TEACHING

The other problem was that the **level of digital literacy of learners** was hugely varied and it creates a need to address these issues to those who are struggling to catch up with new tools and allowing the rest of them to get bored and decrease their motivation.

In general, educators noticed that the motivation and engagement of their learners has decreased dramatically. Like mentioned before, level of their digital literacy has a lot to do with it, but there are also other reasons. As the educators has no previous experience with this kind of learning, they know very little or sometimes nothing about what tools they should use. As they didn't have that knowledge, they could not allow learners to practically apply what they learnt. That decreased the effectiveness of teaching and motivation. Educators had no guidance in terms of how to prepare them selves to teaching so they weren't even aware of what aspects of teaching should be emphasizes.

3.4.3 TEACHERS ARE FAMILIAR WITH FLIPPED LEARNING AND INVERTED CLASSROOM – ALSO WITHOUT DIGITAL TOOLS

Terms like flipped learning or inverted classroom are generally well know within our sample group. Those methods were implemented into their classrooms on several occasions and the outcomes were usually great. Although no digital tools were used and when ask about implementation of these into their digital classes no good examples were found. Most of opinions were critical and it was easy to conclude that no proper introduction was presented to them about how to implement and develop these methods to be effective online as well. There is common conclusion that digital tools can add great value to those methods but the proper training and some list of resources needs to be introduced.

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3.4.4 INTERACTIVE LEARNING MATERIALS STRENGTHEN LEARNERS´ MOTIVATION

Educators have no particular methodology adopted for online classes but as they gradually gained experience, they came up with some conclusions. The main issue they mentioned is motivation and engagement of their students, it tends to be much lower than before implementation of online classes. The solution to that is to make as many interactive materials as possible. Those seems to be interesting for learners and increased they attention on the subject. But for some educators, it is difficult to find or create such materials and implement them into their classrooms.

INVOLVEMENT OF LEARNERS IN CREATING INTERACTIVE LEARNING MATERIALS

There is definitely a gap in training that needs to be filled. Other solution was to ask the learners to prepare materials or the whole lesson, as in many cases they have higher level of digital literacy and creation or finding of such materials is much easier for them, also it keeps them engaged and give them some kind of practice, not just theoretical knowledge.

3.4.5 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

SOME LEARNERS WITHOUT ACCESS TO HARDWARE AND DEVICES

In general, there was no strategy created in that field. In terms of hardware and access to computer/laptop/tablet or other devices of this kind it was totally dependable on the learner. It was left in his/her interest to find the possible way to connect and access online courses. During pandemic some programs with aim of providing digital hardware for those in need were created, but these have been mostly focused on students from formal education sector (primary schools, high schools, etc.) and not on adult education sector at all. So that creates a tough barrier to skip a lot of people.

BASIC SOFTWARE PROVIDED BY EDUCATIONAL INSTITUTIONS FOR LEARNERS

In terms of software, the responses were actually a bit more optimistic. Educational institutes took responsibility of providing their learners with basic software that was needed to perform the classes.

No formal training in terms of usage of this software has been provided neither to the teachers or students. That created a lot of confusion because all the parties have been forced to figure out these programs by themselves which took a lot of time and effort.

3.4.6 FROM TEACHERS´ PERSPECTIVE: UNMET NEEDS AND CHALLENGES IN DIGITAL EDUCATIONAL SETTINGS

Interviewed teacher especially emphasized the **need of access learners to the digital hardware**. In many cases the learners had no idea about how the use the devices and what possibilities can they create. As long as the devices could be delivered, they can gradually get familiar with them and learn about the basics actions that these devices

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are able to perform. Understanding that will allow them to further develop their digital literacy skills and as a result many other skills as well.

The same thing can be applied to teachers as well, but in general the digital literacy proficiency is much higher among them than among adult learners, especially those in age above 50. But other important need among educators is to create some kind of database where they would be able to find materials on variety of different topic. It is often very hard task for teachers to do that, because it requires them to invest even more time to be properly prepared to teach. If such a database would be created, teachers would have an easier access to materials, it wouldn't be so much time consuming, and in the result the quality of their classes would be improved.

As the biggest challenge all the interviewed teachers mentioned that **digital literacy skills level is the main problem of online classes**. They tend to spend a lot of time on technical issues rather than on actual teaching. Next to that, the problem of keeping student concentration and engagement during the classes would be the biggest challenge.

3.5 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES – THE CASE OF LITHUANIA

Since pandemic hit the world people had to adapt in almost every aspect of their lives and teachers were not an exception. All learning and teaching activities had to be transferred into an online format which became a challenge for the most teachers since their students were showing low performance and were not motivated to study using "old" ways. As the research shows, all interviewed educators had some kind of struggle to adapt into a digital form of studies, but fortunately they have succeeded to implement a lot of new tools in their teaching process that are used till this day such as digital resources and online activities.

3.5.1 FAST INTERVENTION AND ADAPTATION OF MANY ONLINE DIGITAL TOOLS AND MULTIMEDIA PRESENTATIONS

Some participants of the research had to learn how to create digital documents or at least how to improve them by text editing, creating multimedia presentations and spreadsheet applications, using images, sounds and videos to make the materials learner-friendly for students. The classes had to be held in online classrooms and in order to make students more involved the teachers used digital tools, such as **Socrative, Projeqt, ClassDojo and Kahoot**. These tools helped to create multimedia presentations, with dynamic slides in which you can insert interactive maps, links, **online quizzes, questionnaries, discussion, surveys, Twitter timelines, and videos**, among other options that complement academic lessons. Students were able to access materials, created with these tools, using smartphones, laptops, tablets or PCs which made it convenient for them to study remotely. Some tools allowed teachers improve student behavior, provide students with instant feedback so that good disposition in class

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is 'rewarded' with points and students have a more receptive attitude towards the learning process. The teachers still do not have much experience in terms of designing and creating digital educational resources. They know how to create the basic video and audio contents. They can create the video collection for a unit, save the links and then add them to their lessons. They are using YouTube, which is great source for finding educational videos through digital education content providers, there are many channels dedicated to K-12 learning. Also, they find that Quizlet, Edpuzzle and Google Forms became also quite useful in the process and currently are a part of studies even after the pandemic. Another important step into the learning digitalization was creating of teacher's own digital materials like prerecorded video and audio lectures. Programs like Audacity and GarageBand were helpful to record voice memos to give learners instructions for an assignment or project or record assessment questions for learners who need a modification. Teachers are using online assessment builders like Quizlet, that can be used to review concepts. If they want to share videos, some of them use Edpuzzle, which allows to add comprehension questions to them and track learners' understanding. All these measures have improved student performance during remote studies and are showing to be successful even in the face-to-face format. However, the teachers would like to have some trainings on using more digital tools and improving their abilities to develop the content for digital courses in more interactive and learner friendly way. Ex., they would like to learn how to make a digital escape room using Google Forms.

3.5.2 STRONGER FOCUS ON LEARNING OBJECTIVES AND CLARIFICATION OF LEARNERS´ NEEDS AND PREREQUISITES

During the research interviewed educators have provided several crucial skills that are needed to match their learners' prerequisites and needs. Firstly, teachers have to be able to develop an organized lesson plans and regularly make the evaluation of the performance of their students. Secondly, they have to set specific objectives for learning in order for students to have more focus on these objectives when they are reading the materials and making the exercises. In order to ensure that the learners' prerequisites and needs are met during the training, the teachers carried out short interviews with learners or given short questionnaires for the learners at the beginning of the course in order to clear their needs and then to focus more meeting these needs during the training course. According to the teachers and trainers participating in the interview, the best learning methods to be used for their learners were group discussions and learning through enquiry.

3.5.3 NEW METHODS TO STRENGTHEN LEARNERS´ MOTIVATION

In order to maintain learners´ motivation for education and in particular their motivation to engage in digital learning processes the interviewed educators use several different methods: **video-based learning, personalizing learning, rewarding students' success, providing meaningful feedback, gamification, self-monitoring, assessments**, and more. Video-Based Learning - video instructions suit learners with any learning style preferences and include audio material (listening), text (reading), images (watch-

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ing), and even kinesthetic elements (practical exercises and video pause/repeat). Videos and animations from websites like YouTube are perfect for explanation of some topics.

3.5.4 GAMIFICATION AND PERSONALIZED LEARNING PATHWAYS AS KEY TO MOTIVATION

Personalizing Learning – it is important to understand that each student has their own unique learning methods. Creating personalized learning pathways enables students to alter the way the course is structured so that it aligns with the learning preferences of individual students. Rewarding Students' Success - rewards in online learning can be given in a variety of ways. For gamified learning environments, this can be achieved using a points or levels system. In simpler interfaces, it can be simply done via feedback. Providing Meaningful Feedback - through online LMS platforms, feedback can be viewed and accessed at any time. Having a clear idea about their learning progress, students can be better motivated to either improve or keep up with their performance. Gamification is learning through play. This method helps to keep learners motivated by making the learning content more attractive and giving immediate satisfaction. Interactive maps give students a hands-on digital experience. Full online courses can provide review or enrichment and give students the chance to work on their own learning goals. Learners can explore a teacher's selection of resources or search for resources themselves. Self-directed learning at a student's own pace makes education more meaningful.

3.5.5 METHODS FOR SELF-MONITORING AND ONLINE ASSESSMENTS ON BOTH A FORMATIVE AND SUMMATIVE LEVEL

One of way to encourage is by teaching them how to find appropriate digital resources. Allow Self-Monitoring - this allows students to evaluate their own performance from a third-party perspective and know their strengths and weaknesses. Assessments can motivate learners but not just being a tool to judge attainment and progress. Good assessments motivate and build students' confidence, refine skills, and encourage independence. It's important to prepare students for challenging assessments by teaching them the necessary skills for success. Teachers are choosing or developing a tool, analyzing data, and providing feedback. It gives valuable information on how well learners are meeting the learning outcomes. Thus, it is the possibility for changes that may be made to improve student learning. Online assessments, including formative and summative assessments, give teachers and administrators instant data, plus, they are interactive and engaging for learners.

3.5.6 FAMILIARITY WITH BLENDED AND FLIPPED LEARNING

The teachers are familiar with blended learning, mostly, and flipped learning and are using these teaching/learning methods in their courses.

Talking about good practice experience in terms of flipped learning/inverted classroom/ blended learning for vulnerable adult learners, there were several experiments

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in different countries in the EU where the neediness and relevance of the flipped method were proven:

1. The project – **40Challengers** – aimed to promote the development of soft skills for second-handers through a self-assessment tool and a catalogue of 40 innovative teaching challenges. All this was provided through the mobile app. During the project people could learn at home and then discuss and review their learning progress in class or with the mentor face-to-face.
2. During the project **SELF-E** the entrepreneurial competences of vulnerable learners were developed motivating them to become self-employed and start lifestyle entrepreneurship. The pedagogical strategy of the training course provided to learners was based on the blended learning approach – combination of traditional and virtual learning via developed e-learning platform as Open educational resources with the possibility to perform self-study at convenient time and place. Also, the flipped learning methodology was applied – the learners studied training materials at home and them they had face-to-face or online sessions with the teacher in order to discuss their achievements, problems and deepen their knowledge.
3. **M-EASY** project aimed to develop the mathematical skills of vulnerable people. The blended learning and reverse training methodologies were applied within the project. The learners could learn at home using the mobile app developed within the project and then come to face-to-face sessions with the trainer for discussing their progress.

Significantly higher performance is the main characteristic for the learning impact of these good practices. Motivated learners – higher performance, which gives teachers and learners, with their individually constructed knowledge, the possibility to exchange and reflect on their procedures and experiences.

3.5.7 ACCESS AND AVAILABILITY ARE BASIC KEY WORDS FOR BOTH-LEARNERS AND TEACHING

One of the crucial aspects of digitalization of teaching process is to ensure that vulnerable adult learners have the necessary access to digital tools and internet, because only then students are able to get the benefits from digital learning process. The organizations of interviewed trainers have specifically dedicated equipped rooms with computers and free internet access where students can come and use for their needs. Learners are welcome to use the facilities for free at any time they need. On top of that their organizations also provide free digital training for those, who are not familiar with digital literacy. They also involve them in the projects using digital resources to engage these vulnerable students and develop projects related to their inclusion.

3.5.6 FROM TEACHERS´ PERSPECTIVE: UNMET NEEDS AND CHALLENGES IN DIGITAL EDUCATIONAL SETTINGS

Interviewed teachers and trainers have highlighted some unmet digital needs and requirements from their daily teaching/training practice. As for the educators them-

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selves, they felt a lack of digital training and of free tools provided, also they have experienced language barrier. Talking about learners, teachers have noticed that they lack motivation and digital skills, and some of them had shortcomings from previous academic years. Another problem regarding students was the lack of tools to make their learning engaging, which, unfortunately, led to the loss of interest from both parties.
Educators consider the model of user interface for presenting educational e-learning contents to be the most important challenge in the current situation in terms of promoting online learning among vulnerable adult learners.

3.6 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES – THE CASE OF DENMARK

It was stated in the research among teachers that 36 pct of teachers in Denmark are solely or primarily using digital teaching materials in their work. This figure reflects a relatively high level of digital routines, and interviewed teachers a.o. referred to various Danish material sources such as: Clioonline.dk / Gyldendal.dk / Personalintra.dk / Moodle and Momando, itslearning and Microsoft teams digital blackboards, virtual writing pads etc. One teacher added:

> *"Here in Denmark, there are many platforms that provide schools with such resources like cliooline.dk and gyldendal.dk – and I use them…"*

A part from the selections of relevant portals, some teachers informed that they are experiences in making lessons and learning exercises, especially in google forms and itslearning, including the use of screencasts.

On blackboard teachers may for instance upload youtube videos and record instruction videos themselves as supportive materials for the online sessions:

> *"Then we have the online meetings. These are the sessions where I go through curriculum with the learners, who also have the opportunity to work in small groups, where I provide small rooms that they can join…"*

3.6.1 DIGITAL TEACHING MUST BE CAREFULLY PREPARED

Some teachers claimed that teaching online is very time consuming for both teachers and learners, and it calls for a strong **clarification and visibility** of goals, contents and methods in the individual session as well as the connection between previous and future sessions etc. This may be done through a preparation, in which goals, methods and materials are timely uploaded for the learners to review before the session.

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3.6.2 THE DANISH NATIONAL DIGITAL AND JOBS COALITION – AN EXAMPLE

An example of used platforms is the Danish National Digital and Jobs Coalition. This practice represents a multi-stakeholder partnerships focused on tackling the digital skills gap and promote lifelong learning for all. The methodical approach in this practice is through videos, seminars and programmes to teach digital skills used for education. The pros for the practice are manyincluding the various programmes available and the different levels available depending on each individual progress. The con in this practice is that it is only available in Danish, which is not convenient for all especially for those who want to teach in languages other than Danish and are not fluent in the Danish language.

3.6.3 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

DIGITAL TEACHING ALSO BUILDS ON INCLUSIVE METHODS

> *Through communication with my students and sometimes with their families, I try to match students´ learning prerequisites and their needs. It is done individually and in groups by telephone or on online meetings. Sometimes I send them messages on social media or on the allocated platform. That is done besides the regular meetings with leaders and colleagues concerning the same points. So, we involve all the sides that **collaborate** and help to identify and satisfy the needs of the learners…"*

In this quotation, one of the interviewed teachers describes a practice that is closely linked to the digital pedagogical approach, however points to a more general and transversal competence, based on the ability to practice **inclusion of all learners**. Like in all teaching and training, inclusive methodologies help to create a safe and welcoming learning environment, be it based on physical or digital learning rooms. Inclusive approaches and communication makes the learners confident in expressing ideas, asking questions and telling about their needs. Being an inclusive teacher who respects learners and listen to them patiently make them feel treated equally regardless of their race, colour, gender, ability or background. Also, learners´ personal lives can affect their ability to learn. By treating them with **compassion** by trying to suggest soloutions for their problems may help them to be more present and productive.

3.6.4 DIGITAL TEACHING ON BASIS OF GENERAL DIDACTIC MODELS

A teacher pointed to the fact that , for instance the **didactic relational model from Hiim and Hippe**[17], building on 6 didactic factors for teaching and learners´ learning processes:

- Learning prerequisites

[17] Cf: Hippe, Else & Hiim, Hilde (2007): "Learning through experience, understanding and action" (Danish).

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- Framework factors
- Goals
- Contents
- Learning process
- Assessment and evaluation

The basic idea in the model is that if one factor is influenced, they will all be influenced This may precisely indicate that if the learning framework and process is affected by the change towards a digital learning environment, then goals and contents will also be changed somehow.

3.6.5 ADAPTATION OF LEARNING METHODS AND MATERIALS TO DIFFERENT LEARNING STYLES

Like in general pedagogical-didactic approaches, digital materials also need to be adapted to learners´ different needs and prerequisites:

> *"I try different teaching styles through the choice of learning material that contains text, videos, pictures and exercises. Sometimes we have discussion groups on the topic to be studied. I vary in practicing learning through writing a summary, make presentations, doing exercises, playing Kahoot to express learning with fun (…) Providing meaningful feedback to learners, using platforms that provides self-monitoring of online learning like clioonline.dk…"*

3.6.6 FLIPPED LEARNING AND AUTONOMOUS LEARNING

From the **motivational perspective**, letting learners themselves to be tasked to plan for their own learning sometimes may be a positive factor. The experience is that some learners are actually motivated by the control that they gain.

All teachers in the interviews with the exception of one were familiar with Flipped learning/inverted classroom, and they referred to this methodology as very efficient not least for vulnerable learners:

> *"The vulnerable adult learners have the opportunity to review and go through lecture materials in advance and as often as they wish. That gives them the opportunity to identify their own learning gaps and attend class sessions prepared with questions. Plus they can interact with me more frequently…"*

From this perspective, flipped learning also improves the teachers´ abilities to identify learning gaps in advance of the class session, thereby transforming the classroom into a instructor-learner as well as a learner-learner learning environment.

Another teacher in particular highlighted the positive responses from learners, who stated that this approach provides them with the opportunity to learn according to

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their **own pace**, also giving them the **flexibility** to work whenever it suits them. A teacher had this comment. Thus, a common experience is that by implementing flipped learning, the learners in general learn and perform better during online classes, in which the teachers do not spend time on reviewing theory, but rather focus on coaching learners and facilitating their questions etc. A teacher had this comment:

> *"It teaches them self-directed learning and develops lifelong learning, because it helps them to improve their learning skills like deep understanding, problem solving and critical thinking…"*

However, it has also been stated in the interviews that some teachers may be inclined to go into a "**producer-perfection"** mode and spend many hours producing materials that must be perfect. Flipped Learning was introduced at a time when people were generally most concerned with adding the video medium to the teaching. But nowadays teachers make take advantage of using **media diversity**. All materials do not need to be produced in advance.

3.6.7 FROM TEACHERS´ PERSPECTIVE: UNMET NEEDS AND CHALLENGES IN DIGITAL EDUCATIONAL SETTINGS

The teachers referred to a range of reasons why digital teaching and learning may be challenged in educational settings:

- Even though the general digitalization in Denmark is at a high level, it is still relevant to draw attention to the need of increasing the **digital literacy** among learners and in some cases also teachers.

- ICT-infrastructure is mentioned to be a main barrier for using digital teaching materials. Many of the interviewed teachers experience that unstable Internet connections and insufficient ICT equipment are the highest barriers for using digital materials in the classroom. Then follows price and lack of relevant digital teaching materials. This may also include technical support to solve constant technical problems that occurs during online teaching sessions.

- Furthermore, lack of motivation would in some educational contexts stand in the way of further digitalization of the teaching. This may call for a thorough psychological support from teachers.

- Another issue is about getting learners used to using computers as an integral part of their learning processes. This may in some cases be a reflection of the fact that especially vulnerable learners are unable to pay for the acquisition of computers. It may also reflect the fact that more family members have to share the same computer, which makes online-based homeschooling difficuelt to organize and complete.

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- The lack of motivation among learners may not least be due tot he lack of in-person interaction as a basic premise in traditional classrooms and learning environments. A teacher put it in this way:

  "It is very important to show the learners that you are there for them, and that you are structured and try as much as possible to engage all learners. It is not easy, and it requires practicing. But we must remember that teaching online kind of decreases the social aspect of a classroom, which is easier maintained in traditional classes…"

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4. FINDINGS AMONG DIGITAL EXPERTS IN TERMS OF DIGITAL PEDAGOGY, DIGITAL RESOURCES AND UNMET NEEDS

4.1 INTRODUCTION

The purpose of involving special experts in the initial research phase was to obtain a qualified assessment of the national digital situation as well as an insight into the digital practices which currently set the standard in digital pedagogy and teaching of vulnerable adults and other learners. Thus, the experts represented professionals who generally had both conceptual and practical pedagogical experience in terms of digital teaching and learning in the national context, for instance knowledge of the inverted classroom and flipped learning as well as other blended methodologies, combining physical and digital teaching in various ways.
In total, approximately 25 experts have contributed to this part of the initial research with reflections on questions such as:

- What national trends do you see in the national digital pedagogy?
- What digital resources do you find relevant to match adult learners´ prerequisites, especially among groups of vulnerable learners?
- What transversal competences would be relevant to support adult teachers´ digital teaching?
- What unmet needs and requirements do you see among adult teachers in settings for vulnerable adult learners?

4.2 NATIONAL TRENDS IN DIGITAL PEDAGOGY, DIGITAL LITERACY AND USE OF DIGITAL RESOURCES – THE CASE OF GERMANY

German expert teachers agree on the need for an urgent digitalization of teachers, learners and other staff members in the adult education sector. Although there has been a clear upskilling in the last 3 years most teachers have just moved from a starter level of A1 to the elementary A2 remaining most of them as beginners in the digitaliza-

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tion process. At the same time, for the adaptation of the digital curricula teaching institutions need to engage trainers with minimal digital skills of B1/B2. There is a considerable gap between current trainers' digital skills and the needed ones in order to transfer or to create the necessary online learning plans. Integration centers are trying to develop online solutions that are both easy to implement by teachers and simple to follow for the learners. In this way, in most learning programs teachers are starting to experiment with apps that can easily be downloaded and used for free.

4.2.1 RELEVANT DIGITAL RESOURCES TO MATCH LEARNERS IN INTEGRATION PROGRAMS

As stated above, most teachers insist on the need to use digital resources that are not time consuming for the preparation of the classes and easy to be used. Thus, the most relevant resources in the classes are the ones that require no previous installation, and if possible, the ones that are ready to be used or offer a simple way to create new exercises. For vulnerable groups **the length and complexity** of the exercises play a fundamental role. In this way, experts recommend to create and use several similar exercises for one topic. If participants are intended accomplish the exercises on their own without the supervision of a teacher, experts agree on the **need for feedback support** making learning progress visible if possible. In this sense, several interviewees recommend resources such as quizlet where different types of exercises including feedback options are bounded in one. Further, there is a common consensus on the **importance of images** and the **use of voice messages** for the most vulnerable learners in online teaching sessions. Easy to follow presentation or simple videos are very valuable materials when presenting new topics or creating reviews in the classes. The **possibility to interact** with the teacher and / or other students using **voice messages** is similarly regarded as essential for the target group. **Collaborative working opportunities** such as Google docs are equally highly praised by the teachers who often make use of them when students are encouraged to prepare topics/presentations in groups, correct each other or create open stories. And finally **a clear structure** that learners can easily follow to accomplish their tasks, simplicity and clarity in the exercises are relevant ingredients for successful online sessions according to the experts.

4.2.2 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

To the regular digital teaching techniques that should include data regulation, working with images and presentations, content searching and creation, teachers need funded organization skills in digital educational settings. In the German integration programs the organizational part of the class is as important as the pedagogic one. Teachers do not only need the ability to create or implement their lessons, they similarly need to **master organizational skills** that will include clear classroom management techniques, simple working structures, good time managing and inclusion of rewards strategies

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that will keep learners' attention. Students' centered teaching approaches such as the inverted classroom methodology require comprehensive learning programs that are easy to follow for the learner and include relevant supporting materials.

In order to create and implement digital materials in motivating and autonomous learning environments that are in line with current German integration program teachers necessarily need to be supported with **teaching examples for more inclusive teaching strategies**. Further, they need upskilling sessions that promote **empathy and learning diversity** empowering them to understand and reach their learners with motivating activities that will encourage learners to actively participate in digital classes.

4.2.3 FROM THE EXPERT PERSPECTIVE: UNMET NEEDS AND REQUIREMENTS IN DIGITAL EDUCATIONAL SETTINGS

First of all, **teachers** and educational staff members urgently need to be digitally upskilled.
Germany is investing in infrastructure and educational centers are expected to run their programs in digital formats but there is an important **gap between expected minimal skills and the real digital professional development in the educational field**. In the last three years, many trainers and other staff members have been partially upskilled. Nowadays, most teachers are able to present some digital teaching formats but these often lack the expected minimal pedagogical quality for the learning programs. Consequently, learners often refer to the classes as boring, difficult to understand, too demanding and inefficient. Trainers and teaching institutions need to experiment in order to create more motivating and better tailored programs for the learners.

Second, many of the **learners lack the technical resources** to actively participate in digital classes. For many of the current digital solutions learners are expected to work in laptops or computers. A relevant number of most vulnerable participants have almost no access to such devices. Teaching solutions should consider including activities that could be accomplished in smart phones.

Finally, **teachers need simple and easy to use solutions**. Most trainers complain about the fact that they do not have the time to practice and improve their skills so that they can properly adapt their teaching sessions to their learners' needs. There are numerous intuitive apps and learning tools that teachers could easily use if they were given short and simple examples for their utilization and implementation in the classes. Offering trainers elementary and easy to follow teaching examples or upskilling opportunities could represent a motivating first step in their pressing digitalization process.

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4.3 NATIONAL TRENDS IN DIGITAL PEDAGOGY, DIGITAL LITERACY AND USE OF DIGITAL RESOURCES – THE CASE OF ROMANIA

Regarding the intersection between the digital and the pedagogical dimension in digitalized teaching, the Romanian research has shown that all interviewed expert teachers were already familiar with some of the online tools and applications and they did use them in certain contexts **before** the pandemic. (some in classes where they worked with interactive boards, some in corporate training programmes, usually to boost the interactivity of the course).

Interviews show that the attitude of the teachers was more fluid and open minded and they explained how being an educator is no longer limited to the traditional role of the teacher but it needs to involve **emotional intelligence skills** as well. Most of the teachers explained that the emphasis is placed on what is being received/ perceived by students, rather than on what is being delivered and we think this made a major difference in how expert teachers embraced the start of the online teaching as they had a much easier transition. They also insisted on **the active role of the learner, rather than of the educator**.

In this context, the perspective changes a lot because the focus of the research with the expert teachers **shifted** from the digital aspects of teaching to the emotional intelligence in teaching, the **creativity and the idea of sensing** or knowing when it's the good moment to use a certain method, when and how to adapt it to the learners taking into consideration learner's level or age.

The expert teachers highlighted that in this new pandemic context, the educator's role is to **guide** the learner in order to evaluate information, to permanently **assess** students' capability to process the taught content in this online environment. They also mentioned the importance of **role reversal** with their students with very good technology skills.
To better explain the role reversal in the digital age we need to add that expert teachers observed that young adult learners, being digital natives, can become their own educators because they are often more familiar with technology.

4.3.1 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES

The Romanian research showed that some of the key abilities expert teachers showed in identifying the relevant digital resources for their learners' needs are a good planning ability which is actually a pedagogical skill, creativity, time management skills and an appropriate mind set.

GOOD PLANNING ABILITY

A good planning ability will always help teachers identify more easily when and how to use **an app** in online teaching, how to adapt their use to the students digital skill with

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special attention on 50 + learners or learners from other vulnerable groups, how to always have a plan B app or tool prepared in case the planned one doesn't work as expected and so on.

CREATIVITY

Also, **creativity**, in the same way , as in face to face classes, helped teachers adapt the available digital resources and their use according to the learners needs or level of interest and a lot of them say they had to be creative and change things during the lesson.

THE RIGHT MINDSET

Last but not least, the conclusion was that having the right mindset focused on constantly improving digital skills and use of online tools contributed a great deal towards the good integration of the digital tools in their teaching. They understood that it important not only to show and explain the student how to use these digital tools but also to be **facilitator** and sometime leave the students be in control and that requires the teacher / facilitator to be confident with the use of online apps and tools so they could easily navigate, change settings and roles in the app they are working in.

PROFESSIONAL ENGAGEMENT TO MOTIVATE LEARNERS

Other skills the Romanian experts have identified as being important in maintaining educational motivation and engaging vulnerable students are good communication skills, and the ability to listen carefully and actively to their needs so teachers know better how to encourage or use different relaxation techniques in order to ease vulnerable students anxiety, or using humour for example or showing personal vulnerability as teachers. All these create a more humanistic approach in a class that is facilitated in an online digital environment.

In order to be successful, the teachers discovered that the learners are a great resource for developing new digital skills and a good opportunity to start to learn new applications transforming student's technological skills in a new teaching method and content or in creating new digital content. This last part can also be translated into professional engagement and motivation for the 5 expert teachers.

THE FLIPPED CLASSROOM

In terms of using flipped classroom methodologies in online teaching the interviews with the experts showed mixed opinions about how effectively these can be applied to general adult online classes. Motivating adult students to learn autonomously depends on the learners' life context and situation and the learning objective. For example, in language courses for companies, it is difficult to motivate learners to spend more time at home for self-study so teachers have to adapt and integrate little self-study bits into the actual online course. The main reason for the **lack of learners' interest for autonomous learning** is mainly the lack of time and not so much with the lack of interest. However, research showed that adapting the autonomous learning tasks to the learners' specific interest and needs helps a great deal in motivating them and also integrat-

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ing the assessment of these self -study tasks into the final evaluation of the learner's performance can be a key motivator.

4.3.2 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

The interviews with the experts in this regard didn't reveal many solutions as it was clear that facilitating digital education for the vulnerable category of learners depends in great part on the national strategy to overcome this issue.

Solutions could be implemented at a local and at a national level through training programmes at a local level, but also at a national level, workshops that are accessible to this category both from a financial point of view and frequency.

It is known that Romania is confronted with digital illiteracy of an important category of its inhabitants, namely people who are over 50, or the ones who come from the rural area and didn't have access to this kind of digital education, many of them didn't own a computer or have access to the internet. Therefore, local organisations such as language centres or adult education institutions reacted how they could but with limitations.

4.3.3 FROM THE EXPERT PERSPECTIVE: UNMET NEEDS AND REQUIREMENTS IN DIGITAL EDUCATIONAL SETTINGS

The findings in the interviews with the experts are connected also with the urgent need of a **digital teaching methodology** with special focus on: adapting the teaching pace and learning rhythm to the learning abilities of the students in this digital environment as from the **neurological** point of view they are not the same, adapting the teaching curriculum to digital learning environment, meaning allowing more study hours for the acquisition of the content that was designed for the face to face courses and, last but not least, a methodology of working with **different levels of digital competences** in the same group.

The teaching methodology in the online environment should focus also on what other methods teachers could find to balance out the digital artificiality perceived by vulnerable adults by ensuring they offer **permanent feedback** to learners and making sure the digital tools remain only a means of **conveying the content** and that they still use a **humanistic** approach. The Romanian expert teachers feel that the future of adult learning in digital education must adapt and rely on other study findings from neuroscience, psychology or sociology.

4.4 NATIONAL TRENDS IN DIGITAL PEDAGOGY, DIGITAL LITERACY AND USE OF DIGITAL RESOURCES – THE CASE OF POLAND

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The interviewed teachers strongly indicates that **digital literacy** is in their opinion much more important skill than any pedagogical skill. Especially in the early stages of someone's online class experience. Digital literacy allows them to effectively look for interesting materials online, how to create their own materials or exercises or finally, how to use communication software and take advantage of all the features that it provides.

Thanks to the knowledge about looking for information online they are able to find new strategies of teaching online, exchange ideas with other teachers, find better tools and ways to implement practical exercises. Also, it allows them to identify the issues, know what kind of hardware do they need in order to increase the quality of their teaching, like better camera, microphone etc. In many cases digital literacy skills allowed them to avoid or resolve problems related to the internet connection.

4.4.1 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

CLASS MANAGEMENT TO ENGAGE LEARNERS

Beside technical skills some soft skills were listed as well, but most of the educators indicated that in their opinion soft skills wasn't as important in online classes as in traditional classes. Class management have been mentioned most consistently among interviewed teachers, the skill of keeping all of the participants engaged and interested, to stay in the class time frames so each point can be evenly emphasized, and be delivered in proper form. Other skill worth mentioning was creativity, as with help of the materials found online, allows teachers to invent their own way of teaching and to adjust their teaching program to the needs of specific learners.

PRESENTATION SKILLS TO RAISE MOTIVATION

Keeping learners' motivation and engagement seems to be the biggest struggle for educators. While using technology it is easy to be distracted or to lose focus. It's hard to avoid that and there is no direct strategy to deal with it. Although the teachers emphasized the importance of presentation skills. If the presentation is engaging, have a lot of interesting information and is delivered in accessible way, the learners motivation seems to be increased. Keeping the communication going is another important aspect. To ask question and to allow other to ask them and encourage to do it have a great impact on student's attention. Also gaining feedback from learners is important, because not only it is used to adjust the class in terms of what is and what is not interesting but also it gives them a feeling that they are contributing to how the class look like.

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FLIPPED LEARNING AND INVERTED CLASSROOM MOST CONVENIENT FOR FACE-TO-FACE LEARNING

Flipped learning or inverted classroom have a very good opinion among the interviewed teachers in stationary condition. In remote conditions they found it very difficult to apply and just not as effective. Learners value their time with teachers much more in online conditions so they want to make sure that they can understand as much as possible while being with them. They want to use that time to ask questions and understand the certain mechanism. The practical part of their learning seems to be perceived by them as more individual action, and when problems will occur, they can write down their questions and ask them during the lesson, so other class member can learn something about what they haven't noticed yet.

PROMOTION OF DIGITAL SKILLS IS A NATIONAL ISSUE

From received responses it was clear and easy to see that educational institution can not deal with that problem by themselves. Only think that they were able to do was to introduce some basic programs about how to access the digital software needed for performing online classes. Depends on learners age, digital literacy skill and other factors, courses like that have been more or less successful but in general all the learners haven't been engaged as the courses they came for been related to different topic so their interest wasn't on the high level.

The solutions should be done on national level. The issue of digital literacy skill being so low is not something that this institution can combat in short amount of time. As digital literacy is such an important skill, because it allows to be able to look for information on basically any topic online and in result to develop any skill, the implementation of national strategy is crucial. Strategy like that should allow others to access digital hardware, software, instruction on how to use it and many more.

4.4.2 FROM THE EXPERT PERSPECTIVE: UNMET NEEDS AND REQUIREMENTS IN DIGITAL EDUCATIONAL SETTINGS

The most mentioned need is an implementation of national program related to development of digital skills. There are very few programs like that, especially for adult learners that seems to be in the biggest need for such courses. Even if there are such programs, they are very poorly disseminated and usually take place on the local level. This results in very poor promotion of online teaching programs as well. People that actually should be interested in them, can't access them as they don't have enough skill to do it.

Also, from the teacher's perspective, there is no external help for them to do better job at online classes. Some sources of knowledge need to be created and some methodologies introduced, specified for online classes.

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4.5 NATIONAL TRENDS IN DIGITAL PEDAGOGY, DIGITAL LITERACY AND USE OF DIGITAL RESOURCES – THE CASE OF LITHUANIA

The most important skill for today's teachers and trainers is **digital literacy**. Nowadays that skill stands above all others and can be a crucial part of the job as the pandemic times had shown. Basic skills are using Word to create documents, Visual presentation Prezi, Power Point, Canva designing graphics, presentation, creation assessment, online quizzes.

4.5.1 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

Professional teachers have to meet a wide range of professional requirements and tasks. On one hand, their role requires **conceptual thinking, such as planning, selection, reflection, and further development of teaching/ learning arrangements**. On the other hand, appropriate practical work experience is required for practice-oriented teaching in workshop and laboratory sessions. Also, the competence for direct and spontaneous interaction with the learners to positively influence their learning processes is a basic requirement for any teacher. Constructing new personal information using information processing strategies with the support of digital applications. Organizing and using a personal work and learning environment with digital tools to perform with adult and vulnerable learners.

It is necessary to be able to give students the right content at the right time and in the right medium, otherwise there is a risk to lose learners motivation, good performance or even attendance. Educators have to create learning situations from the process to the lesson and decide on methods, media, and time frames. It is necessary to check with Syllabus for delivered learning contents and create a didactical masterplan (distribution of learning situations over the year). Last but not least is evaluation of tasks. After identifying relevant resources teachers have to question them if those resources are free, if they are licensed. They have to vet and align the digital resources: is the information accurate, is it coming from reliable sources, is it high-quality, is it fit for the objective? It also has to be adapted to the learners needs.

4.5.2 MOTIVATIONAL COMPETENCES

As the main tool used by the trainers to motivate learners to participate in digital training is providing them with **digital badge** after completing the online course. Learners are getting different formats of the badges, based on their activities, and collect them during the learning in their badge wallets. The certificate is given or after finalising each course, or at the end of the year. These badges are a good added value to the CV.

Some of the teachers incorporate **micro-credentials** into their training courses. These micro-credentials are **electronic symbols** used for documenting performance and achievement. They recognise the learning outcomes of the course and achievements of the learner and are given to the learner after he/she finalizes the course and completes the assessment test.

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Another useful tool for motivation of learners is placing the trainings courses into **Moodle**, a free open-source software mainly developed for learning management. It is providing digital control to teachers for managing learning process. It helps create their own effective online courses, assessment etc. – material for self-learning. Moodle is used as a platform for all digital courses.

Cooperative Learning, Project Based Learning, Flipped Classroom and Blended learning are examples of active methodologies as good practice in terms of maintaining **educational motivation** among vulnerable learners and engaging them in digital learning processes. These inclusive approaches provides teachers more opportunities to personalize the learning process of their learners and can thereby increase their autonomy, motivation and self-direction.

DIGITAL STORYTELLING

Creating interpersonal connections – since this active learning process often causes an emotional response, it is essential for the instructor to encourage the learners from the beginning of a course by showing faith in each learner's ability to learn the course content. Creating personalized digital resource tailored to the needs of the specific group of learners: a short story with the digital free tools available, ppt, video format, audio, etc. incorporate them into learning plan and make it inclusive. Participatory digital methodologies offer a potential way forward given their critical underpinnings, particularly appropriate to facilitate engagement of adults. **Digital storytelling** is a participatory visual methodology, a category that also includes participatory photography, video, mapping, and digital archives, among others. Storytelling - people gain a better understanding of one another using concrete example rather than abstractions and generalizations that have little relationship to one's experiences, since the sharing of experiences through the device of storytelling enables individuals to build a bridge of understanding between one another. The inherent interactivity of the Internet and the emotional engagement of story can lead to innovative pedagogies in media rich environments. **Perceptual arousal**: capture interest with the element of surprise or uncertainty.

RELEVANCE MOTIVATES

Storytelling, humor, and active learning experiences are proven ways of grabbing learners' attention, entering text upside down or in code on a slide, posing the **opposite point of view** from what is expected, or changing the environment, like switching up your Bitmoji classroom background. Interest arousal: stimulate an attitude of inquiry by posing challenges or novel ideas. Project-based learning fits in here, as learners are often driven by the desire to solve problems, explore, and create. Explore using shorter-term thinking challenges and brainstorming events that push them to consider ideas beyond the ones you present. Relevance - in order for learners to want to learn, they must feel that what they're learning matters to them. Understanding how a new skill or information is applicable or will help them now or later on in life can make a big difference in motivation. Rewarding outcomes: Positive reinforcement and motivational feedback can lead to extrinsic motivation that many learners desire. Badges,

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privileges, certificates, and other tokens of achievement can provide motivating recognition for efforts.

FLIPPED LEARNING AND INVERTED CLASSROOM

The good practices in terms of flipped learning/inverted classroom or other methodologies to promote autonomous learning process among vulnerable learners, based on digital resources, blended learning etc. could be the following:

1. FLIP-IDEAL project supported adult educators to use the flipped learning approach with their learners. During the project the online course for adult educators was developed, which gave them a practical view on how to implement flipped learning with students learning basic skills. Online course was based on adult educators' experiences and case studies using flipped approach, and includes video clips which illustrate both the theoretical and practical context of flipped learning with adult learners.
2. During NOVA project the flipped studio "Successful Innovator" to create learners' awareness about innovation solutions in the CCS during COVID-19, deepen knowledge on five competences and coherent to them skills, and finally, empower learners to become successful innovators in CCS and to be integrated to the society by getting employed, self-employed or become the volunteers in CCS. The learners from vulnerable groups learned from developed training materials online at home and then developed the sense of innovation, discussed and reflected on the topic in the groups.

The main learning impact of these practices is that as a result, students tend to learn faster, their interest increases so does motivation and performance, teachers are able to save their time.

4.5.3 FROM THE EXPERT PERSPECTIVE: UNMET NEEDS AND REQUIREMENTS IN DIGITAL EDUCATIONAL SETTINGS

Interviewed teachers have reflected on the strategies they would recommend to ensure equal access to digital resources and internet for schools, adult education sector and vulnerable adults. First of all, local municipalities could plan a budget to equip all these sectors with new resources to ensure they have necessary IT equipment and software. This would allow the educators to use innovative digital tools when developing lessons for their students making them more attractive, interactive and learner-friendly. Another suggestion was to create a digital map of public Wi-Fi hotspots for people to know where they can get free internet access. The use of public libraries was also suggested, but usually their equipment is outdared or functions poorly. Organizations can also apply for international programs and funds to help them acquire necessary skills, resources or budgets.

Educators have highlighted some unmet digital needs and requirements from the national educational context. The lack of the state-of-the art equipment and second-generation systems to practice the learning back in their workplace can negate faculty from mastering the skills that they have learned. The inability to provide current tech-

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nology or the software to practice newly learned skills can render useless the time and effort that trainers have put into learning the new skills. Situational barriers for the teachers may involve lack of time for the teachers to attend professional development sessions to learn new technologies. Low bandwidth, spotty reception, and other technical issues faced by both teachers and learners on these platforms. These problems often require technical support to rectify, causing frequent disruption in the learning flow. Some online course payment if they want full access to a course or certification.
Talking about the same issues but in terms of vulnerable adult learners, experts have noticed lack of trainer's readiness, language barriers, usage of only free tools, lack of national digital training, lack of digital accessibility points, old digital tools, old equipment, old knowledge – all are currently a problem.
In terms of promoting online learning among vulnerable adult learners, teaching online has many challenges. Learning how to teach in an online classroom requires redesigning course components using pedagogical methods, learning activities, and digital tools to ensure that students gain valuable knowledge, understand the benefits of digital learning, motivate them to use the tools, and encourage them to continue teaching. One of the key challenges of online teaching is deciding on which tools and platforms to use. Biggest problem – lack of available equipment and tools to use. Moreover, feedback is not given appropriately, and as a result the connection between learner and teacher is not being developed.

4.6 NATIONAL TRENDS IN DIGITAL PEDAGOGY, DIGITAL LITERACY AND USE OF DIGITAL RESOURCES – THE CASE OF DENMARK

In the Danish context, some pedagogical scientists have defined the concept and area of **digital pedagogy** as follows:

> *"Digital pedagogy aims to create a strong connection between research, development and practice, with a focal point in the potential and possibilities of digital technologies. Digital pedagogy encompasses the study of the role of digital technologies in pedagogical practice, for the development of pedagogical practice and reflection on the value-base in pedagogical practice…"*[18]

The scientists add that studies of the role of technology in the development of educational practice deal with how digital technologies create new types of teaching as well as new forms of organization of the learning environments. In doing so, the scientists establish that digital pedagogy is not merely a question of including certain digital tools in the pedagogical-didactic planning that otherwise form the framework of teaching.

[18] Quoted from Hansen, Jens Jørgen & Nørgård, Rikke Toft (2022): "What is Digital pedagogy - contours of a new field of practice and research". Danish article in Danish University Pedagogical Journal.

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On the contrary, the introduction of digital technologies **in itself** changes the framework for both the pedagogical-didactic approach, for the teaching process and for the learning space in which the learners must qualify themselves[19]. This is probably particularly true for **adult learners**, who have generally grown up with completely different forms of learning and in a time when digital technology was neither widespread in school nor in everyday life.
Other researchers have also placed digital pedagogy in the **tradition of critical theory** and have claimed, with inspiration from Paulo Freire's critical and emancipatory pedagogy, that digital pedagogy precisely opens up opportunities for new teaching and learning scenarios, in which the learners can control their own learning process to a greater extent than in the traditional teacher-focused learning environment[20]. **"Flipped Learning"** is an example of the flexible, learner-centred approach that digital educational methoologies have helped to promote.

4.6.1 DIGITAL RESOURCES TO MATCH LEARNERS´ PREREQUISITES

The Danish expert teachers pointed to a variety of digital pedagogical-didactic practices by which they can refer to extensive experience from adult education. The following is mainly based on input from a large language centre[21], being a frontrunner within the EdTech strategy in adult education and language teaching over many years in the Danish context. Added to this are experiences from a study[22] of job-related language qualification using digital learning methods for adults. Furthermore, the expert materials are based on digital experiences from previous EU projects as well as experiences from a Danish university college that educate both adults and young people within a wide range of professions.

TEACHING AND LEARNING ON ZOOM IN SPECIAL E-CONFERENCE ROOMS

Many educational institutions within the general adult educational sector have established video conference rooms for e-classes. The interviewed Language Centre CLAVIS had for quite some years specially equipped video conference rooms for e-learning and e-guidance with advanced sound and camera technology, interactive screens, video cameras and lesson streaming. This indicates that teachers are able to carry out teaching and guidance of learners independently of physical attendance or possibly as **blended learning** with a combination of physical and virtual participation. Learners gain access to **virtual whiteboards and "breakout rooms"** with the possibility to combine team teaching, group work and individual mentoring on a virtual basis.

THE LEARNING PLATFORM ITSLEARNING

Itslearning is a learning management system and a virtual learning environment for teachers and learners. Itslearning can be adapted to many different learning objec-

[19] Cf Ibid.
[20] Cf Stommel, Jesse (2014): "Critical digital pedagogy: a definition".
[21] We interviewed a number of expert teachers from the educational institution CLAVIS language and competence.
[22] Cf mhtconsult (2022): "Linguistic challenges in the Nutrition Education. Results and recommendations from a qualitative study".

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tives, learners´ profiles and learning contexts. The platform provides space for a multitude of educational materials such as videos, jobrelated materials and interactive exercises that can be used flexibly based on the **"learning-on-demand"** principle. It is possible to establish dialogue rooms spaces with virtual facilities in which learners can communicate individually and in groups with the teacher etc. In addition, the platform contains extensive storage functions where learners have access to digital libraries, learning materials, manuals, instructions, exercises etc, provided for both visual, audiovisual and other learning styles.

However, pure zoom teaching requires a lot of **structure** in that all materials must be ready in pdf before the teaching. In addition, not all learners have access to a computer, which they may share with the rest of the family.

WHATSAPP AS – THE DIGITAL CHANNEL FOR MANY ADULT LEARNERS

Some experts have particularly highlighted the use of WhatsApp for teaching adult learners. They complement zoom-based teaching facilities with WhatsApp on the specific grounds that many of their learners have roots in Middle Eastern countries, where WhatsApp is a preferred medium. In this way, many of the adult, often less educated learners are already familiar with the media that they are presented with in the digital teaching and learning environment.
WhatsApp allows you to record audio and insert images instead of typing:

> *“WhatsApp is free, playful and interactive. Learners can go out into their surroundings and find examples of what we are talking about, for example compound nouns. This creates a direct link between school and their lives. It is fun for vulnerable learners to find grammar at home in the living room. In this way, the learners are involved in the learning process based on their own life world. It is highly motivating to be a co-producer…”*

The expert teachers point to the fact that WhatsApp is structured as a conversation thread. Everything is to be found in a **long thread**, in which you can scroll down to what was said last week. Learners who were absent can find corresponding recordings on zoom.

This functionality can be challenging for teachers who would prefer to have all materials in one folder with subfolders. However, the experience is that many adult learners **don't like the folder structure**. It can be difficult for them to understand and use the teachers' folder structure.

> *"In WhatsApp, it is a more direct and immediate communication. If there is one learner who has understood what we are talking about - then the other learners say: is this how you do it? Whoever does the right thing, we shower with heart smileys . You can be more effusive with emojis than you would be able to verbally in the physical classroom".*

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The expert teachers describe how WhatsApp is used **multimodally**. As an introduction, the teacher presents a still image, possibly a video or a page from a book, perhaps an assignment for the reading-oriented learners. Some learners also need a demonstration video where they can watch the teacher performing the first task. If dyslexic learners are present, the teacher also produces audio files.

In addition, the teachers use the **AppWriter** package to support reading and writing exercises in language learning processes. Other experts also referred to **Padlet**.

APPEN FLASH CARDS

Some experts highlighted the use of linguistic apps, for instance Flash Cards. The main experience is that you achieve the best language learning results among adult learners in employment-oriented language education, when you combine the general employment-oriented Danish education with training of **work- and task-specific vocabulary**.

Generally employment-oriented learning may be, for example, small talk, break talk, requests for vacation, sick leave and similar themes, which are aimed at the broad group of learners regardless of sector or workplace. For the well-educated learner, this will often be sufficient. However, for many vulnerable adult learners, characterized typically by being short-skilled with limited language and learning requirements, there is a need for tools to furthermore train the **work- and task-specific vocabulary**.

The linguistic apps have their special strength in this area, as they make possible to introduce a digital **image- and sound-based teaching** tool, giving the learners the opportunity to train precisely the work- and task-specific vocabulary that she/he needs to acquire or maintain employment by training task-specific vocabulary of specific work tools linked to specific work tasks.

THE VIRTUAL CLASSROOM CAN BE A COMFORT ZONE FOR VULNERABLE ADULT LEARNERS

The interviewed expert teachers conclude that some learners prefer virtual teaching, which gives them a sense of being in a **comfort zone**, especially if they participate from home in their familiar surroundings.

A learner with a hearing impairment could write that she preferred the instructions in writing. None of the other learners noticed that. But in the physical classroom, she has experienced being more exposed when she had to express her special needs.

In addition, there are elements in the digital teaching which help those learners who have difficulties expressing themselves and obtaining a response from the teacher. In WhatApp or zoom teaching, the teacher has the opportunity to give the learners more **individual attention** in between the joint activities.

Furthermore, the experts pointed to the possibilities in providing **blended teaching and learning**, thus to combine and meet different didactic needs, especially the need among some learners to unite a social and learning space through the presence in a physical classroom combined with virtual encounters.

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VIDEOBASED PEER PRACTICE AMONG LANGUAGE TEACHERS

The project Erasmus+ project "Videobased Peer Practice among Language Teachers" (V-Pal) initiated 2019-20 a digital platform that aimed to strengthen digital professional sparring between language teachers, including during shutdowns. The idea has been for language teachers to upload short videos on the portal, describing in a brief and precise form examples of practical teaching methodologies and materials that are transferable to other language colleagues.

In practice, this has been done by each teacher carefully reflecting on what he/she wants to convey. A storyboard was then prepared, allowing teachers to follow a common and uniform template for the video. The template includes a section describing the target group of learners and a section where the teacher facilitates the methodology to a group of learners. In addition, there are attention points in relation to the concrete application[23].

One of the key conclusions from the project is precisely that V-Pal does not need to limit itself to language teaching. The methodology can certainly be applied to other types of adult education - as well as teaching contexts including children and youth.

In summary, it can be stated that digital teaching and learning methods and tools can be used in a purely instrumental way, complementing the traditional methods with online-based exercises only. But digital teaching and learning methodologies can also open doors to new educational settings, where the digital technologies help to define the pedagogical-didactic approach itself. The latter approach is at the heart of digital pedagogy.

4.6.2 TRANSVERSAL COMPETENCES TO SUPPORT DIGITAL EDUCATIONAL SETTINGS

Differentiating teaching is a pedagogical-didactic approach which is also relevant for digital teaching. Differentiation may even be easier in digital teaching, where the teacher has the opportunity to switch between individual instructions and group instructions, etc. Generally, various types of differentiation and collaborative learning processes are used in adult training and likewise relevant for digital education, for instance:

- In **participant and group differentiation**, the learners work in **level-divided groups**, thus to ensure all learners to be involved in the task solving process. The whole team thereby contributes visibly and successfully to the solution of the joint team task.

- In **depth differentiation**, the learners in a team are given **level-divided tasks** of different degrees of difficulty, thus to make learners at the highest level of compe-

[23] Cf Petersen Anne Charlotte (2021): "Film yourself and strengthen your teaching". A review in "Digital opportunities in Erasmus+", op.cit. The project was based on the Peer Practice methodology, as developed by Nicolai Seest, see the English version: Petersen, Seest, Cone and Heesen: "V-Pal. Videobased Peer Learning among Language Teachers".

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tence collaborate on the most difficult tasks, while learners at a lower level of competence solve tasks of less difficulty together.

- In **breadth differentiation**, learners in the same class receive a different amount of assignments within the same teaching subject, in accordance with their competence levels.

4.6.3 FROM THE EXPERT PERSPECTIVE: UNMET NEEDS AND REQUIREMENTS IN DIGITAL EDUCATIONAL SETTINGS

From the expert point of view, in the Danish context, there is a call for greater clarity and greater dissemination of knowledge about what digital teaching and learning techniques consist of and how they can be used. It also implies a broader understanding of when, how and in which learning contexts they do not work so well. In general a group of teachers still need a thorough presentation and training in temers of digital pedagogy and methodologies Some experts even suggested that in general, there is still a lack of understanding - but also available descriptions – of what the special nature of digital pedagogy consists of.

Other needs and requirements may be development of the use of animation and virtual reality. Furthermore, in language teaching for adults, there is a tendency for the learning materials to be aimed too much at children. More adult-oriented materials are on demand

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5. SUMMARY OF BEST PRACTICE EXPERIENCES IN DIGITAL PEDAGOGY AND TEACHING

5.1 INTRODUCTION

All partner countries have provided examples of best practice in terms of digital methods and tools that have proven suitable for retaining vulnerable adult learners in online education. Some partners have described concrete projects that were based on the development and testing of concrete digital learning methodologies. Other partners referred to a greater extent to relevant approaches and good advice in relation to the implementation of a digital pedagogy in adult education.

A common feature was, however, that the use of the flipped learning and the inverted classroom is well known and to varying extents widespread in all partner countries. But in this connection, it has also been emphasized in some national contributions that flipped learning sometimes works better in face-to-face teaching than in online teaching. Thus, the local experience is that learners value their time with teachers much more in online sessions, by having the opportunity to raise questions directly to the teacher.

The following sections summarize the best practice experiences that primarily emerged via interviews with national experts in digital pedagogy with an insight into the local use of digital resources.

5.2 BEST PRACTICE EXAMPLES FROM GERMANY

The German partner presented three concrete examples of best practice projects, in which the digital pedagogical approach was used to support non-formal educational programmes for migrants or targeting educators in improving their digital competences, among other things within language teaching:

5.2.1 BEST PRACTICE: DIGITAL PRACTICES FOR INCLUSIVE PRACTICES

Digi Practices is an Erasmus+ project with two target groups: (1) trainers of migrants with special needs and (2) migrants with special needs. The goal is to use non-formal training approaches and digital pedagogies in integration & educational programmes to create more inclusive programs. The courses aim to improve digital competences of migrants through an online course that is tailor-made to their needs. A participatory approach based on ICT-methods will enhance their inclusion and thus, encourage a sense of belonging in the local community. This project allows for non-traditional participants to be included in informal ways through features like voice recordings instead

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of traditional writing and reading. This project provides participants with tools they need to integrate into the new community while also acquiring digital skills.

5.2.2 BEST PRACTICE: DIGITISE THAT

Digitise that is a project that targets educators over fifty to improve their digital competences. The goal is to equip educators in this age group with digital skills that they will be able to bring back to their classrooms, and they include skills in resources like google suite, Prezi, Canva, Quizlet, and Loom, to name a few. The skills learned would prepare educators to work with vulnerable populations that have higher dropout rates in adult education. Through implementing these tools, educators would be able to communicate with their students, provide them with feedback in an engaging way, and support the vulnerable students' learning. This practice would be useful in that it would provide already highly experienced teachers with tools to help them better connect with vulnerable students, however, there is the drawback that many vulnerable students also struggle with digital competency, therefore the added digital element to the already challenging learning environment may be overwhelming for this target group.

5.2.3 BEST PRACTICE: CHANGING OF ADULT EDUCATION

The project Changing of adult education -- Internationalization, digitalization and demographic change as a challenge in Europe aims to enhance the teaching practices of educators in the Volkshochschulen. The practice strived to improve the quality of teaching and skills of the educators by having them participate in various workshops where they learned teaching practices. This project was especially helpful for the vulnerable student group because it aimed to support educators that work in second chance, integration and German as a second language classrooms by teaching them how to integrate digital skills into their classrooms. An upside of this project is that it supports educators working directly with the vulnerable students, but one downside is that the outcomes of this practice seems to be a bit vague in that some of the outcomes addressed language proficiency of educators while other outcomes addressed digital literacy.

5.3 BEST PRACTICE EXAMPLES FROM ROMANIA

In terms of good practices, the Romanian partner especially focused on transversal competences and skill to support and improve the use of digital resources such as good planning ability which is actually a pedagogical skill, creativity, time management skills and an appropriate mind set:

5.3.1 GOOD PLANNING ABILITY

A good planning ability will always help teachers identify more easily when and how to use **an app** in online teaching, how to adapt their use to the students digital skill with special attention on 50 + learners or learners from other vulnerable groups, how to

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always have a plan B app or tool prepared in case the planned one doesn't work as expected and so on.

5.3.2 CREATIVITY

Also, **creativity**, in the same way , as in face to face classes, helped teachers adapt the available digital resources and their use according to the learners needs or level of interest and a lot of them say they had to be creative and change things during the lesson.

5.3.3 THE RIGHT MINDSET

Last but not least, the conclusion was that having the right mindset focused on constantly improving digital skills and use of online tools contributed a great deal towards the good integration of the digital tools in their teaching. They understood that it important not only to show and explain the student how to use these digital tools but also to be **facilitator** and sometime leave the students be in control and that requires the teacher / facilitator to be confident with the use of online apps and tools so they could easily navigate, change settings and roles in the app they are working in.

5.3.4 PROFESSIONAL ENGAGEMENT TO MOTIVATE LEARNERS

Other skills the Romanian experts have identified as being important in maintaining educational motivation and engaging vulnerable students are good communication skills, and the ability to listen carefully and actively to their needs so teachers know better how to encourage or use different relaxation techniques in order to ease vulnerable students anxiety, or using humour for example or showing personal vulnerability as teachers. All these create a more humanistic approach in a class that is facilitated in an online digital environment.
In order to be successful, the teachers discovered that the learners are a great resource for developing new digital skills and a good opportunity to start to learn new applications transforming student's technological skills in a new teaching method and content or in creating new digital content. This last part can also be translated into professional engagement and motivation for the 5 expert teachers.

5.4 BEST PRACTICE EXAMPLES FROM POLAND

Similar to the Romanian good practice experiences, the Polish partner also highlighted a number of transversal competences as important supportive elements. Again, it is argued that class management skills play an important role, even if it is not directly a matter of digital competence.
However, at the same time, the Polish experts strongly underlined that **digital literacy** basicly is much more important skill than any pedagogical skill. From a good practice perspective, digital literacy allows teachers to effectively look for relevant digital materials and qualify teachers to create their own materials and exercises as well.

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5.4.1 CLASS MANAGEMENT TO ENGAGE LEARNERS

Beside technical skills some soft skills were listed as well, but most of the educators indicated that in their opinion soft skills wasn't as important in online classes as in traditional classes. Class management have been mentioned most consistently among interviewed teachers, the skill of keeping all of the participants engaged and interested, to stay in the class time frames so each point can be evenly emphasized, and be delivered in proper form. Other skill worth mentioning was creativity, as with help of the materials found online, allows teachers to invent their own way of teaching and to adjust their teaching program to the needs of specific learners.

5.4.2 PRESENTATION SKILLS TO RAISE MOTIVATION

Keeping learners' motivation and engagement seems to be the biggest struggle for educators. While using technology it is easy to be distracted or to lose focus. It's hard to avoid that and there is no direct strategy to deal with it. Although the teachers emphasized the importance of presentation skills. If the presentation is engaging, have a lot of interesting information and is delivered in accessible way, the learners motivation seems to be increased. Keeping the communication going is another important aspect. To ask question and to allow other to ask them and encourage to do it have a great impact on student's attention. Also gaining feedback from learners is important, because not only it is used to adjust the class in terms of what is and what is not interesting but also it gives them a feeling that they are contributing to how the class look like.

5.5 BEST PRACTICE EXAMPLES FROM LITHUANIA

The Lithuanian partner likewise concluded that the most important skill for today's teachers and trainers is **digital literacy**. Nowadays that skill stands above all others and can be a crucial part of the job as the pandemic times had shown. Basic skills are using Word to create documents, Visual presentation Prezi, Power Point, Canva designing graphics, presentation, creation assessment, online quizzes.

5.5.1 BEST PRACTICE: FLIPPED STUDIO "SUCCESSFUL INNOVATOR"

Flipped studio "Successful innovator" is an Erasmus+ project with two main target groups: 1) disadvantaged adult learners willing to develop their sense of innovation in order to get employed, become self-employed or volunteers in the creative and cultural sector (CCS); 2) adult educators who could run successfully flipped studio "Successful Innovator" for disadvantaged adult learners.

The main aim of the project is to develop the flipped studio "Successful Innovator" to create learners' awareness about innovation solutions in the CCS during COVID-19, deepen knowledge on five competences and coherent to them skills (culture awareness and expression', entrepreneurship, digital, understanding of main components of innovations in CCS, realising your innovative ideas in CCS) and finally, empower learn-

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ers to become successful innovators in CCS and to be integrated to the society by getting employed, self-employed or become the volunteers in CCS.
The methodology of the training process in the flipped studio “Successful Innovator” is based on the reversed training and flipped learning adapted to the Pandemic situation. It uses NOOCs (Nano Open Online Courses) and allows to organise online self-learning using flipped classroom methodology. For developing the sense of innovation, discussions and reflections in the groups are organised during the workshops facilitated by adult educators, the scenarios for which are developed with the possibility to implement them in ZOOM classrooms.
The NOOCS are presented as the set of short videos using voice over text method, thus making the self-learning process more attractive and easier for learners.
This project provides the learners with the tools helping them to improve their skills and get better integrated into labour market.

5.5.2 BEST PRACTICE: 40 CHALLENGES FOR SKILLED ENTREPRENEURS

This is the Erasmus project, coordinated by University of Cordoba, Spain with the involvement of other partners (one from Lithuania, who have shared this good practice).
The main target group of this project was low-skilled people with a disadvantaged background and with fewer opportunities to learn.

The general objective of this project is to promote the development of the soft skills of entrepreneurs through a self-diagnosis tool and a catalog of 40 adapted and innovative training challenges, along with additional teaching resources and a support and mentoring system for when be necessary.
The project consisted of the development of a tool aimed at people with entrepreneurial concerns with a low level of qualification in the format of mobile application. This tool allows the initial self-diagnosis of soft skills that will be important or decisive for learner’s success as an entrepreneur. Once the test is finished, the application provides an individualized report on the level of development of the entrepreneur's skills and a catalog of resources and experiences for the development and improvement of their skills, called "Challenges". This catalog contains short videos, real experiences, success stories and other resources, optimized for viewing through mobile terminals. The system is completed with additional didactic resources and a support and mentoring system for when the entrepreneurial user deems it necessary.

5.5.3 BEST PRACTICE: NEW PATHWAYS OF YOUTH TO LABOUR MARKET THROUGH LIFESTYLE SELF-EMPLOYMENT –SELF-E

SELF-E project is an Erasmus+ project for two main target groups: youth workers who work with young people with fewer opportunities and young people with fewer opportunities, including NEETs.
The main aim of the project is to promote quality youth work in order to foster self-employment of young people with fewer opportunities, including NEETs.
During the project the training course for youth workers was developed. The pedagogical strategy of this training course was based on the blended learning approach: com-

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bination of traditional and virtual learning via developed e-learning platform as Open educational resources (OERs) with the possibility to perform self-study at convenient time and place. During this course, the youth workers improved their competences of becoming mentors of social mentoring process on lifestyle self-employment (LSE) and effectively organize training of young learners with fewer opportunities. The youth workers were also equiped with the materials helping them to work with young people with fewer opportunities and motivate them to become self-employed by starting lifestyle business. These materials consisted of practical exercises presented in the format of Open educational resources (aimed for deepening learners' knowledge on Life-Style Entrepreneurship) and of the set of video and written success stories of successful lifestyle entrepreneurs, which helped to motivate the learners a lot as they had the possibility to learn from real examples. The whole learning process of young people was organised as social mentoring process based on the blended learning approach: the learners had self-learning sessions for completing the OERs and analyzing the success stories and then they had a possibility to discuss the results during the face-to-face or online mentoring sessions.

5.5.3 BEST PRACTICE: FLIPPED LEARNING

The good practices in terms of flipped learning/inverted classroom or other methodologies to promote autonomous learning process among vulnerable learners, based on digital resources, blended learning etc. could be the following:

- FLIP-IDEAL project supported adult educators to use the flipped learning approach with their learners. During the project the online course for adult educators was developed, which gave them a practical view on how to implement flipped learning with students learning basic skills. Online course was based on adult educators' experiences and case studies using flipped approach, and includes video clips which illustrate both the theoretical and practical context of flipped learning with adult learners.
- During NOVA project the flipped studio "Successful Innovator" to create learners' awareness about innovation solutions in the CCS during COVID-19, deepen knowledge on five competences and coherent to them skills, and finally, empower learners to become successful innovators in CCS and to be integrated to the society by getting employed, self-employed or become the volunteers in CCS. The learners from vulnerable groups learned from developed training materials online at home and then developed the sense of innovation, discussed and reflected on the topic in the groups.

5.6 GOOD PRACTICE FINDINGS FROM DENMARK

The Danish expert teachers pointed to a variety of digital pedagogical-didactic practices by which they can refer to extensive experience from adult education.

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5.6.1 TEACHING AND LEARNING ON ZOOM IN SPECIAL E-CONFERENCE ROOMS

Many educational institutions within the general adult educational sector have established video conference rooms for e-classes. This indicates that teachers are able to carry out teaching and guidance of learners independently of physical attendance or possibly as **blended learning** with a combination of physical and virtual participation. Learners gain access to **virtual whiteboards and "breakout rooms"** with the possibility to combine team teaching, group work and individual mentoring on a virtual basis.

5.6.2 THE LEARNING PLATFORM ITSLEARNING

Itslearning is a learning management system and a virtual learning environment for teachers and learners. Itslearning can be adapted to many different learning objectives, learners´ profiles and learning contexts. The platform provides space for a multitude of educational materials such as videos, jobrelated materials and interactive exercises that can be used flexibly based on the **"learning-on-demand"** principle. It is possible to establish dialogue rooms spaces with virtual facilities in which learners can communicate individually and in groups with the teacher etc. In addition, the platform contains extensive storage functions where learners have access to digital libraries, learning materials, manuals, instructions, exercises etc, provided for both visual, audiovisual and other learning styles.

5.6.3 WHATSAPP AS – THE DIGITAL CHANNEL FOR MANY ADULT LEARNERS

Some experts have particularly highlighted the use of WhatsApp for teaching adult learners. They complement zoom-based teaching facilities with WhatsApp on the specific grounds that many of their learners have roots in Middle Eastern countries, where WhatsApp is a preferred medium. The expert teachers point to the fact that WhatsApp is structured as a conversation thread. Everything is to be found in a **long thread**, in which you can scroll down to what was said last week. Learners who were absent can find corresponding recordings on zoom. This functionality can be challenging for teachers who would prefer to have all materials in one folder with subfolders. However, the experience is that many adult learners **don't like the folder structure**. It can be difficult for them to understand and use the teachers' folder structure. In summery, the expert teachers describe how WhatsApp is used **multimodally**. As an introduction, the teacher presents a still image, possibly a video or a page from a book, perhaps an assignment for the reading-oriented learners. Some learners also need a demonstration video where they can watch the teacher performing the first task. If dyslexic learners are present, the teacher also produces audio files. In addition, the teachers use the **AppWriter** package to support reading and writing exercises in language learning processes. Other experts also referred to **Padlet**.

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5.6.4 APPEN FLASH CARDS

Some experts highlighted the use of linguistic apps, for instance Flash Cards. The main experience is that you achieve the best language learning results among adult learners in employment-oriented language education, when you combine the general employment-oriented Danish education with training of **work- and task-specific vocabulary**.

The linguistic apps have their special strength in this area, as they make possible to introduce a digital **image- and sound-based teaching** tool, giving the learners the opportunity to train precisely the work- and task-specific vocabulary that she/he needs to acquire or maintain employment by training task-specific vocabulary of specific work tools linked to specific work tasks.

5.6.5 VIDEOBASED PEER PRACTICE AMONG LANGUAGE TEACHERS

The project Erasmus+ project "**Videobased Peer Practice among Language Teachers" (V-Pal)** initiated 2019-20 a digital platform that aimed to strengthen digital professional sparring between language teachers, including during shutdowns. The idea has been for language teachers to upload short videos on the portal, describing in a brief and precise form examples of practical teaching methodologies and materials that are transferable to other language colleagues. In practice, this has been done by each teacher carefully reflecting on what he/she wants to convey. A storyboard was then prepared, allowing teachers to follow a common and uniform template for the video. The template includes a section describing the target group of learners and a section where the teacher facilitates the methodology to a group of learners. In addition, there are attention points in relation to the concrete application[24].
One of the key conclusions from the project is precisely that V-Pal does not need to limit itself to language teaching. The methodology can certainly be applied to other types of adult education - as well as teaching contexts including children and youth.

[24] Cf Petersen Anne Charlotte (2021): "Film yourself and strengthen your teaching". A review in "Digital opportunities in Erasmus+", op.cit. The project was based on the Peer Practice methodology, as developed by Nicolai Seest, see the English version: Petersen, Seest, Cone and Heesen: "V-Pal. Videobased Peer Learning among Language Teachers".

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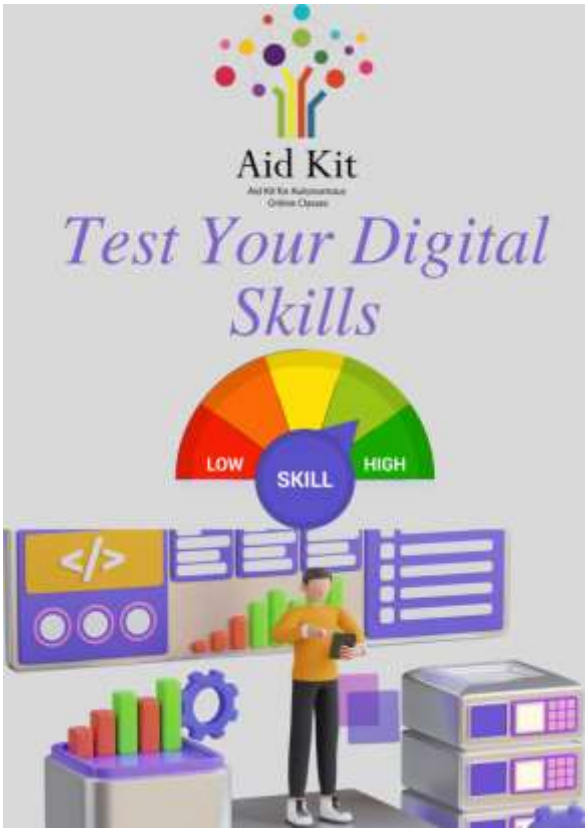
6. TESTING YOUR DIGITAL SKILLS ACCORDING TO THE DigCompEdu FRAMEWORK

The use of digital skills today is one of the conditions for the competitiveness of a trainer. A modern teacher must keep up with the times. He/she must know the various modern technologies, own them, and be able to apply them in practice depending on the goals and objectives of training. Digital competence refers to a set of knowledge, skills and attitudes that allow a person to achieve different life goals through digital technologies. It is extremely important for educators not only to fully exploit the potential of digital technologies but also to develop and improve their teaching capability as well as consequently prepare students for life and work in a digital society. There are several digital skill scales, the most relevant is based on the European Framework of Competences and goes from A1 (Elementary) to C2 (professional).

Now let's first of all test your digital skills level! Click on the picture to start.



You can learn more about the Framework in these two European projects: http://digitalpedagogycookbook.eu/ or just visit our tutorials in Shaping Digital Classes https://shapingdigitalclasses.eu/index.php/outcomes/ or visit the official site at: https://joint-research-centre.ec.europa.eu/digcompedu_en.

Aid Kit

Aid Kit for Autonomous
Online Classes

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