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Analyzing the use of the European Digital Competence Framework in four EU countries and its relevance for low-skilled Women with a migration background

Evaluation report in the project STRENGTH

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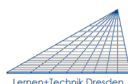Innovation and Participation

STRENGTH

Strengthening inclusion opportunities
for women with a migration background
with digital learning

Evaluation report
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1. General information

1.1 Introduction

The inclusion of women with a migration background with low qualifications into both society and the workforce is becoming an increasingly important challenge within Europe. As the region faces ongoing demographic shifts and growing demands for inclusion, addressing the needs of these women is essential for fostering cohesive, equitable communities. In the coming years, this challenge will not only persist but also likely expand, especially as digitalization transforms the social and economic landscape. Ensuring that women with a migration background, particularly those with limited qualifications, are not left behind is of crucial importance.

One of the key elements in this integration process is the use of digital tools in education and skills development. The project was initiated to address the growing necessity of incorporating digital learning and digital skills development into the training and qualification processes for this target group. This is driven, in part, by the observation made by the OECD that automation and digitalization are reshaping the job market, posing a significant threat to low-skilled workers, who are at higher risk of job displacement (FAZ, 2019).

As new competency frameworks elaborate approaches namely the European Commission's approach "European Framework for the Digital Competence of Educators" (DigCompEdu) authored by Christine Redecker (2017), provides a solid and most recent base for this research.[1]

Despite the critical role, that digitalization is playing in the workforce, women with migration backgrounds, particularly those with low qualifications, often face barriers to engaging with these digital tools. Many perceive digitalization as irrelevant to their lives, perhaps due to limited exposure or a lack of interest, while others may hold perspectives influenced by their country of origin, where traditional gender roles dominate. Beyond basic use of smartphones, they are often disengaged from the broader digital landscape.

Adult education, in today's context, is increasingly dependent on digital teaching and learning methods. However, for women with limited previous education or qualifications, especially those from migrant backgrounds, there is a notable lack of tailored and accessible digital learning resources. These women are at a greater risk of being excluded from educational opportunities, which in turn affects their ability to compete in the labor market. The scarcity of well-developed teaching materials and digital learning tools tailored to their needs also hampers the efforts of educators, trainers, and institutions to provide effective, relevant qualifications. Consequently, this can diminish the credibility of qualification programs offered by educational and migration-focused institutions.

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[1] ↗ https://publications.jrc.ec.europa.eu/repository/bitstream/JRC107466/pdf_digcomedu_ a4_final.pdf

1.2 STRENGTH Project Objectives

To address these challenges, the project is centered on three primary objectives, aimed at improving the digital learning opportunities for low-skilled women with a migration background. First, the project seeks to gain a comprehensive understanding of the current state of digital competence among this target group in partner countries, based on the European Digital Competence Framework (DigCompEdu). This research will provide key insights into the existing gaps and areas for development in digital skills among these women.

Secondly, the project aims to establish clear criteria and guidelines for incorporating digital learning into the qualification process for women with a migration background with low skills. These guidelines will be designed to be practical and applicable in real-world educational settings, ensuring that trainers and educators can implement them effectively.

Third, the project will develop, test, and implement innovative digital learning arrangements specifically tailored to the needs of this target group. These arrangements will be piloted across several partner countries and evaluated for effectiveness, with the goal of creating scalable and adaptable digital learning solutions. Additionally, the project will focus on creating curricula for educators and trainers, equipping them with the tools and knowledge needed to integrate digital learning into their teaching practices. This will be supported through specialized Learning, Teaching, and Training Activities (LTTA) aimed at improving teaching staff's capacity to deliver digital education.

The project is transnational in scope, involving collaboration between four partner countries - Germany, Slovenia, France, and Austria - all of which have significant experience in either researching or delivering qualifications for women with migration backgrounds. Together, these partners will develop and implement digital learning tools, evaluate their effectiveness, and ensure that the curriculum for trainers reflects best practices in digital education for this unique target group.

Ultimately, the project "Strengthening Inclusion Opportunities for Women with a Migration Background through Digital Learning" aims to empower women with a migration background by providing them with the digital skills they need to succeed in an increasingly digital world, while simultaneously equipping educators with the necessary tools to support this transformation. Through this collaborative effort, the project hopes to make a significant contribution to improving inclusion and employment opportunities for women with a migration background across Europe.

1.3 Inclusive language

The authors of the report do intend using inclusive language. Accordingly, the STRENGTH project consortium did concluded about a proposed common terminology for the production of project results, including this research report. This approach was led by the following questions:

- Has there been an agreement on the use of language considering inclusivity and representation (in terms of consistency)?
- As it is the project's aim to support integration and inclusion of women with histories of migration and educational neglect, authors should try to prevent using the same terminology that has been used to exclude our target group.

For further inquiry about single terms usage, authors should be consulted directly.

2. Research Approach

In the context of the STRENGTH project, an analysis of the use of the European Reference Framework for Digital Competences for the group of low-skilled women with a migration background was arranged. To this end, interviews were conducted in the partner countries Austria, France, Germany and Slovenia with teachers of the target group and women with a migration background participating in basic education courses. The national partner institutions carried out the implementation in the individual countries. The Austrian partner institution is Orient Express, in France it is Cap Ulysse, in Germany the Bildungszentrum Lernen+Technik gGmbH and in Slovenia the Institut Ljudska univerza Celje. These institutions were responsible for both data collection and data analysis in the National Report. This report is based on the National Report of the countries, whereby the English versions have now been translated into German. The data is presented and analyzed below. The structure of the report has largely been retained in order to ensure comprehensibility.

2.1 Sample and typical profile of respondents

In Austria, four trainers were each interviewed individually. The focus was limited to people who work in the field of basic education with educationally disadvantaged people with a history of migration. In Austria, basic education is a separate area of support, whereby digital skills should be taught alongside other skills, such as literacy or math skills. Three out of four trainers surveyed teach digital skills as part of their other teaching activities. One of the interviewees, on the other hand, works as a basic educator and was an active trainer for digital skills. All interviewees are women who have many years of experience working with the target group. They work for larger supporting organizations or in small women with a migration background's associations, although the partner institute Orient Express employs none of these women. Only one of the trainers works specifically in a digitalization project. In addition to the teachers, a focus group consisting of four participants in the basic education programme was interviewed within the Orient Express association. None of the people in the focus group had the opportunity to attend school as a child.

In France, only two trainers were interviewed. Both have years of experience working with migrants, but not exclusively with this target group. The interviewees work in either the public or private sector. The trainer who works in the public sector has mainly experience in teaching French as a second language. In contrast, the second teacher has experience as an analyst and developer, as she was previously employed in an IT department. Within this role, training and coaching was offered to professionals in the company. The trainer is currently part of a digital inclusion service and offers his services to a wide range of groups, guiding them through digital topics. Both people know the partner institute Cap Ulysse, but are not in an existing employment relationship with this institution. No information was provided in this section with regard to the focus group surveyed.

Four teachers in Germany were also interviewed individually. The trainers were selected according to the following criteria: Professional experience in adult education, experience in working with migrants or increased support needs, as well as professional cooperation with the partner institute Bildungszentrum Lernen+Technik gGmbH. All of the interviewees have integrated digital skills into their teaching since they started teaching. Three out of four interviewees are involved in a project aimed at women with a migration background. Qualification modules such as "job-related computer education" are offered. In contrast to the other countries, all interviewees in Germany are employed directly by the partner institute of the project. In addition, the focus group, consisting of five participants in the "Strong at work - mothers with a migration background get on board" programme, was interviewed. Compared to the members of the focus groups in the other countries, all participants in Germany attended at least the 9th grade during their childhood.

As in Germany and Austria, four teachers were interviewed in Slovenia who have experience in teaching migrants with a low level of education. Three out of four interviewees are teachers for various language courses. Three out of four interviewed teachers are also involved in a project for the social activation of Albanian-speaking women. The main aim is to provide support in familiarizing them with the culture and public institutions. The profile of the second teacher should be emphasized, as she is also an immigrant in Slovenia and has experienced the inclusion process herself. The focus group consists of six participants in the social activation project for Albanian-speaking women. Four participants in the focus group have completed primary school, one of them has completed secondary school and only one of them has never attended school.

2.2 Research ethics

In terms of research ethics according to European Standards respondents were informed about anonymity, data protection and the opportunity of expressing their interest into the findings. It should be noted that there are not many women with a migration background's associations in the institues where the interview collaborates work - what has been taken into account when presenting the results, especially with regard to critical statements.

For data collection and with the consent of all interviewees, the interviews in Germany and Slovenia were recorded or filmed. In France, not everyone gave his or her consent to the

recording. No comments were made in this regard for Austria, but it can be assumed that all interviewees gave their consent. In addition, the Austrian project members noted that the limited number of women with a migration background's associations in Vienna should be taken into account when analyzing the data. The teachers from Germany and France did not express any interest in the results. In comparison, the Slovenian interviewees enquired about the project results independently, which is why they were informed of the date of the online publication of the results.

2.3 Challenges for the successful implementation of research activities

The implementation in Austria proceeded without any major hurdles, as the organization is well networked and therefore had sufficient interview partners. The members of the partner institute discussed the profile of the interviewees in advance. It was noted that they work for both smaller and larger organizations. A more detailed explanation of why this was discussed in advance is not available in the data. In connection with the focus group, reference was made to language skills. All participants spoke Dari, which is why an Orient Express employee provided interpreting services in their native language. Also due to language barriers, an interpreter was required for the target group in France, who had to translate the questions into three languages.

The Slovenian project staff noted that it was difficult to define a common term between the teachers due to the nature of their work. However, they did not specify which term was involved or in which context agreement was necessary. Again, due to a lack of knowledge of the Slovenian language, an interpreter was needed for the focus group.

The German project members were the only country that did not require an interpreter for the focus group, as all participants had at least A2 language level. As sufficient dialogue partners were available, the implementation in Germany proceeded without any further incidents.

2.4 Specific relevance for the STRENGTH project and the STRENGTH institution

A basic education curriculum has been in force in Austria since 2019, which is based on the Austrian adaptation of the European Digital Competences Framework. It is worth noting that many trainers have criticized that these requirements are too ambitious with regard to basic education.

Based on the content of the project and the findings from the research activities, the Slovenian employees noted that the participants had very little experience with digital devices. Equally, little knowledge was mentioned in connection with computer programs. Similarly, the German project staff also described these findings. The interview partners in Slovenia and Germany have not received any specific training or further training in the field of digital skills or media. However, teachers in both countries expressed an interest and desire to participate in additional training in the teaching of digital competences and to strengthen their skills.

The French project staff did not answer the question relating to this topic, as they were unclear about the meaning of the question.

3. Method

3.1 Research design and sample

In order to increase the scientific validity, it is crucial to elaborate basic characteristics of the research design (methodology) implemented just briefly:

1. **How was the sample drawn?** The sample has been developed systematically alongside the cross-national cooperation, covering all four European partners, i.e. with respondents from the very target group under the care of all four institutes. This approach should first cover the variety of different perspectives in a balanced way. Furthermore, it should be representative for the 'typical' client of those stakeholders. Due to that, there was no specific pre-conditions of the participants defined (like age, mother tongue, previous education or even family status). As well, stakeholders did not purposely exclude selected clients from being interviewed. In that consideration, one may speak of a systematically selected convenience sample according to specific criterion of a migration background.
2. **What methods for data collection were developed?** The study did implement a questionnaire and interviews. The data collection has been based on jointly develop structured interview material wherefore questions have been harmonized first in an English language sheet and afterwards translated into national languages of stakeholders in DE, SL, FR and AU. Partly further translation has been used during oral communications where as needed in order to survey the respondents. In order to increase comprehensibility, the interview guide with its specific items can be concluded from the research data reported in subsequent chapters in due order.
3. **Which analysis method was used to systematically classify the data and generate categories?** There has been no further approach applied to systematically classify the data and generate categories. Indeed, categories presented in the data section were predefined in the survey already but no more added during the process. Nevertheless, the analysis has been carried out on a country-specific basis alongside the standardized, predefined data structure. These data analysis has partly completed in the national languages of the partners and only translated into English for all stakeholders in this report. Only in a next step, selected major findings were compiled across countries in order to provide an overarching, trans-European perspective.

3.2 Description of data collection procedures and design of documentation in the research report

The Austrian versions are described first. The interviews in Austria were conducted either on the premises of the learning center or at a selected location of the person to be interviewed. All interviews with the trainers were recorded and no major challenges were

encountered. The interactive questions regarding the areas of application of the digital competence framework in the classroom were photographed. However, the photo data will only be analyzed in the third chapter of the report.

A STRENGTH project employee conducted the interviews and worked out the codes and categories from the collected material. It was noted that the data collected using the questionnaire allows statements to be made about the use of digital skills in the classroom by educationally disadvantaged women. It was also noted that more attention should be paid to the interviews with the trainers, as the hurdles of their own teaching were addressed. Furthermore, the data contains a subjective assessment of the teachers interviewed about working with the digital skills framework within their own teaching for the target group. The focus of the interviews was on the integration of digital competences in their own teaching, as attitudes and personal resistance strongly influence the topic. For this reason, the project team dedicated a separate paragraph to this topic, which will be discussed later.

Next, the situation in France is analyzed in more detail. The focus group was interviewed in person, with three employees present. One person translated into Arabic when necessary, one took notes and the last was responsible for conducting the interview. Finally, two of the people present carried out the translation into English in parallel. In the data, it was noted once those two interviewers were present, but later three interviewers or helpers were mentioned. These discrepancies can be traced back to the brief notes in the National Report. As a result, it is not possible to state exactly how many people were involved in conducting the focus group interviews. In contrast to the face-to-face interviews, the interviews via Zoom were recorded, as only one interviewer was present. Following the online interviews, the recordings were transcribed without an app. The same person who took part in all the interviews processed the data.

Due to the coronavirus pandemic, all interviews with teachers in Germany were conducted and recorded via Zoom. The transcription was carried out with Word and Microsoft 365 by the project partner at the Technical University of Dresden. The interactive questions were conducted via a concept board and answered by the trainers. As a result, the results were saved using screenshots. As in France and Austria, the focus group was interviewed face-to-face, which is why no recording was made. A questionnaire was handed out to the women during the course of the survey, which was completed with the support of the interviewer. The interviewer himself is a STRENGTH project employee and created both the codes and the categories from the material.

Finally, the procedure in Slovenia is now explained in more detail. Here, too, the interviews with the teachers took place via Zoom, with two employees present. One of them conducted the interviews, while the other provided technical support and the recordings. The video material lasted approximately one hour and was then transcribed in Word using Microsoft Office 365. The transcript was then corrected and edited. After revision, the codes were identified and categorized appropriately. As in the other countries, the focus group was interviewed in person. One member of staff led the discussion and a second made

recordings using a mobile phone. Based on the half-hour video material, both project members wrote a focus group report and jointly created the code fixation.

4. Data

4.1 Original interview data

As in the previous chapters, the data is described individually by country. The project team from Austria did not list the data collectively in this section, but allocated the data to the individual subsections. As a result, only information on the digital competences acquired by Austrian teachers during their training will be discussed. In this context, it is pointed out that the motivation and competences of the teachers have an influence on the success of the participants. The first teacher describes that her training took place 15 years ago and that the necessary digital skills have changed considerably. In this context, the second instructor also expresses the need to invest in the training of course instructors. She sees one of the biggest challenges in the resistance of many teachers, who may not want to admit to deficits in the area of digitalization. Furthermore, the precarious financial resources of the education sector make it difficult to further develop skills, for example due to outdated technology. The third interviewee also sees a need for training for trainers, although she describes the programme as capable of being expanded. Nevertheless, she explains that there are also trainers who invest a lot of private time in this area out of personal interest. These teachers with an interest in technology therefore have less catching up to do than others. Finally, the third teacher emphasizes how important it is to trust the course participants in order to try out new things and learn together with them.

In contrast to the other countries, the Orient Express project team asked teachers directly about the use of the digital competence framework in their lessons. For this purpose, individual sub-topics were assigned to the categories and the interviewees were asked to indicate whether they frequently, sometimes or never integrate the topics into their lessons. All four interviewees frequently integrate levels 0, 1, 2 and 5 from the competency framework into their lessons. All teachers mentioned the following tasks: operating digital devices, using digital technologies to share and collaborate on data and information, researching, searching and filtering data, information and digital content, and solving technical problems. The programming and automation of processes alone was never incorporated into the courses by any of the trainers.

As in Austria, the French project members did not use the intended structure for data annotation. Therefore, the comments from the summary of the appendix from France are now explained. Both teachers combine theory and practice in their teaching methods. It is obvious that a top-down method was used, as many participants had not previously learnt how to learn. As a result, the focus of the lessons is on learning the ability to learn and, at the same time, establishing a connection to digital tools. Apart from the use of smartphones, the course participants have had no previous contact with digital devices. Regular tests are carried out to check the learning success of the participants.

One of the two trainers already works with the digital competence framework, whereas the second is unaware of its existence. The first teacher utilizes digital technologies and uses tools such as Google Drive, Zoom, online educational videos and Power Point presentations for training. The second offers training courses that are customized to the needs of the learners. One offer includes, for example, a one-week standard training course to acquire a minimum level of digital background knowledge. This course lasts approximately 30 hours and includes modules on digital culture, IT and security, digital tools and management tips. It also includes a pedagogical component with teacher training. Participants should then be able to support people with reading difficulties or illiteracy in digital skills. In addition, the second teacher is working on a project that provides basic digital training for homeless people or refugees, for example. This 3-year project aims to teach around 3000 people. Ultimately, digital skills are an integral part of what both teachers offer.

In addition, the project staff recorded knowledge about a standardized curriculum for digital skills. There is a national training programme designed to teach basic digital skills. Once this training has been completed, certificates of course participation are awarded. Part of the national recovery programme is a three-month training course to become a digital mediator. Government funding covers the recruitment of 4,000 people with a salary for two years. There is also an 18-month training programme to become a mediator, which takes place in parallel with work. This training programme trains participants to become coaches in order to hold initiatives and coaching sessions to support digital inclusion.

Finally, comments from the interviewed trainers from France are presented. The comments are probably a rough summary, whereby no distinction can be made between the statements of the individual teachers. They state that there is a lack of autonomy and a reading base among the participants. Illiteracy significantly impairs digital learning, as reading is a basic prerequisite for using digital technologies. This creates a digital divide, which is exacerbated by the lack of autonomy to learn independently with digital technology. Online language courses, which cannot do justice to the shared experience of a language, such as gestures, role-playing and real-life situations, are also described as problematic. One of the teachers is against a digital teaching system and favors a hybrid implementation. The human element of the teacher in the classroom is of fundamental importance, even in adult education. Furthermore, older people in particular are the furthest removed from the digital world. The social dimension is often disregarded insofar as digitalization creates a social divide. Accordingly, both teachers argue that projects should always integrate a social and human aspect in order to focus on the end user. Project managers who have no contact with the people affected are a hurdle in this realization. This is because only the perception of differences in experience, reactions and interactions to or with digital technologies makes it possible to adapt to the user. Repeatedly, the trainers' comments make it clear that users, in this case the course participants, must be placed at the center of all digital projects.

The data from Slovenia is analyzed in more detail below. Three out of four teachers use digital methods in their lessons. The methodological implementation is similar for all three respondents. The units are usually accompanied by a PowerPoint presentation. In addition,

presentations of web applications such as YouTube, Google translators, the online weather report or timetable overviews are also incorporated. All participants should be encouraged to be as independent as possible in their use of digital applications. Digital competences are not included in the curriculum and none of the respondents is familiar with the European competence framework. At present, digital literacy is only included as an additional module in the curricula. It should be noted that digital literacy is not a prerequisite for inclusion in formal education. The teachers interviewed cited finances, status and place of origin as characteristics that influence the digital skills of the participants. They also report that the participants have no learning goals and are sometimes unaware of their existence.

Teachers acquire digital skills independently and this is justified by the nature of their work. The participants, on the other hand, frequently use smartphones but are not familiar with using a computer. Nevertheless, the focus group's smartphone applications are limited to familiar communication channels.

Finally, the teachers listed suggestions for decision-makers. Accordingly, individual groups should be analyzed first. Furthermore, the design of the programme should be tailored to the needs and abilities of the target group. In addition, the trainers would like to see a compulsory subject in primary schools that includes digital skills. Finally, closer cooperation between decision-makers and education providers is proposed in order to align interests.

Finally, the data from Germany will now be presented. All of the teachers interviewed had been working in adult education for at least five years. All teachers within the classroom actively used digital media. During the restrictions imposed by the coronavirus pandemic, teaching units were held entirely digitally. Even when the pandemic measures were eased or lifted, at least one hybrid format was maintained. As in Slovenia, encouraging course participants to use digital media independently is key. Examples of use include searching for information via the internet or analyzing and managing content using Microsoft Office Software. In contrast to the Slovenian project, the "Strong at work - mothers with a migration background join the workforce" programme specifically includes digital skills in the curriculum. As a result, all teachers stated that digital competences are part of their courses in the module "job-related computer training". As part of this module, digital media and devices are used for research, evaluation, evaluation of information and data, as well as for communication. Because of the coronavirus pandemic, the netiquette of digital means of communication was also discussed with the participants. Ultimately, it can therefore be stated that all teachers surveyed integrate both into ongoing lessons and within the additional module digital skills. The digital skills to be taught to course participants are therefore in the first and second levels of the European Framework of Reference for Languages.

As in Slovenia, the interviewees had not completed any teacher training. All of them stated that they had acquired digital skills during their studies, but that they had developed them further on their own initiative. Like the interviewed teachers from Slovenia, the expansion of digital skills was justified by the nature of the work. In Germany, there are no standardized curricula for digital skills. However, there are training courses on various digital skills topics.

At least all teachers interviewed in Germany stated that they are familiar with the European Framework of Reference.

The following section describes the characteristics and special features of the German target group that were identified by the teachers interviewed. Firstly, all teachers stated that the course participants are very heterogeneous and are at different starting levels. According to the instructors, women's digital skills are influenced by age, place of origin, level of education, status and financial resources. One of the teachers suspects that women from Eastern Europe and South America tend to have better digital skills than women from Africa or the Middle East. She partly justifies this assumption with the differences in language skills between women. According to three of the teachers interviewed, it is important for development whether the learners have already had access to digital devices and media in their country of origin and whether they have already worked with them. However, all teachers pointed out that it is necessary for the majority of course participants to translate their previous knowledge of using digital media into German. This includes applications such as researching, analyzing and filtering information from the native language. As in the other countries, no prior knowledge is necessary or relevant for participation in the course.

All course participants in the focus group have their own smartphone and 80% own a laptop or tablet, although this has to be shared with other family members. Within the course, each participant is given his or her own PC.

Just like the Slovenian teachers, the interviewees in Germany also formulated suggestions for decision-makers. According to one of the teachers, digital skills are very important for people with a migrant background, as they first have to orientate themselves after arriving in Germany. As a result, they have to do a lot of research and need information to find their way around, which means they are in a constant learning process. This process can be facilitated and accelerated by digital skills. In addition, women with a migration background are role models for their children to teach them digital skills. Finally, during the pandemic, children also needed the support of their parents to successfully participate in online schooling. All of the teachers surveyed would like to see courses to strengthen the digital skills of women with a migration background offered and expanded. In this regard, one teacher expressed the desire for a standardized curriculum for digital skills, as in Austria.

4.2 Categories and codes

As is well known, qualitatively collected data is coded in order to bring similarities and differences between different categories into relation with each other. Accordingly, the respective partner institutes of the countries created the categories for the national data. To make it easier to understand the coding, these were presented in a table for each country. Each table therefore contains two columns with the categories for the teachers and for the focus group.

Teachers - Austria	Focus group - Austria
Trainer:	**Target group:**
• Transfer services for the authorities	• Learning environment at home
• Digitalization of the trainer	• Fine motor skills
• Training of the trainer	• Prior knowledge of the learner
• Private time resources of the trainer	• Education of the learner
• Convinced learners through trainers	• Learning objectives (digital competences)
Curriculum and DigCompEdu:	**Concept and framework of the courses:**
• Practicality of the DigCompEdu	• Basic training and accompanying programme
• Importance of digital competences in the course/learner/trainer (mindset)	• Interweaving of competences
• General awareness of the DigCompEdu	• Key students/trainers
• Target group of the curriculum/digital skills in basic education	• Basic education (German as a second language)
• Curriculum not suitable for all target groups	• Digital methods
• digital content	• Diversity/internal differentiation in the course
• Curriculum for basic education	• Scope of digital skills in the degree programme
• Levels of digital skills in the basic education curriculum	• Online lessons
	• Combination course online/in person
Methods and teaching content:	
• Offers for individual correction	
• Everyday content	
• Specific digital content in the course	
• Changes in digital content over the last few years	
• Adaptation to the time resources of the participants	
• Interweaving of competences	
• Tools	
• Small steps (step by step)	
• Multilingualism	
• Clear structure in the course	
• Participation as a learning strategy	

Teachers - Austria	Focus group - Austria

Technical equipment and resources of the institutes and participants:

- Maintenance of equipment and resources for participants
- Lack of technical/financial resources of the learners
- Resources of the institution
- Digital devices of the learners
- Technical equipment in the course

Digital society:

- Transfer services for the authorities
- Digital competences
- Changes in digital content in recent years
- Digital education
- Covid-19 pandemic and digitalism
- Digitalization of everyday life e.g. municipal and general administration
- Importance of digital expertise

Psychological barriers:

- Sensitizing learners to the importance of digital competence
- Learners lack the motivation for digital skills
- Resistance (learners/trainers)
- Digitalism and stress
- Shame

Development potential (What is needed?):

- Material suitable for adults
- Multilingualism
- Participation as a learning strategy
- Tools
- Technical equipment
- Time resources
- Participant-orientation of the curriculum, search for the right course level and material

Teachers - Austria	Focus group - Austria

Teachers - France	Focus group - France
Audience: • Large, diverse audience, heterogeneous group • Young adults and adults • Specialists and agents • Learners have no contact with digital tools	• Education of the learners • Prior knowledge of the learners • Digital devices and use • Everyday use of digital devices • Difficulties using their digital devices • Learning objectives • Online work
Training goals: • Basic training for people who are the furthest removed from digitalization technology • Support with digital topics/issues • Acquisition of digital skills • Teaching French as a foreign language (FLE) • Customized training courses/various training opportunities • Social and professional inclusion • Digital training of skilled workers/training of skilled workers as trainers	
Training and teaching methods: • Theory and practice • Emphasis on the practical side • Regular tests • Digital consultants offer professional training for agents • Top-down method	
Technical equipment and resources of the institute and the participants: • Smartphones • Digital boards • Digital resource Centre • Material resources of the institute (computers, 3D printers, I-Pads, tablets) • Digital counsellors/mediators/trainers	
Internet use by participants and trainers during lessons: • Online exercises • Research (research, information search) • Mobile tools and applications (Zoom, WhatsApp, translator, GPS, PowerPoint, • e-mail, administrative tasks, presentations)	
Teachers - France	**Focus group - France**

Teachers - France	Focus group - France

COVID-19 and technologies for trainers:

- Video conferencing tools: Zoom, Teams, Drive, apps for language learning
- MOOC

Difficulties in learning digital skills and obstacles to the full digitalization of language courses:

- Illiteracy
- Lack of a reading base
- Lack of autonomy, no autonomous learner
- Lack of material (cannot work remotely)
- Digital divide
- Language courses are about exchange and socialization shared through language
- Teacher/human element in teaching is important
- Rapid developments

Measures for the digital inclusion of adults:

- Focus on training specialists in order to better support the general public
- Mouldable training courses
- Cultural and social measures
- Initiatives to involve the public
- Digital space that offers training and coaching
- Integrate digital courses into programs

Reducing the social divide through digitalization:

- Focus on end users
- Considering social and human aspects in projects
- Knowledge of the needs of the public concerned
- Training laboratories
- Interaction with target group using tools
- UX/UI interns: Customization of tools for users
- Accessibility of the instruments
- Putting users at the center of projects
- Update programs regularly

Teachers - Germany	Focus group - Germany
Experience in adult education: - Range - Years of service	- School education for learners - Prior knowledge of the learners - Digital devices and use - Everyday use of digital devices - Difficulties using their digital devices - Learning objectives - Online work
Use of digital methods: - Forms of learning during COVID-19 - Video conferencing tools - Research, information search - Analyzing and managing information and content - Microsoft Office programs	
Training as a trainer: - No training completed - Developed independently	
Standardized curricula: - No standardized curricula - Further education/training	
Knowledge of DigCompEdu: General awareness	
Part of the lesson: - Digital learning support - Achieving digital competences - Digital content - Netiquette of digital communication tools - Integrated into current teaching activities and an additional module	
Levels of digital competences: Area 1 and 2 of the European reference framework	
Devices of the participants: - Smartphones - Computers in the course	

Teachers - Germany	Focus group - Germany

Teachers - Germany	Focus group - Germany
Prior knowledge and specific characteristics of the learners: • Heterogeneous/different starting levels • Dependence on age, place of origin, level of education, status and financial means • Access to digital devices and media in the country of origin	
Learning objectives of the course participants: • Microsoft Office programs • Language	
Suggestions for decision-makers: • Digital learning support • Standardized curriculum for digital skills	

Teachers - Slovenia	Focus group - Slovenia
Work: • Field • Years of service (working years)	• IZOBRAZBA UDELEŽENK • DIGITALE PREDHODNO ZNANJE • DIGITALNE NAPRAVE UDELEŽENCEV • UPORABA DIGITALNIH NAPRAV • IZZIVI PRI UPORABI DIGITALNIH NAPRAV • UČNI CILJI • POUK NA DALJAVO • NAPREDEK DIGITALNIH VEŠČIN
Use of digital methods: • Web applications • Websites	**Translation:** • Educational qualifications of the participants • Previous digital knowledge • Digital devices of the participants • Use of digital devices • Challenges in the use of digital devices • Learning objectives • Distance learning • Promotion of digital skills

Teachers - Slovenia	Focus group - Slovenia

Digital competences:
- Support for digital learning
- Teaching digital skills
- Forms of learning
- Skills and knowledge of the participants
- Teachers' skills and knowledge
- Standardized curricula
- Knowledge about DigCompEdu
- Learning objectives of the participants

Basic digital education:
- Learning objectives
- Additional module
- Contents

Digital devices of the participants:
- Smartphone
- Computer

Prior knowledge of digital skills:
- Use of various applications
- Video calls
- Use of social media
- Conditions for registering for the courses

Specific characteristics of the participants:
- Financial situation
- Age
- Education
- Origin
- Partnerships
- Culture

Digital future:
- Teaching counselling for decision-makers

5. Cross-sectional results of the interviewees

5.1 Educational level of respondents

In Germany and Austria, the teachers interviewed were not asked about their personal level of education. However, it is assumed in both countries that most of them have a higher level of education. For France and Slovenia, no notes could be found on the educational levels of the interviewees. In the French focus group, only one participant had a university degree. The majority, however, had a basic education, although further schooling was prevented during childhood and adolescence. Only one woman in the French focus group did not attend school as a child. In Slovenia, one participant did not attend primary school, whereas four of the six participants completed primary school. Only one course participant from Slovenia attended secondary school. As previously mentioned, all of the women in the German focus group attended at least 9th grade. A special feature of the Austrian focus group is that none of the women went to school.

In the third chapter, it was already mentioned that the Orient Express project team assigned the data to the individual subsections. For this reason, only supplementary information is now listed for Austria. Three out of four respondents described the participant groups as very heterogeneous in terms of their previous digital knowledge. Most participants now own a smartphone. Some have hardly any prior knowledge, while others pass on tips to the teacher for social media. While several have an email account, the beginners are initially concerned with explaining the purpose of a messenger service.

The second interviewee stated that experience is generally required to orientate oneself on the screen. The hand movements for operating a smartphone also need to be learnt. The second teacher works exclusively in basic digital education and emphasizes that it is important to build on the participants' previous knowledge. She believes that with this strategy alone, the different knowledge can be used to fill the individual gaps. The third interviewee also emphasizes the heterogeneity of prior knowledge. However, she also considers the age of the participants, because the wide age range of women poses additional challenges, as some older participants lack an understanding of why certain skills still need to be learnt. In addition, the third teacher also suspects that the skills depend on the country of origin and whether they come from rural or urban areas. She emphasizes once again that there are two extremes that meet in the courses and that even some of the participants could teach others.

The last teacher works for a larger organization and reports very different experiences. She says that the participants in her courses, who are mainly responsible for childcare, have virtually no previous virtual knowledge. Hardly any of these women have ever written an email on their own before. The participants were also unable to save a telephone number and had hardly any other prior digital knowledge.

Finally, the partner institute Orient Express made an interpretation. It states that the different experience reports can be attributed to the heterogeneous groups. Accordingly, there is disagreement about what falls under the category of basic knowledge. For example,

orientation on the screen or recognizing some symbols are not included as skills in the EU framework.

5.2 Information on the socio-economic status of respondents in their home country

With regard to the target group of basic education participants, the Orient Express noted that educationally disadvantaged people naturally have a low socio-economic status. Accordingly, no information about this was requested in Austria, Germany and Slovenia. The project members from Austria also pointed out that many learners have a longer history of migration, having fled from Afghanistan to Iran as children, for example. Due to the deterioration of the economic situation in their countries, the staff in Germany and Slovenia assume that the participants are economic migrants. The project members from France did not record any relevant information in this regard.

5.3 Other information that appears relevant based on the profile

All of the women participating in the focus groups from Germany and France are between the ages of 20 and 50. Many of them are married and or have children. In Slovenia, the entirety of the focus group is married and has children, with the majority of women coming from rural areas. The interviewed trainers from Germany are all women between the ages of 30 and 65. Many of them are also married and or have children. In addition, it was noted for Germany that the teachers had learnt digital skills as part of their studies or training. Further development of these skills, on the other hand, took place on their own initiative. For Austria, only information on the target group of teachers was recorded. Three out of four respondents work in institutions for women with a migration background. In these centers, decisions tend to be made from the perspective of their resources rather than their deficits. Most of the teachers are trained in basic education or language courses. Digital skills are included in basic education, but these only make up a small part alongside numeracy, language and learning skills. In addition, it was noted that many teachers do not have comprehensive digital skills or that this is highly dependent on personal interest.

5.4 Personal barriers prevent education

In contrast to the other countries, in Austria no personal barriers were named in connection with the learners, but rather structural barriers such as educational disadvantage, racism, war and violence. These barriers are very complex and individual, but they have a strong impact on the personal education of the participants. For this reason, detailed explanations of the views of the Austrian teachers surveyed now follow.

The third teacher interviewed commented that it is not just about digitalization, but also mainly about language. In her work with educationally disadvantaged refugee women, the third instructor has often observed learning difficulties in relation to memory. She describes how traumatic experiences disrupt the various brain structures, making learning processes more difficult. She further explains that this is due to a natural protective reflex of the body and thus explains the negative effects on further development.

The second trainer interviewed also described that she teaches women who have experienced stress due to traumatic experiences. With regard to digital skills, she explains that when there are several digital devices in a room, the participants' stress production increases noticeably. The participants' fear of breaking something was discussed several times in the interview with the trainers. This fear is attributed either to a lack of self-confidence or to gender-specific stereotypes. The third interviewee also believes that learners have a fearful interest in digital topics. In addition, the second teacher describes that some women do not believe them when they say that they have good prior knowledge. This is partly because the topic of digitalization is highly mystified.

The fourth trainer does not see any gender-specific differences in digital skills between people with and without a school education. However, she believes that men are statistically more likely to have been at school for a few years. She also believes that it is common for women to only receive the smartphones that men have discarded. The age of the participants is emphasized as a further social factor in all interviews with the trainers. The first female trainer said: "The younger you are, the faster you learn."

On the part of the teachers, personal disinterest is cited as a barrier, which could be the reason for a lack of commitment. At the same time, however, structural factors also come into focus here, as basic education is not a well-paid area with few resources. In addition, it is described as a very precarious field of work in the informal education system in Austria.

Apart from the structural barriers, the respondents from France, Germany and Slovenia mostly listed similar personal barriers. The German and French teachers first mentioned the lack of time due to childcare. In addition, the French teachers explained the lack of time due to responsibility for administrative tasks, other courses and work. They also all described the lack of autonomy as problematic, as it makes it difficult for participants to work and learn independently. In addition, the French and German interviewees again mentioned that not every participant has a computer or laptop at their disposal. Nevertheless, the women rarely use their smartphones for educational purposes, which means that the barrier remains.

In addition, cultural and religious differences, a lack of or incorrect information, financial dependence on the husband and a lack of self-confidence in Germany and Slovenia were cited as barriers to education. It seems astonishing that in this section, only the Slovenian teachers addressed the participants' lack of motivation as a personal barrier.

5.5 Family ties

As previously mentioned most of the women in the focus groups from all countries are married and have children. Regardless of whether their extended family lives in the same country or in their home country, women with a migration background from all countries are usually in contact with them. Finally, the women with a migration background from Slovenia and Germany also say that they support their family members in their home country financially. The Slovenian women with a migration background also report that they regularly visit their home country during the holidays.

In Austria, the focus group was not asked for specific information on this topic. Based on many years of experience with the target group, the project staff describe that most course participants are mainly responsible for the household and raising children. Accordingly, childcare in particular has a strong impact on the women's learning process, as they had to study from home during the lockdown. One trainer reported that she had adapted to the participants' schedules. As a result, Padlet was perceived as a good opportunity to work with the course participants, as they were able to practice individually throughout the day.

6. Transversal findings on the organizational and institutional context

6.1 Organizational and institutional structures of education

In this context, the project members from France and Slovenia only drew attention to their national programs. The French BLIGGS programme is aimed at learning French as a second language and acquiring basic digital skills. In this respect, it was added that social workers could help to find work, leisure activities, language courses or other training courses. In Slovenia, reference was made to the implementation of a ZIP programme, which serves the initial inclusion of immigrants. It also includes free offers for language learning assistance and further educational and career counselling. The interviews with the German focus group did not concentrate on the structures in the home countries. However, it was noted that, from a global perspective, the participants have poorer educational opportunities. This is because many of the women come from war zones, where educational opportunities are naturally limited. In Germany, too, digital services are only available to the target group to a limited extent. In addition, the restrictions of the coronavirus pandemic have shown that these groups of people also need to be qualified for digital life.

As in Germany, the Austrian employees noted that the structures of the home countries were not addressed in the surveys. The global perspective of poorer educational opportunities for women with a migration background was also pointed out. In the interviews, the focus was on the system of non-formal basic education in Austria, as well as on language and integration courses for educationally disadvantaged women with a history of migration. As mentioned, basic education in Austria is an independent education sector and is based on the principle of participant-centeredness of non-formal education. As a result, trainers take into account the goals and interests of the participants instead of relying on predefined learning materials. The first trainer interviewed said that she decides on the topics together with the participants. In connection with the standardized curriculum for basic education, the teachers describe the requirements as very ambitious. As some basic skills are already a challenge for many of the women. Furthermore, it cannot be assumed that the learning objectives of women with a migration background are in line with the requirements of basic education. This is because the digitalization of everyday life plays the most important role in this target group.

Finally, the trainers have different perspectives when it comes to linking digital skills with other course content. The first trainer says that she used to be in favor of a separate module. Today, however, she is in favors of linking it with other content. She justifies this with the fact that most course participants now have a smartphone, which makes the work easier. In contrast, the second teacher is in favors of a separate module, but also emphasizes that the approaches are not mutually exclusive. For the third teacher, the focus is on trying to integrate digital skills more fluently in order to process the course content. In addition, all instructors emphasize the importance of a small-step and structured approach to teaching. Summing up, the fourth teacher reports the feeling that the women were more challenged during the pandemic. After all, they had to work independently from home with their smartphones.

6.2 Organizational and institutional barriers inhibit education

There were obviously different opinions among the individual project members as to which information should be assigned to this topic. Consequently, the comments on the individual countries are only named and not linked to each other.

The data from Austria will be analyzed first. From the perspective of the Austrian interviewees, digital skills can be divided into two areas. In the teaching of digital skills to cope with the digitalization of everyday life. Since the advancing digitalization involves new challenges, which pose major hurdles, especially for participants in literacy courses. The second area is the digital design of lessons. For the target group of educationally disadvantaged people, lesson design requires a high degree of flexibility and additional preparation by teachers. As a result, it is seen as necessary to identify new learning strategies and cater to the needs of heterogeneous groups.

The German project members cited the pandemic as an inhibiting factor, as there was a constant switch between face-to-face and online teaching. As a result, some language course exams were also cancelled and postponed to a later date. Ultimately, this delayed language development and subsequent career paths. In line with Germany, Slovenia also refers to delays in the acquisition of basic language skills. However, this is justified by the lack of staff for learning support and free participation in the ZIP programme. For France, it was only noted once again that the women in the focus group have little time for independent learning.

6.3 Resources required

As in the previous chapter, the data recorded varies greatly between countries in terms of content and length. For Germany and Austria, the resource requirements of both the course providers and the training participants were listed. The data from France and Slovenia are summarized last.

Accordingly, the explanations for Austria now follow first. Learners' resources are time resources, learning abilities and technical equipment. The time available for educational purposes is often limited by childcare. Learning abilities can also be limited by traumatic

experiences. This includes the ability to learn in a stress-free and self-directed way. The teachers interviewed had different experiences with regard to the availability of technical devices. Teachers predominantly report that it is very rare nowadays for participants not to have their own smartphone. However, experiences differ with regard to the availability of a laptop or tablet. The views of the participants also differ as to whether a laptop is necessary or not.

Secondly, resources for Austrian trainers and their facilities were listed. The basic requirement is functioning Wi-Fi, which is apparently not always available. In addition, a computer room should also be available for women who do not have a laptop at home or are not allowed to use one. The resources available vary greatly between the institutions. Some institutes have hardly any usable laptops, while others even have smartboards available. Training and further education for trainers in the area of digital skills is also necessary. For example, the first trainer would like to see the development of more apps that can be used for the digitalization of everyday life, literacy and basic education. So far, most such applications and apps have not been useful for educationally disadvantaged women with other first languages, as the literacy needs of the target group are too high. The second trainer is generally in favor of more units relating to the digital education of this target group. She justifies this with the exclusion mechanism of digitalization and the necessity of digital skills for existence today. Finally, the teachers stated that even smaller group sizes would have a positive impact on the teaching and learning arrangement.

Next are the comments of the German teachers, as these largely coincide with the Austrian findings. The same categorization was made between course providers and learners. On the learner side, the often-limited time resources, the need for learning skills and technical equipment were also mentioned. Nevertheless, the learning skills were explained in more detail with the characteristics stress-free and self-directed. The course providers also discussed the need for further training for teachers in the area of digital skills. In addition, although the expansion of apps was not directly called for, the development of digital tools for people with increased support needs was generally called for. However, in order to simplify the learning process with the help of such tools, it is necessary to switch between the different languages.

Many of the participants in France do not own a computer and do not know how to use it. This is why there is a resource center that the migrants know about. However, it is unclear to the project members whether the educational participants use the resources available there. One problem in Slovenia, on the other hand, is the lack of sufficiently qualified teachers in adult education centers. As a result, the need for language courses and inclusion support cannot be met. Unfortunately, however, due to the systematization of jobs in public institutions, no new employees can be hired to compensate for the deficits.

6.4 Technology use in private contexts

The data for Austria is analyzed first. The use of WhatsApp and Zoom was discussed in the interviews, particularly with regard to distance learning. The first Austrian trainer talks about experiences from her first group, which was taught hybrid. She explains that the instructions for the course participants and the process should definitely take place in person so that distance learning is successful. As a result, the tasks discussed in detail beforehand can be completed independently, with the course instructor available to answer questions. In general, the experience reports on the equipment available at home were very different. The fourth instructor stated that the women often have no internet at home, whereas the third said that the women actively use social media at home. The first of the teachers interviewed, for example, links all types of resources on Padlet so that participants can work on the assignments at any time. In her experience, she reports that the tasks are mostly completed via smartphone.

In addition, the staff of the partner institute noted an assessment of the statements made by the trainers. It states that even though not all women have their own smartphones with internet access, most of them were able to send voice messages during the pandemic. To this end, they were integrated into WhatsApp groups in which they communicated regularly and lessons were held.

In contrast to Austria, Germany and France in particular have specifically limited themselves to the private use of digital devices. The German course participants use their smartphones for social media such as Facebook, WhatsApp or TikTok. They also watch videos, listen to music or play games for entertainment. Just like in Germany, the French migrants use their smartphones for social media, entertainment or communication, including via email. In terms of communication via mobile phones, the German focus group mainly uses WhatsApp and Zoom. The teachers at the Dresden Education Centre integrated the course participants into a Zoom group during the pandemic in order to continue the lessons there. The Slovenian teachers focused on encouraging the course participants to use their smartphones in general. Accordingly, they learn a lot about communication channels and information retrieval to expand their digital and language skills

7. Digital Competence Framework and low-skilled women with a history of migration

7.1 Conclusions on the Digital Competence Framework and significance for low-skilled women with a migration background

Austria already has a curriculum for basic education classes that is based on the European Framework of Reference. In the interviews, but also in discussions between the Austrian Ministry of Education and the supporting organizations, differences were discussed with regard to the target group of educationally disadvantaged women with a history of migration. It was emphasized that many basic skills that are problematic for participants to implement are not

listed there. For this reason, the area of "basics" has already been included in the frame of reference in Austria.

When asked whether the curriculum is used in the area of digital skills, the fourth teacher replied that it could only be used in part. The reason for this is that the curriculum is not tailored to the individual target groups. She also says that she is familiar with the European reference framework for digital competences. She has already used this, but in her opinion, it cannot be fully implemented. She believes that courses are needed that teach digital skills in preparation in order to be able to implement the requirements of the reference framework afterwards. Finally, she explains that the curriculum is suitable for high school graduates and young people, but not for migrant mothers on a German course. Another teacher describes the frame of reference as stupid and that it is meaningless. With the help of pictures, it was previously recorded which indicators of the Austrian Digital Competence Framework are already used in the classroom.

All of the teachers interviewed in Germany were also familiar with the levels of the European Competence Framework. However, they lack the qualifications to meet current and future requirements. This refers, for example, to the greater proportion of new forms of learning, such as online events, the higher proportion of digital learning and hybrid implementation formats. If such training courses are designed for teachers, they can make their contribution to successful inclusion work. With regard to the women in the German focus group, it is noted that they have very low digital skills. There were no difficulties using WhatsApp and Facebook on their smartphones, but there were difficulties using laptops, programs and applications.

One of the two French teachers was previously unaware of the competency framework. It was also described that the women in this focus group have no or only a few digital skills. It is also described again that there are no difficulties with the women with a migration background when using their telephones, but there are difficulties with laptops and PCs. In contrast to the other countries, none of the Slovenian teachers was familiar with the Digital Competence Framework. Accordingly, the teachers can only impart the knowledge that they have learnt on their own initiative.

7.2 Interpretation and summary

Now that all of the data from the national report has been analyzed, a brief assessment will be made. A comparison of the educational levels of the focus group participants in the countries alone reveals a very heterogeneous picture. In Austria, none of the women with a migration background interviewed had attended school, whereas in Germany, they had all completed at least the 9th grade and in France, one participant had a university degree. This also results in different experience reports between the teachers, as each course composition is different. This comparison illustrates how heterogeneous the starting levels of the participants are in terms of digital skills. As a result, it is necessary for teachers to be able to react spontaneously and flexibly to the circumstances of the different groups. Another prerequisite for the successful transfer of knowledge is that the teachers have a minimum level of digital skills and can act confidently in dealing with digital devices.

However, with regard to the interview data, this requirement does not appear to be met for all teachers. Now, the digital skills of trainers are strongly dependent on individual initiative and personal interest in digitalization topics. Standardized accreditation or compulsory training could be used to counteract the lack of interest or resistance of some teachers. This would compensate for the deficits of less tech-savvy teachers. In addition, this could ensure that course participants receive appropriate digital skills training regardless of the teacher. After all, it has been made sufficiently clear that digital skills are of existential importance, especially for migrants.

In this context, the basic equipment of the course providers must also be addressed. Because without comparable equipment between institutions and facilities, the transfer of skills cannot be standardized. The availability of functioning digital devices should not be neglected in the course of participants' knowledge acquisition. In relation to this topic, however, practical implementation is hardly realizable.

In terms of lesson design, the majority of German teachers expressed the desire for a standardized curriculum for digital skills, as in Austria. In view of the contrasting opinions of Austrian teachers, it remains questionable whether it is possible to apply such a curriculum in the classroom. In addition, the standardized requirements for teachers' digital skills should possibly precede the standardized curriculum. Teachers also criticize the fact that the courses are only partially participant-centered. This also includes the use of apps or the support services available for women with a migration background. However, practical implementation also appears difficult here, as the starting points of the participants are very heterogeneous. In order to drive forward the realization of further applications, it must be ensured that even the most basic principles are taken into account.

Unfortunately, it is not possible to compare the application of the individual competence levels of the Framework of Reference, as data is only available for Austrian teachers. However, this data shows that teachers do not only teach competence levels one and two in their lessons, but also integrate something from each level. Because teachers in Austria integrate a variety of competences from levels three, four and five in their lessons, this is also obvious in the partner countries. However, data would have to be collected again in order to make a meaningful comparison.

7.3 Synopsis

The core contribution of the report is encapsulated in this chapter 7 focusing on the conclusions on the Digital Competence Framework and its Significance for Low-Skilled Migrant Women. This section holds particular importance as it offers critical insights into the applicability and relevance of the European Digital Competence Framework for this demographic. However, a more thorough and detailed examination is required to address the central question: Is the European Reference Framework truly adequate for low-skilled migrant women? The authors noted that this group lacks many basic skills, yet the report falls short of specifying precisely which skills are missing. For the sake of clarity and to facilitate a more nuanced understanding, further research is needed. Only subsequently, it

will be possible to more explicitly define these gaps in competencies. Recently developed scales and measurement principles - cf. Ehlers (2022) research report about future skills in comparison[2]. A detailed breakdown of the specific basic skills in question does enhance the reader's comprehension and will contribute to the broader academic discourse on this subject.

Moreover, from the perspective of educators, as conveyed by the authors, the Digital Competence Framework is described as being suitable for high school graduates and young people, but not for migrant mothers attending a German language course. This assertion raises pivotal questions that remain unanswered in the recent report but need to be addressed further on:

- What specific components or learning objectives within the competence framework are misaligned with the needs of migrant mothers?
- At what points does the framework fail to accommodate their unique educational and socio-cultural contexts?

Only identifying and elaborating on the mismatches between the framework and the needs of migrant women would provide greater clarity on where improvements must be made in respective training programs. In order to address these gaps, the STRENGTH project does experimentally implement a train the trainer approach with suitable material, followed by a next round of analysis. Resultantly this research partnership does in its further activity offer a more comprehensive analysis but also contribute significantly to the ongoing academic and policy-related discussions on digital literacy and integration for marginalized groups, particularly low-skilled migrant women - just check our project website: ↗ https://strengthwomen.eu/en. Thus, expanding on these critical points would considerably enhance the scholarly value of the report and its contribution to the scientific community. Ultimately, it has become clear that the European Framework of Reference can serve as a guide for teachers, but cannot be used universally.

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[2] ↗ https://nextskills.org/downloads/2022-01-Future-Skills-Bildungsforschung_final_Vs_2.pdf

8. Detailed data report

Result 1: Analysis of the implementation of the European Digital Competence Frame Work (DigCompEdu) among low-skilled people with a migration background in the partner countries - Status and need for action

IO 1: TEMPLATE NATIONAL REPORT

This template shall help to organize the information collected by each partner on national level. Later on, data serve as precondition of an international comparative research. In that comparison, we will later on discuss how the findings match the Digcomp.edu profile.

1. General Information	
Country	Austria
Partner institution	Orient Express - counseling, education and cultural initiative for women
Sample and typical profile of respondents (number, how selected)	In Austria, four trainers (individual interviews) and four learners were (joint focus group) interviewed. The focus was on women working in the Work/learn in the area of basic education. Although educationally disadvantaged People with migration history also digital by other means Acquiring competencies (in various non-formal education programs) Adult Education), but the focus on the area of basic education was insofar as learning competencies and mathematics also explicitly includes digital competencies and is geared towards oriented to the needs of educationally disadvantaged persons. Three of the interviewed trainers teach digital competencies in the context of their other teaching activities (e.g. linked to German as a second language, literacy). A trainer, who also worked as a basic educator, has worked primarily as a trainer of digital Competencies active. All of the trainers interviewed worked with very educationally disadvantaged persons, which has to do with the fact that in Austria the area of basic education is a separate funding area.

In most cases, digital competencies are developed as part of the Basic education together with other competencies (literacy, German as a second language, mathematical competencies, and autonomous learning competencies).

The main part of the research involved interviews with female trainers:
The interview partners (all women) were selected according to various criteria, all of them have many years of practice in working with the target group, all of them have completed training in the field of basic education, some work for larger supporting organizations, others in small women with a migration background's associations |

(none of the interview partners works in the Orient Express association).

Interviewee 1: has been working in the field for 17 years, both at a very large educational institution (adult education center) and a small migrant association that provides basic education for women.

Interviewee 2: Has been working since 2014 in an association that offers basic education for women; she is the only one who works specifically in a digitization project.

Interviewee 3: works in a women's association in the field of basic education since 2016.

Interviewee 4: works for a larger organization, has worked in regular German courses and so-called integration courses in addition to literacy and basic education.

In addition, a focus group was held with 4 participants in the basic education of the Orient Express association. Not all 4 participants had the opportunity to attend school in their childhood, so they can be described as very educationally disadvantaged.

Research ethics (where respondents informed about anonymity/data protection/are they interested in the findings)	All were informed about the anonymity. It should be noted that there are not so many women with a migration background's associations in Vienna where the interview collaborates work. This should be taken into account when presenting the results, especially with regard to critical statements.
Main challenges for the successful implementation of the research activity (i.e. any risks or prerequisites)	The implementation took place without major hurdles, as our organization is well networked and sufficient interview partners were available. However, in advance we discussed the profile of the interview partners (e.g. a mix from large and small organizations). For the focus group with the learners, of course, the language skills are worth mentioning. Since all of the learners spoke Dari, it was possible to. We offer first language translation of a colleague.
Specific relevance for STRENGTH project and STRENGTH institution	In this context, it is important to mention that a basic education curriculum valid since 2019 is based on the Austrian adaptation of the European DigCompEdu. However, many trainers criticize that this is much too ambitious for basic education - although this is a carefully developed approach.

2. Method

Description of data collection procedure (technical aspects, how interviews took place, how data was processed by whom)	Either the interviewees came to the premises of our learning center or the person conducting the interview visited them in their venue. All interviews with female trainers were recorded (the focus group was not), and no particular challenges were encountered. The interactive questions, which required participants to rank approximately which areas of the Digital Framework were present in their teaching and which were less so, were photographed. The interviewers (STRENGHTH project staff) worked out the codes and categories from the material.

The data collected (by means of the questionnaire) rather allow statements about the way digital competences are treated in the classroom with educationally disadvantaged women. Since the interviews with trainers carry much more weight, more can be said, for example, about the hurdles they experience, their own training, and their assessment of the frame of reference in working with educationally disadvantaged women than about the digital competencies of educationally disadvantaged women. The focus, then, was on the implementation of digital competencies in the classroom. Because the attitudes of the trainers, their own resistances etc. are also very important. The Annex contains a separate paragraph on this subject.

3. Data

Original interview data (selected, anonymized)	This has already been incorporated in the individual subsections. Supplementary citations can be found in the appendix.

Presentation of categories and codes	**Target Group:**

Target Group:
- Target group
- Learning environment at home
- Fine motor skills
- prior knowledge of learners
- School education of learners
- Learning objectives (digital competences)

Concept and framework of the course:

- Basic education and accompanying program
- Interweaving of competences
- Key learner/trainer
- basic education levels (German as a second language)
- digital methods
- Diversity/internal differentiation in the course
- Extent of digital competences in the course

- online lessons
- Course in combination online/in person

Trainer:

- Transfer "services" for the authorities
- Digitization of the trainer
- Training the trainer
- Private time resources of the trainer
- Convincing learner by trainer

Curriculum and DigCompEdu:

- Practicability of the DigCompEdu
- Importance of digital competences in the course/learner/trainer (mind set)
- General awareness of the DigCompEdu
- Target group of the curriculum/dig. competences in basic education
- Curriculum does not fit all target groups
- Digital content
- Curriculum for basic education
- Levels of digital competences in the curriculum for basic education

Methods and course content (without curriculum):

- offers for individualized correction
- contents related to everyday life
- specific digital contents in the course
- Changes of digital content in the course in recent years
- adapting to the time resources of the participants
- Interweaving of competences
- tools
- small steps (step by step)
- multilingualism
- Clear structure in the course
- Participation as a learning strategy

Technical equipment and resources of the institutes and participants:

- maintenance of equipment and resources for it
- Lack of technical/financial resources of learners
- Resources of the institution
- Digital devices of the learners
- Technical equipment in the course

The digital society:

- Transfer services for the authorities
- digital literacy
- Changes of digital content in recent years
- Digital education

- COVID-19 Pandemic and digitalism
- Digitalization of everyday life/e.g. municipal and general administration
- Importance of digital literacy

Mental barriers:

- Awareness of learners about the importance of digital competence
- Learners lack motivation for digital competences
- Resistance (learner/trainer)
- Digitalism and stress
- Shame

Potential of development (What is needed?):

- Material suitable for adults
- Multilingualism
- Participation as a learning strategy
- tools
- Technical equipment
- Time resources
- learner orientation of curriculum, finding the right course level and material

4. Transversal findings of respondents

Level of education of respondents
(e.g. primary/secondary/ vocational/higher/others)

Target group: female trainers: We did not ask for the (sensitive) information about the personal education level of the trainers. Most of them probably have higher educational qualifications. What is important for our field: All of them have a basic education.

Target group of basic education participants: All indicated that they could not attend school as girls. (ISCED=0)

The following are statements about the prior knowledge of the basic education participants (not described by them, but by the trainers):

Three of the four trainers describe the learners in their groups as very heterogeneous in terms of prior digital knowledge (acquired either in their country of birth/residence or in Austria); some bring less prior knowledge with them, while others teach them about social media, for example, according to one interviewee (IP 1). Emails, for example, were known, but not all of them had a mail account at the beginning. Most (not all) participants have a smartphone and can make phone calls with it - some of them can save contacts themselves, others not. Some know Mobile Apps.

While some already have a mail account, with the beginners it's really about saying, what is a messenger like Signal anyway, what do these signs mean. For example, one instructor (IP 2) working with beginners enlarged and printed out the microphone icon so

participants could find it on the phone to first record and then send a voice message.

In this context, **IP 2** says: "Very fundamentally, you can say that you need a lot of experience to orient yourself on the screen (as you have to learn orientation on the page in literacy) how to move your hand, etc."

People who have more fine motor skills will also find it easier to type.

IP 2, who works exclusively in digital basic education, mentions the need to build on the participants' prior knowledge; in her opinion, everyone has learned something so far. All of them have somehow worked out strategies for "muddling through".

Similar to literacy and basic education, the goal is to "make these to somehow bring together a great deal of very different knowledge [...]. In that way, it is kind of like literacy. They are so tattered, it there's something there and that just needs that kind of filling in the gaps, especially where they want it."

When asked what prior knowledge the participants had **IP 3** also said: "Very, very different. It is so difficult to say. In the last few years, we have also often had women, i.e. older women, even women of retirement age in our courses. It is extremely exciting to see that things that are very, very normal and every day for us still represent challenges in some cases, such as listening to or sending voice messages. Yes, and if you can do it, it does not mean that you will know exactly how it works the next week. But also the understanding: if it has gone so long without, then why do you have to learn it now and just then completely the other extreme: women who know their way around well, who like to buy or sell on the Internet and can organize everything themselves, so are also on the go on all the official sites. They can give tips to other women and even to us. (...) Yes, mostly of course better in the mother tongue. In addition, it seems to me that it depends a bit on the country of origin and of course, on where one lives, whether one comes from the rural area or from the urban area. However, the worlds are just very, very far apart. And there's everything involved."

She is also aware of the (heterogeneous) prior knowledge of the learners and believes that there are participants who can teach the others in the course something in the area of digital skills from which the course instructors can also learn something.

IP 4, who works for a larger organization (i.e. the only one she does not work for is a migrant self-organized association), comes to a completely different assessment and reports that the participants in her courses for women with childcare "have virtually no prior knowledge. There were really few who had already written an e-mail

themselves. So little, very little prior knowledge. They also didn't know how to enter new numbers and so on, so there was really no prior knowledge." She continues: "I was surprised that some of them didn't even know that there was a calculator on every cell phone. Some of them said, no, I do not have that, but then we found it, yes. Where people who did not go to school and cannot do math found out that I could even calculate something. Yes, so that was quite good."

Interpretation Orient Express: Partly, of course, this has to do with the heterogeneous groups, but also with the understanding of what falls under the category of prior knowledge, whether smaller steps such as orientation on the screen, knowing some symbols, etc. are also included - competencies that do not yet necessarily appear in the European Framework.

Information on socio-economic status of respondents in home country	Target group Basic education participants: As educationally disadvantaged persons, they naturally have a low socio-economic status. Note on "home country": Many learners in our association look back on a longer migration history, for example, they fled from Afghanistan to Iran as a child.
Other information on respondents' profile seeming to be relevant	**Target group Trainers:** Three out of four trainers interviewed work in women with a migration background's associations, which naturally shapes their image towards learners - viewing them more often from their resources and less from their deficits. However, it is also very important to look at the digital skills of the trainers themselves. They usually have basic training or training as language course instructors. Digital competencies do appear in basic education training (because digital competencies are part of the courses along with language, numeracy and learning competencies), but in fact this is only a small proportion. Of course, many trainers do not always have extensive digital skills themselves, or it depends very much on personal interest.
Identified personal barriers that prevent effective education.	In the course of the interviews, a number of individually different barriers on the part of the participants were addressed. The issues raised on the side of the learners are not "personal" barriers, but "structural" ones (namely educational disadvantage, racism, war, violence, etc.). These barriers are of course very complex and individual, but first it can be mentioned that educational disadvantage in combination with

other factors (such as experiences of violence or discrimination) can be very strongly effects.

IP 3 comments on the target group description: "And of course there is always this double, at least double task, because it is not only digitization, but also the language, to communicate digitization in German, so of course you have to build up very gradually.

In the work with educationally disadvantaged refugee women, learning difficulties (especially concerning memory) are often observed. Here it can be assumed that communication structures between different brain areas can be interrupted after traumatic experiences, and thus make learning processes more difficult. This is due to a natural protective reflex of the body (which interrupts the connection with the neocortex, the "thinker" in us wants to interrupt, which, however, often has a very negative effect in the learning process.

IP 2 also mentions traumatic stress and its impact on (digital) learning: "(...) we work with women who are, as they say, multiple stresses. In addition, one of those multiple stresses, or what those stresses often do, is they cause a lot of stress. That is, they are women with extremely high levels of stress. For many of the women, the stress is also based on traumatic experiences."

In addition, specifically in terms of digital literacy, she says in this context, "Having a device like that in addition, and multiple devices that are in a room at the same time that can produce a stress level that is very noticeable in the room. So the 'brought along' stress and the stress from the device and its demands, the worry of breaking something."

What also occurred in the interviews was a lack of self-confidence or even shame. The fear of breaking something was mentioned more than once in the interviews (if this occurs more often with women, this could of course also be attributed to gendered stereotypes).

IP 2 says: "And also quite a lot of participants, to come back to it, have extreme prior knowledge, but don't believe it and also hear it all the time, because this whole digitalization is so extremely mystified. And everyone thinks they have to be a hacker or something, or a hacker somehow, like you see in the movies."

She now tells about a participant who asked her, "Can you turn on the laptop?" "Yes, I'm sure I'll break something. My husband always says I am breaking something. My daughter always says I am breaking something. I don't use that." "And that's when you actually just need an hour and a half counseling session, during which you sort of get the person to maybe turn on the computer after all (...)"

IP 3 again thinks learners bring "anxious interest" to digital classes.

IP 4: regarding possible gender differences in the previous knowledge of the participants, says that there are no differences in terms of digital skills among people who have not been to school, but men are statistically more likely to have been at school for a few years. She has the impression that women often only get the old cell phones, which then cannot do much with the devices.

Of course, "age" as a social factor is highlighted in the interviews with trainers (about their learners): **IP 1:** "the younger you are, the faster you learn. Yes, it makes quite a big difference."

On the part of the trainers, personal disinterest can of course be the decisive factor for a lack of commitment. At the same time, there are also structural factors here, namely that basic education is not a particularly well paid area with many resources, but often a very precarious area of work in the non-formal education system. Among their resistances see in the appendix.

Are respondents connected with their family (is there a partner/are there parents or children/do they have care about, etc.)?	This information was not explicitly requested in this form. However, from our many years of experience with the target group, we know that most of the women who attend our courses have the main responsibility for the household and raising children in their families. In particular, one female trainer interviewed addressed the "home learning environment" during online instruction (lockdown); **IP 1** queried individually during lockdown whether the women had a room where they could participate in Distance Learning in peace. Especially the topic Childcare has a greater impact on women. The trainer tells about their own adaptation to the time resources of the participants: "And then, if it turns out that a woman and has two small children at home, in the morning or in the afternoon, while we zoom, then she has the opportunity to call or communicate with me at another time, or it's quite good that Padlet also works at night, so 24 hours. I will work that out with you: Yeah, okay. If you have to have the childcare, then you practice at night. Therefore, I get so many tasks at night. Yeah, the men have eaten, the kids go to sleep, and then they have their rest. In addition, that is when they practice. Then they do the assignments and then they upload them."

5. Transversal findings of organizational/institutional contexts

Identified organizational/ institutional structures toward education in the home country or now	The interviews did not focus on the structures in the home countries or countries of residence. The only thing to note here is that the participants are women who, globally speaking, naturally have poorer educational opportunities. Many of the participants currently come from war zones, where educational opportunities are naturally

limited for all. Alternatively, their educational opportunities are limited due to global power relations.

What was very much the subject of the interviews was the system of non-formal basic education in Austria and language and inclusion courses for educationally disadvantaged women with a migration history.

What can be mentioned here, as a conducive factor is certainly the participant-centeredness. When basic education was established as a separate educational sector in Austria, it was based on the principles of participant-centered, non-formal education. Thus, the courses should be aligned with the individual learning goals and interests of the participants for which trainers prepare and design their lessons. Rather than using pre-established learning material or textbooks, the transmitted content is connected to participants' life circumstances.

To give a current example for participant-centered teaching: **IP 1**, who works in a small association, tells us that she decides on the topics together with the participants, so if they want to deal with forms, for example, they do that. In the past few months, digital registration for COVID tests was the main topic. She then made the "Oesterreich Testet" form, by means of which the COVID19-tests were possible in Austria. First, they went to the pharmacy together to be tested and then about two weeks later they were all able to register themselves (although these were already advanced learners at level 4-5).

In 2019, nevertheless a curriculum for teaching in basic education was introduced, which formulates a catalogue of competencies that defines skills and competences for 4 basic education course levels.[3] The indicators defined in the Curriculum Basic Education in the area of digital competences are oriented towards the "Digital Competence Model for Austria - DigCompEdu 2.2 AT" that was derived from the European Reference Framework for Digital Competences (DigCompEdu 2.1). For the particular target group of adult basic education learners this can be considered as very ambitious. While some participants naturally have good previous knowledge (and use social media, for example), for others orientation on the screen and other basic skills are a major challenge at the beginning. Many respondents emphasize participation as an important learning strategy, i.e. that women decide whether they want to write an email today or engage with other digital content - depending on their current needs and circumstances. At the same time, it is also not self-evident that very educationally disadvantaged people) can formulate learning goals from the beginning.

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[3] ↗ https://www.initiative-erwachsenenbildung.at/DOWNLOADS/curriculum/Curriculum_Dez_2022.pdf

Following the claim of basic education that it should be close to everyday life, **IP 1** tells about her everyday life in class with an advanced group. **IP 1** reports how to pay with an ATM card, how to use online banking, how to create an account at the employment office (how do I upload documents there), how to take care of official business on my own, or how to report a loss online at the lost property office of 'Wiener Linien' because I lost my bag in the subway? Another very important current topic is the online test system for COVID. How can I register online for a test and retrieve the test result? This means the digitalization of everyday life has been an important category here, along with digital skills. For beginner groups, it may also be about more basic things like storing phone numbers in the cell phone, photographing documents, sending voice messages, etc.

Some also want to learn online (with apps, for example).

It can still be emphasized that digitalization, which is a major challenge for the educationally disadvantaged course participants.

This is, of course, often a great responsibility for the trainers as well, because digital skills are necessary, for example, to extend residence permits, etc., and the women often bring this with them to the course: "Yesterday, one of them wrote an e-mail to the federal police and I corrected her, saying that she wanted to exchange her subsidiarity card, she photographed the old card and sent it as an attachment.

Procedure in class:

Of course, it is a question of whether there should be a separate "digital competence module" or whether there should be a greater attempt to develop text competences or other learning content by digital means (for example, writing texts on a PC/laptop) or using learning apps. There are different perspectives here. **IP 1**, for example, said that she would have preferred a separate module on digital competencies in the past, but now she likes the networking with other course content; most of them now have a smartphone, which is easier than with the old broken computers they used to work with.

IP 2, however, again emphasized the strengths of a separate module. The two approaches are of course not mutually exclusive; both can be done within a learning group.

IP 3: "So if you make such focal points, where you say, okay, now do the whole day with the computer. Of course, word processing is also part of it and then language is again the focus. Then we always make sure that there are at least two of us. Yes, exactly, that is super. And otherwise, as you said, we really try to integrate it so fluently that

the digital is not the main topic, but that it is, for example, the tool with which we process our content."

All of the trainers interviewed stressed the importance of taking small steps to teach digital literacy.

Within the framework of COVID, it was of course important to teach, for example, how to take photos of worksheets, documents, etc. and send them so that you can continue to work with them - it's not so easy to hold the cell phone correctly, to choose the right section - to find it again and then send it tells **IP 2**. You deal - where that is already possible - also with email address, because that is so important but is also very high-threshold at the same time. In this context, it is also, about what a login is, why I need my email address and a password for it, and of course how to remember it.

Important in all this is also the clear structure in the course. In almost all of the interviews, the topic of systematic structure comes up, as it did here: "So each step, everything, was introduced in great detail, step by step, in small steps." In literacy, the question is "How can I use WhatsApp in the case very concretely to communicate?" That is, how can I record a voice message? In addition, send it. How can I record a video and send it? How can I take a video, a link, a YouTube link that someone has sent me, also to learn, for example, so to practice letters or something, how can I open this video? How can I stop it? How can I make it keep playing? How can I turn on the sound more? How can I take a picture? How can I send a photo that I took? How can I find a photo I took on my phone in the gallery and send it? That's about the maximum and those are the things, maybe sometimes we go further, but that's where we are now and that's what we have to keep repeating to enable communication in that case." (**IP 2**)

IP 3 talks about the use of ZOOM during Corona: "Of course, we had to do the preparatory work beforehand and download the apps together with the women, try out how it works. How can you turn on the camera, how can you turn on the sound? How can everyone turn it off? How do you use the chats?"

IP 4 talks about distance learning during COVID: "I had the feeling that the women had to work much more with their smartphones because they were alone at home. In addition, I already had the feeling that that went better then. At the beginning, they did not know how to send a voice message. Then it somehow became a matter of course. I always sent learning videos, i.e. recorded where they had to click on the smartphone to make it work or how to download an app, and then sent them these videos. And then they all actually managed to do that."

Identified organizational /institutional barriers that prevent effective education

Especially after the COVID-19 pandemic, which in many cases necessitates a switch from face-to-face teaching to digital formats, digital competences can be divided into two areas from the point of view of the interview partners, namely, in addition to the teaching of digital competences in the context of basic education, the digital design of online courses that are accessible for the target group:

1) Teaching digital skills to cope with the digitization of everyday life. As mentioned above, digital literacy is one of the competences covered by basic education courses. In recent years (and accelerated by the COVID 19 pandemic), the rapidly advancing digitalization has also placed a completely new demand on basic education, whose participants often run risk of being marginalized through this societal development. Whereas until a few years ago buying tickets and operating the fruit scales in the supermarket were frequent examples of teaching digital skills in basic education, today, issues like the online submission of forms and documents or bank transfers come to the fore. Especially for participants in literacy courses, however, these requirements represent major hurdles.

2) Digital design of teaching (for the first time through distance learning) raised the question: As a course trainer, how do you design the lessons digitally, how do the participants manage to keep up? This naturally posed a considerable challenge for the specific target group of educationally disadvantaged persons and required a high degree of flexibility and additional preparation from the trainers. Many women stated that although they preferred face-to-face classes, they were glad that it still went on during the lockdowns (but this is of course very individual). Of course, new learning strategies were also found in this context, which will be maintained even after the pandemic (such as greater use of smartphones, etc.).

In the basic education courses, the placement in the clearing talks takes place according to language skills and usually not according to mathematical or digital skills. It is therefore possible that very heterogeneous groups meet here. In some cases, however, this can also turn out to be an advantage, as the knowledge of the participants can then be used to improve, can also be passed on to the group.

Resource needs (i.e. human resources, infrastructures or materials needed)

With regard to the resources needed, the interviews conducted focused on the one hand on resources of the course providers and on the other hand on the resources of the women (e.g. at home).

Resources on the part of learners:

- Time resources (often limited by childcare)
- Learning skills (sometimes limited by traumatic experiences)
- Stress-free, self-directed learning that addresses women's issues and interests
- technical devices (to be able to practice at home): Many of the women have their own smartphones (but not all):

IP 3: "Well, I think a lot has happened in recent years. When we started, not all women had smartphones. And now it is very rare that women come to us who don't have smartphones. And yes, we can certainly do without one, but in order for the courses to work as we would like them to, we make sure that we have one for individual women who don't have smartphones, because in my opinion you can learn and acquire a lot of digital skills on your smartphone alone, and nowadays it's almost indispensable, and a lot has changed as a result of the Corona crisis. All women who have children at home, who are of school age, some of them have a laptop at home that the family shares."

Later, however, **IP 3** says that the women may not necessarily have access to the laptops: **IP 3**: "All the women who have children at home, who are of school age, some of them then have a laptop at home that the family shares. There are many women who even have men who have done home office, who then also have a laptop, to which the participants mostly do not want to go, are not allowed to go, are supposed to go. (...) Most women have a smartphone and most households have a laptop. But mostly it doesn't belong to the women, but to the children or the partners."

And later:

IP 3: "But it also seems to me that many women don't see the need to do anything on their laptops. Others, on the other hand, are on social media every day and don't always want to look at the small cell phone screen. They like to do that again, but it's rather younger women who really sit down specifically at a laptop.

A: You mean they mostly have smartphones.

B: Exactly, mostly the women have a smartphone and mostly there is also a laptop in the households. But mostly it's not the women's, it's the children's or the partners'."

On the other hand, **IP 4** reports, "I think few have a tablet maybe at home, laptop rather not. Yes."

Resources on the part of education providers:

- working Wi-Fi (not always given)
- Computer room, in case women don't have a laptop at home, or are not allowed to use it (so they don't break it) equipped with computers/laptops and tablet (resources vary a lot, some institutes only have totally broken old laptops, one **IP** told that they even have smartboards now)
- participant-centered teaching (implementation close to everyday life)
- Further education and training of trainers in the area of digital competencies
- Sufficient appreciation for the learning speed of the learners and the recognition of prior knowledge and successes **IP 1** would like to see more apps developed that can be used for the digitalization of everyday life for literacy and basic education. Multilingualism and ease of use. It should be possible to switch between languages. For beginners in literacy, she would like to see apps developed that support them on their first steps in learning to read and write (e.g., phonics/letters/syllables, all adult-friendly, of course). One problem, of course, is that most apps (including learning apps) are not designed for the target audience of educationally disadvantaged women with other first languages (especially those with literacy needs). There is some for children, but we need adult-oriented material here, she says.
- **IP 2** would like to see more units for digital education for the target group (also more funding for it). In addition, she explains why digital education is so important for the target group of educationally disadvantaged people: "Because of this blatant digitization on a societal level, there has been an extreme exclusion mechanism, which has intensified extremely in the last two years. That means exclusion - mechanisms and sudden jumping up of barriers. That is why, again, the comparison with literacy: Suddenly, an immense proportion of the population is excluded from participation, not only from the excluded from social life, but from necessary and excluded from processes that are existential for them, namely from making them independently. The counters I used to go to were also a mediation and a transfer: I say something and the person at the counter looks at it again, says: "Ah, Ms. Silvia (name changed), you forgot something when you filled it out." (And I certainly did.) But now I write something on a device that I don't even have in my hand and then I put it somewhere and then it's handed in. And that's an existential question, what happened there, a lot of people don't manage that, sometimes I don't manage that. And that means that I suddenly need another person to take over the transfer. And that person becomes the counselor or the trainer or whoever."
- smaller group sizes for digital education

Use of technology/digital networking tools for the collaboration in private contexts (social media, TV etc.)	Especially with regard to distance learning, an important category of the interviews was the tools used; the interviewees use Signal, WhatsApp and Zoom for communication. This is clarified together at the beginning, i.e. the question whether they have WLAN, a smartphone available, etc. **IP 1** tells that since COVID she has hybrid guided courses for the first time and she tells about a course where the group meets at the beginning of the week in face-to-face format and then receives the worksheets for the whole week - after that they have Distance Learning twice. The worksheets are also saved on Padlet, although the introduction to this and to the worksheets must necessarily take place in Persona, so that this can be tried out together. She tells about this course that one of the three days is a self-learning day, where the participants do the exact discussed tasks autonomously and she is available for questions. She also describes very positively that she can also give the participants individualized feedback within the framework of distance learning, in the self-learning phases, where she is available but there is no plenum, which is otherwise not possible in the class.
	In general, the assessment of which tools are available at home was very different. **IP 4** said that the women often have no Internet access at home; **IP3** said that the women are very much on social media at home.
	IP 1 links all sorts of resources on Padlet so that women can also make and send their assignments all the time (in advanced courses): "Some volunteer to record audios and want me to listen to it and comment on it. Those are such automated processes that they do."
	In our experience, this is also done often via the smartphone.
	Orient Express assessment: Even though not all of the women have their own, smartphone with Internet access, most of them were able to send voice messages during the pandemic, etc. They were integrated into a group via WhatsApp (Zoom would have been too much of a prerequisite for us), where they communicated regularly and the lessons took place in groups of two via WhatsApp.

6. DigCompEdu and low-skilled women with a migration background

First conclusion toward the European Digital Competence Frame work (DigCompEdu) and its meaning among low-skilled women with a migration background	With regard to DigComp, it should be emphasized that it plays a role in the Basic education classes, which many educationally disadvantaged women with migration history plays, when the new curriculum Basic education on the Austrian elaboration of the European reference model. In the interviews, but also generally in the discussions of the last few years between decision-makers (Austrian Ministry of Education) and the Organizations that provide basic education often came out that just trainers, The students at the

lower levels of basic education (i.e. mainly in the literacy) and especially with the target group of educationally disadvantaged women with a history of migration, to make this a prerequisite, were found. Many basic competencies with which they do not appear there at all. However, it should be added that in Austria, the area "Fundamentals" added to the reference framework was.

In response to the question of whether, in the area of digital competencies, they are using curriculum for basic education, **IP 4** says: "Well, I have looked at the curriculum and you can partially after that, so I don't think you can because it is tailored to the target group with whom I work. I've hardly ever found that to be the case, especially in the area of digital skills. So few things came to me then, something like security and so, that we then discussed whether it should be done with the fingerprint or with the can secure the smartphone with something like that. But the others ... So what we have also discussed what is in the curriculum, I think is I that with the fake news, how seriously you can take it. So also in the Corona context, we discussed this. No, in and of itself, so really the basics at that lowest level." At the question of whether they can use the European Reference Framework for Digital Competences she continues: "I know it exists, yes, yes. I also once but then I thought, okay, I'll do what I can do anyway. And I didn't have the impression that you can work through everything the way it's written there. I think you really need courses where you spend one or two days a week just doing digital competencies, so that you really prepare yourself to do exactly what the reference framework says. But yes, the courses did have a German focus and I think it's important that you do what the women can also use in life. (...) Well, it should be adapted a bit more to the different groups of participants. Because, as I read through the curriculum, I thought it would probably be suitable for secondary school graduates and for young people, and so on. Who really need all these things and will use them later. But for Mama learns German courses, there are completely different criteria, where that doesn't apply."

Another participant says they find the European frame of reference "very stupid." Later she puts it into perspective: "There's a lot in it anyway, I just find it pointless the way it's structured."

On the following pictures it was shown which indicators of the Austrian DigComp occur frequently, sometimes or never in the classroom.
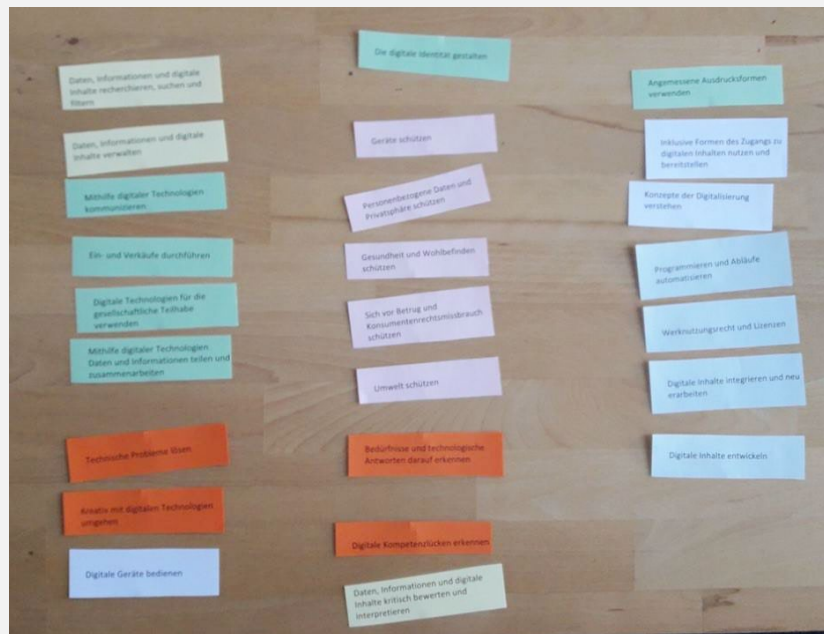
Categories of the (extended) Austrian Dig.Com:

IP 1:
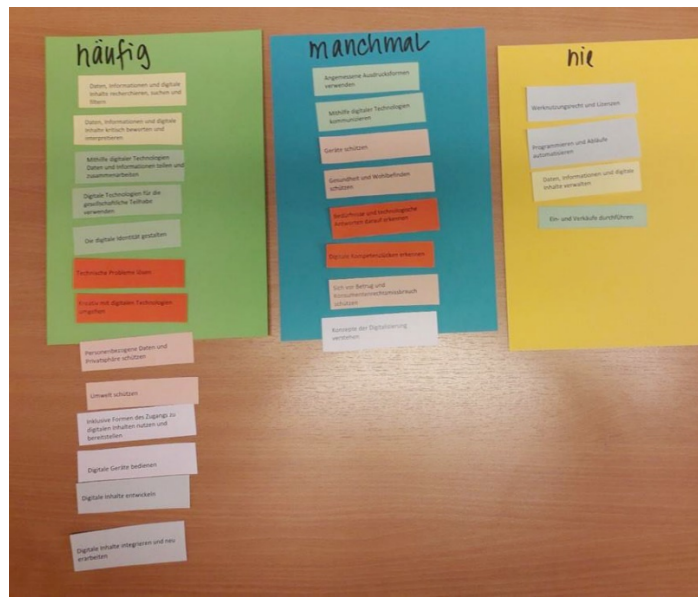
IP 2: only trainer working exclusively in digital basic education. From left to right: often - sometimes - never

IP 1:

IP 3 has listed which topics are covered; these are NOT covered: These are never content of her classes: Managing Data, Information, and Content; Protecting Yourself from Fraud and Consumer Rights Abuse; Designing the Digital Identity; Developing Digital Content; Programming and Automating Processes.

IP 4: top left: frequently; top right: sometimes bottom: never

Digital competencies (in training) of trainers:

An important issue in teaching digital skills to the target group of educationally disadvantaged women in the context of basic education is, of course, the question of what knowledge and qualifications the trainers themselves bring with them. Their own motivation and competence will naturally have a strong impact:

IP 1 says with regard to digital competencies in her own training, which now goes back 15 years that it was about things like the digital display of the washing machine, ticket machine, etc... ICT in the classroom used to be things like digital fruit scales, etc., but now it has all changed, because "shopping on the Internet, dealing with bank matters, forms, official channels, all official channels, so I do believe that this is now much more".

IP 2 says that if digitization is taken seriously, it is also about the course instructors, who need further training in this area. She notices a lot of resistance here. This is one of the biggest challenges for her in the project, where she offers digital skills in her own modules and free learning units in cooperation with other trainers (who hold the regular courses). She describes herself as a person who is very fascinated by digital education. However, many of the trainers bring massive resistance. "And even here, there's so much resistance. But giving that time as well." So also, the digitalization of the trainers is a gang important aspect. She can also understand when course instructors react with resistance and think, "I'm not doing this in the course." "Why do I have to do it differently when it's worked like this up to now? And there is probably a lot of shame involved. Extremely much shame, this admitting that I'm only doing it this way because I don't know how to do it any other way. That's why I have to say that the way I do it is better, because the other way would mean that I say, I have no idea what you're doing."

Further, she states: "Yes, so I mean that in such a way, I can understand that, because from you it is expected that you take over this education, that you have these skills, that you acquire this yourself, that you somehow take the devices from the air. And if you don't take them out of the air, then you should be maintaining the devices for all the participants, for instance, have the knowledge of every single manufacturer, how that works now, of each of the operating systems, preferably from the last 20 years as well. That doesn't add up." With that, she refers to the often-precarious financial resources in this specific area of education.

The training was more about the other competencies in basic education than about digital education, although this might have changed after COVID (but we have no information on this).

IP 3 says: "There are always training opportunities for trainers specifically for digital skills, but I think that is still very expandable. Of course, there are always people who invest more time privately in this area, who can also invest in the preparation of the courses, but I think there is still a lot of catching up to do in the education of the trainers and of course it would also be exciting to have regular offers. And otherwise it's important to have confidence for the trainers, to be able to learn together with the course participants, to simply have confidence and to trust the participants more. That's also a step that I have to take as a

trainer and say: I'm going to try this out once, and if it doesn't work, you can throw it overboard again."

Since the brief focus group with participants was succinctly recorded (not recorded), it is reproduced here.

Interview with a focus group of learners (in their first language):

1) Did you attend a school as a child?
   All participants state that as young girls they were not allowed to visit school in their home country.

2) What do you connect with the expression "digital"?
   P1: I don't know what digital means. Robots? Or devices that invent new things?
   P2: I hear this word very much, but I don't know for what it stands. Maybe it is the internet?
   P3: I think all devices that work with electricity are digital devices. My Mobile Phone has digital function too, I guess.
   The interviewer explains in simple words what digital means.

3) Which digital devices do you personally use and what for?
   P1: I have a digital Quran with a reader pen at home. When I point the pen to a verse or to a Sura, it reads the full verse or Sura. I think this is called an intelligent device.
   P2: I have two language learning (German) CDs. I can insert them in my laptop and listen to them.
   P3: Mobile phone.
   P4: Mobile phone, television. I also watch YouTube for learning German.
   All participants state that they use laptops in their German courses.

4) Where and what for do you like to use the digital devices?
   P1: I use my phone for communication purposes. I also use it to improve my reading and writing skills and to look up words.
   P2: I use online dictionaries with my phone. Once I was preparing myself for my driver's license. Back then, I had an application installed on my mobile phone for learning the theory test.
   P3: I use my phone for sending and receiving voice messages. I can also send pictures, videos, and all these things, I have learned since I started my German courses.
   P4: I can read messages in WhatsApp. Sometimes I can also write and send messages, but voice messages are much easier for me.

5) What is challenging for you?

6) What would you like to learn? All participants state that:

   - They have difficulties navigating their way in public and they would like to learn how to use city maps on their phones. It is very challenging for them to find an address.
   - They would also like to learn how to print out an image or a text from computer or from their phones.

- Writing an e-mail is also very difficult for them, and they would like to learn that.
- Internet banking is also something they would like to learn.

7) During the Covid 19 Pandemic:
Did you attend a distant/Online-class?
Yes, over WhatsApp. for instance, we also had some learning games

8) Did the pandemic change your digital competencies?
The participants state that although learning online and through WhatsApp was a real challenge, it was a good opportunity for them to improve their digital competences.
If so: Did your children experiences with online- classes change your personal digital competences?
Not really, they were busy doing their own homework and adapting to the new situation

1. General Information	
Country	France
Partner institution	Cap Ulysse
Sample and typical profile of respondents (number, how selected)	**Both trainers selected:** • have years of experience • have worked with a migrant public but not only • in either in the public or private sector • know of Cap Ulysse. **Profile of trainer 1:** Has 13 years of experience as a Director of a French teaching institution and has 7 years of experience teaching French as a second language (FLE and FLI courses). The trainer is certified to teach French as a second language. Works with different audiences • with or without a migrant background, • of different gender and • different age group, young adults to adults **Profile of trainer 2:** Has previously worked in an IT department. Has a programming analyst/developer background. Offered training and coaching to professionals in the company. Is currently part of a digital inclusion service. The service offers trainings to a large and diverse audience • mainly professionals that will accompany families/other people around digital issues • other professionals • people with a migrant background • adolescents (12-18 y/o)
Research ethics (where respondents informed about anonymity/data protection/are they interested in the findings)	Interviewers asked if they could record the interviews. Consent was not given for all interviews. No particular interest was shown in the findings.
Main challenges for the successful implementation of the research activity (i.e. any risks or prerequisites)	Language barriers (interpret needed for the focus group, the questions were translated in 3 languages)
Specific relevance for STRENGTH project and STRENGTH institution	--

2. Method

Description of data collection procedure (technical aspects, how interviews took place, how data was processed by whom)	- Face-to-face interview with no recording. Two interviewers were present. One was only taking notes of the interview. - Interview on Zoom, recorded. Only one interviewer. The interview was transcribed without using an App. - Focus group was done face to face. No recording of the interaction. Three people were present. One person was translating in Arabic when needed, one was taking notes, and one was asking the questions. Two of the people present did translation to English. The same person (the interviewer who was present during all the interviews) processed data for the interviews. No applications were used to transcribe.

3. Data

Original interview data (selected, anonymized)	See summary below
Presentation of categories and codes	See below

4. Transversal findings of respondents

Level of education of respondents (e.g. primary/secondary/vocational/higher/others)	**From the focus group: a heterogeneity in education level.** - One has a university degree (Pharmacy) - Most of them only have a primary education (but had to stop when they were quite young) - One did not attend school as a child
Information on socio-economic status of respondents in home country	Not very much detailed. From what could be gathered, many were from low-income families in the home country
Other information on respondents' profile seeming to be relevant	- All respondents are women. - Age varies (from 20s to 50s). - Many of them are married and/or have kids.
Identified personal barriers that prevent effective education.	- Lack of time due to children, administrative tasks and meetings, other courses, and work - Lack of autonomy: difficult to work on their own - Not everyone owns a computer. They do not really use their phone for educational purposes

| Are respondents connected with their family (is there a partner/are there parents or children/do they have care about, etc.)? | • Many are married and have kids.
• Some are unmarried.
• The parents are not in France.
• Many are still in contact with their families (back home or elsewhere). |

5. Transversal findings of organizational/institutional contexts

Identified organizational/ institutional structures toward education in the home country or now	BLIGGS program to learn French as a second language + to acquire basic digital skills Social workers who help to find jobs, recreational activities (e.g. sports), language courses or other training courses
Identified organizational/ institutional barriers that prevent effective education	The respondents said that they have little time to spend on revision on their own as they have many meetings (French administration) regarding their papers.
Resource needs (i.e. human resources, infrastructures or materials needed)	Many do not own a computer, do not know how to use it (some did not know how to use a mouse). There is a resource center that the women know of but we do not know if they are going there often to use the resources available.
Use of technology/digital networking tools for the collaboration in private contexts (social media, TV etc.)	**They use their smartphones in a personal context:** • social media (Facebook, snapchat, WhatsApp) • entertainment: Watch videos and listen to music (YouTube for e.g.), play games (chess) • Communication (WhatsApp and zoom) • email

6. DigComp and low-skilled women with a migration background

| First conclusion toward the European Digital Competence Frame work (DigComp) and its meaning among low-skilled women with a migration background | Not all the trainers knew about DigComp.

The women interviewed in the focus group had some digital competences to none.

They do not experience difficulties when using their phones. However, it is more difficult when it comes to the laptops/PCS. |

i. Summary of the original interview data (selected, anonymized)

Teaching methods:

Both their teaching methods use theory and has a more practical side. They both try to deliver the trainings in a ludic manner.

A top to down method seems to be used, as many learners were never taught how to learn (no learning to learn skills), are out of touch with digital tools (with the exception of smartphones). The learners are regularly tested.

Knowledge of standardized curricula for digital competences:
- *Cléa Numérique*: a national training based on «basic» digital competences. A certification is awarded at the end.
- A 3 months training to become a digital mediator/advisor (France Service digital advisors). This training is part of the national recovery plan; the state has financed the recruitment of 4000 people with a salary paid for 2 years.
- An 18 months training to be mediator/advisor that is done *en alternance* (i.e. done in rotation - studies mixed with job) known as *Brevet professionnel de la jeunesse, de l'éducation populaire et du sport or BPJEPS*. This training forms them to coach, to animate a group within institutions. There is also a part on management which allows one to be able to open an institution that would provide initiatives around coaching and support in light of digital inclusion

Digital competencies in their trainings:
- One works with DigComp. The other is not aware of it.
- Trainer 1 uses digital technology for the trainings. Uses tools such as Google Drive to share/modify documents, zoom to communicate, internet for educational videos, PowerPoints for presentations.
- Trainer 2 offers trainings that are malleable to the learners' needs. They also offer a 1 week "standardized" 30h training course for professionals (social workers for e.g.) to acquire a minimum of digital backgrounds. It comprises of the following modules:

  - Module on general digital culture
  - Pedagogy part: training them to be trainers
  - IT and security
  - Tools
  - Role of a public writer
  - Tips for administration services
  - How digital skills can accompany and help people who are having difficulty reading and writing (illiteracy).

Is currently working on a project, which consists of providing basic training to people who are the furthest away from digital technology (i.e. people who are not equipped): street people, refugees. It is 3-year project aims to train 3000 people.
Digital skills are an integral part of the offer they provide.

Comments from the trainers:

There is a lack of autonomy and a lack of a reading base and as digital is reading, only partial use is possible. Illiteracy affects digital learning because to use digital technology you have to know how to read. Thus, there is a real digital divide, especially for people who cannot read and learners do not necessarily have the necessary autonomy to be able to learn on their own/to learn using digital technology.

Learning a language cannot be done solely online for a language is a shared experience: gestures, role-play, and real life situations. Would not like a 100% digital learning system. Would prefer a mix of the two (digital + face-to-face). The teacher element is important. It cannot be found with digital technology. Keeping the human element in teaching, even when we are talking about teaching adults is fundamental.

The people who are furthest from the digital world are old people who have chosen not lean towards digital tools.

Unless one is directly dealing with the public in question, it is difficult to imagine the social divide that digitalization can create. It is important to focus on end users. It is important to include a social and humane aspect to all projects but it can be difficult to do so if project managers are not in contact with them.

The implementation of practice labs is also important. Seeing how real people who have trouble with digital technology react, how they interact with the tools is important to be able to alter and adapt the tools to the user. The users need to be placed at the center of all digital projects. Projects need to be oriented towards UX/UI practices.

One important aspect to take into consideration: *Is the tool I am creating accessible*? Even for professional tools. Often the professionals are the first victims of the tools created. They have difficulty using project management tools or other tools because they are too complex.

ii. Presentation of categories and codes

Trainers:

Audience reached:
- Large and diverse audience // heterogeneous group
- young adults and adults,
- professionals // agents
- Learners are out of touch with digital tools

Training goals:
- basic training to people furthest away from digital technology
- support around digital issues
- To acquire digital skills
- to teach French as a foreign language (FLE)
- Adapted trainings // different types of training offer
- for socio-professional inclusion,
- Digital training of professionals // train professionals to be trainers

Training/teaching methodology:
- theory and practice
- Emphasis on practical side
- Regular tests
- Digital advisors provide professional training to agents
- Top-down method

Technical equipment and resources of the institutes and participants:
- Smartphones
- Digital boards
- digital resource center
- material resources of the institution (computers, 3D printer, iPad, tablets)
- digital advisors, digital mediators, trainers

Internet use of participants and trainers during studies:
- online exercises,
- research,
- Google drive,
- mobile tools and applications of today: Zoom, WhatsApp, translator, GPS, PowerPoints
- emails
- administrative tasks
- Presentations

Covid and technology for trainers:
- video conferencing tools: zoom, Teams
- Drive
- apps to learn languages
- MOOC

Difficulties around learning of digital skills and barriers to fully digitalize language courses:
- illiteracy // analphabetism

- lack of a reading base
- lack of autonomy // cannot be autonomous learners
- lack of material // cannot work remotely
- Digital divide
- Language courses are about exchange and socialization
- language is shared
- teacher element/human element in teaching is important
- Rapid evolution

Digital inclusion actions for adults:
- Focus on training professionals to better accompany the general public
- malleable trainings
- Cultural and social actions
- Initiatives to include the public
- digital space that offers training and coaching
- integrate digital courses in programs

Reduce the social divide that digitalization can create:
- Focus more on the end users
- Social and humane aspect in projects
- knowledge of the needs of the public in question
- Practice labs
- Interaction of target audience with the tools
- UX/UI practices: adapt the tools to the user
- accessibility of tools
- place the users at the center of projects
- regularly update programs

Focus group categories:
- school education of learners
- prior knowledge of learners
- digital devices and use
- everyday use of digital devices
- difficulties encountered in using their digital devices
- learning goals
- online work

1. General Information	
Country	Germany
Partner institution	Educational Center Lernen+Technik gGmbH Dresden
Sample and typical profile of respondents (number, how selected)	In Germany, four trainers (individual interviews) and five learners (joint focus group) were interviewed.

The focus was on women working/learning in adult education.

The selection of the trainers was based on the following criteria:

- professional experience in the field of adult education
- Experience in working persons with increased support needs and with a migration background
- Professional cooperation with Bildungszentrum Lernen+Technik gGmbH

Profile interviewee 1:

Has been working at the Bildungszentrum Lernen+Technik gGmbH for 3 years and has over 5 years of professional experience in adult education. She has been working for six weeks in a project aiming at women with a migration background. The project offers qualification modules such as "German in everyday working life" and "Job-related computer training". Digital skills have always played a role in teaching.

She has experience with heterogeneous learners:

- with and without migration background
- Gender
- Different age groups (from 18 years)

Profile interviewee 2:

Has been working at Bildungszentrum Lernen+Technik gGmbH for 8 years and in adult education for over 20 years. Since 2016, she has been working in a project that is aimed at women with a migration background. In that project, qualification modules are offered, for example, "German in everyday working life" and "Job-related computer training" offered. Digital competencies have always played a role in classroom instruction.

She has experience with heterogeneous learners:

- with and without migration background
- Gender
- Different age groups (from 18 years)

Profile interviewee 3:

Has been working at Bildungszentrum Lernen+Technik gGmbH and in the field of adult education for over 28 years. Since 2016, she has been working in a project that is aimed at women with a migration

background. In the project, qualification modules are offered, for example, "German in everyday working life" and "Job-related computer training" offered. Digital competencies have always played a role in classroom instruction.

She has experience with heterogeneous learners:

- with and without migration background
- Gender
- Different age groups (from 18 years)

Profile interviewee 4:

Has been working as a freelancer and pedagogical expert with Bildungszentrum Lernen+Technik gGmbH for over 15 years and has over 30 years of professional experience in adult education. Digital competencies have always played a role in lesson design.

She has experience with heterogeneous learners:

- with and without migration background
- Gender
- Different age groups (children to adults)
- In addition, a focus group with 5 participants in the ESF program "Stark im Beruf - Mütter mit Migrationshintergrund steigen ein" was held at the Bildungszentrum Lernen+Technik gGmbH Dresden. All 5 Participants had attended at least 9th grade in their childhood.

Research ethics (where respondents informed about anonymity/data protection/are they interested in the findings)	All interviews with the trainers were recorded. They were informed about the anonymity and gave their consent to the recording. None of the trainers was interested in the results of the analysis.
Main challenges for the successful implementation of the research activity (i.e. any risks or prerequisites)	The implementation took place without major hurdles, as sufficient interview partners were available. There were no language barriers in the focus group with the learners, as all learners have a German language level of at least A2.
Specific relevance for STRENGTH project and STRENGTH institution	Based on the project objectives of the STRENGTH project and against the background of the European Digital Competence Frame work, we state the following: - The participants have very little experience with different digital devices (e.g. computer, printer) as well as computer programs, applications. - Teachers have not received any training or continuing education in the area of digital media and digital literacy. - Teachers are interested in ensuring that the digital literacy of learners continues to be strengthened

2. Method

Description of data collection procedure (technical aspects, how interviews took place, how data was processed by whom)

Due to the COVID19-pandemic, all interviews with the trainers were conducted via zoom and recorded.

The project partner TU Dresden did the transcription of the interviews with Word from Microsoft 365.

The interactive questions "What do the participants bring with them?" What are their learning objectives?" were conducted via Conceptboard and answered by the trainers. A screenshot was taken of the responses created.

The focus group was conducted face-to-face. There was no recording. During the focus group, a questionnaire was distributed to the women with an immigrant background. The women answered the questionnaire with the support of the interviewer.

The interviewer (STRENGHTH project staff) worked out the codes and categories from the material.

3. Data

Original interview data (selected, anonymized)

Experience in adult education:

- All teachers interviewed have been working in adult education for at least 5 years

Use of digital methods:

- digital media are actively used by all teachers in the classroom
- during the Corona Pandemic restrictions, classes (e.g., via Zoom or Microsoft Teams Meeting) took place entirely digitally. When some restrictions were lifted, classes took place in Hyprid format
- digital media are used by all interviewed teachers e.g. research, search for information via the Internet or evaluate and manage information and content via Microsoft Office programs (e.g. Power Point presentation, sending e-mails)
- course participants are encouraged to use digital applications as independently as possible
- digital skills are part of the course plan in the ESF program "Stark im Beruf - Mütter mit Migrationshintergrund einsteigen": "Berufsbezogenes Computertraining".

Trainer training:

- all interviewed teachers did not complete any training to become a trainer
- All teachers interviewed have acquired digital skills as part of their studies, but have developed them further on their own initiative and due to the nature of their work

Standardized curricula:

- In Germany, there are no standardized curricula for digital competencies
- There is further training on the subject of digital competence

Knowledge of European Reference Frameworks for Digital Competences:

- All teachers interviewed are familiar with the European Reference Framework for Digital Competences. They have become acquainted with it in the course of their practical work

Digital competencies as a component of course teaching:

- all interviewed teachers stated that digital competences are content of course teaching (module "job-related computer training")
- in the course, digital media and devices will be used for research, evaluation of information and data as well as for communication
- in the Corona Pandemic, the netiquette of digital communication tools was also discussed with the course participants
- Digital competencies are integrated both in the ongoing classroom activities and as an extra module among all interviewed teachers

Levels of digital competences:

- all teachers interviewed stated that teaching is about researching information, filtering and processing information, and communicating and interacting with digital technologies and netiquette
- the digital competences to be taught to the course participants take place in area 1 and 2 of the European Reference Framework for Digital Competences

End devices of the course participants:

- The course participants all have their own smartphone, which they use only for communication channels (e.g. WhatsApp, Facebook).
- 80 percent of course participants have a laptop/tablet at home, which they have to share with their family members
- each participant gets her own PC in the course

Prior knowledge and specific characteristics of the course participants in the area of digital competencies:

- all interviewed teachers state that the course participants are very heterogeneous and have a different starting level
- respondents indicate that for women, age, place of origin, level of education, status and financial resources influence digital skills
- One teacher interviewed stated that there is a tendency for women from Eastern Europe and South America to have better digital literacy skills than women from Africa or the Middle East and only need to build up their language skills.

- According to three of the teachers interviewed, it also plays a major role whether the learners already had access to digital devices and media in their country of origin and whether they were already working with them.
- All of the teachers interviewed noted that for the majority of the course participants, their prior knowledge of the use of digital media and e.g. Research, evaluation, filtering of information from the native language still needs to be transferred to the German language.
- All interviewed teachers stated that no previous knowledge of the participants is relevant for the placement in the course.

Suggestions for decision makers from the teachers interviewed:

- One interviewed teacher states that digital competencies are much more important for people with a migration background because they need to orient themselves in Germany after arrival, do a lot of research and need information to find their way around, as well as being in a permanent learning process. This learning process can be facilitated and accelerated by digital skills. The women with a migration background serve as role models for their children in order to teach them digital skills (during the Corona pandemic, school lessons took place entirely online).
- All teachers interviewed would like to see a continuation of providers offering courses to strengthen digital skills among women with a migration background.

One teacher interviewed would like to see a standardized curriculum for digital competencies, as in Austria.

Presentation of categories and codes	**interviewed teachers**

Experience in adult education:

- field
- years of service

Use of digital methods:

- learning forms during COVID19
- video conferencing tools:
- research, searching for information
- evaluating and managing information and content
- Microsoft Office programs

Training as a trainer:

- complete no training
- developed on their own

Standardised curricula:

- no standardised curricula
- further training

Knowledge of DigComp.Edu:

- General awareness of the DigComp

Component of teaching:

- Digital learning support
- Reaching digital competencies
- Digital content
- Netiquette of digital communication tools
- integrated in the current teaching activities as well as in an extra module

Levels of digital literacy:

- area 1 and 2 of the European Framework of Reference for Digital Competences

Participants' devices:

- Smartphones
- Computer in course

Prior knowledge and specific characteristics of learners:

- Heterogeneous/different starting levels
- Depends on the women's age, place of origin, level of education, status and financial resources
- access to digital devices and media in the country of origin

Learning objectives of course participants:

- Microsoft Office programs
- language

Decision-maker's suggestions:

- digital learning support
- standardised curriculum for digital skills

<u>Focus group:</u>

- school education of learners
- prior knowledge of learners
- digital devices and use
- everyday use of digital devices
- difficulties encountered in using their digital devices
- learning goals
- online work

4. Transversal Findings of respondents

Level of education of respondents (e.g. primary/secondary/ vocational/higher/others)	**Interviewed trainers:** • We did not ask for information about the personal education level of the trainers. Most of them are likely to have higher educational qualifications • All trainers are active in the field of adult education. **Course participants of the Focus Group:** • all have primary and secondary school level
Information on socio-economic status of respondents in home country	We did not query the information on what socioeconomic status the Focus group participants have in their home countries. However, based on the deteriorating economic situation in their countries and migration, we assume that they are economic migrants.
Other information on respondents' profile seeming to be relevant	**Course participants of the Focus Group:** • All respondents are women. • Age varies (from 20s to 50s). • Many of them are married and/or have kids **Interviewed trainers:** • All respondents are women. • Age varies (from 30s to 65s). • Many of them are married and/or have kids • All teachers interviewed have acquired digital skills as part of their studies, but have developed it further on their own and due to the nature of their work
Identified personal barriers that prevent effective education.	**The following personal barriers to effective training were identified:** • cultural and religious differences, • bad information, • Lack of time due to childcare, • lack of autonomy and self-confidence, • financial dependence on the husband, • Lack of digital devices (e.g. PC or laptop) at home that belong to them alone.
Are respondents connected with their family (is there a partner/are there parents or children/do they have care about, etc.)?	• all participants of the focus group are married and have children • their main responsibility in the family is the household and raising children • The families who immigrated to Germany are still in contact with their families back home and support them financially.

5. Transversal findings of organizational/institutional contexts

Identified organizational/ institutional structures toward education in the home country or now	The interviews did not focus on the structures in the home countries or countries of residence. The only thing to note here is that, from a global perspective, the participants have poorer educational opportunities. Many of the participants currently come from war zones, where the educational opportunities for all are naturally limited.
	Digital services are only available to a limited extent for this target group in Germany. Not least, the restrictions because of the Corona pandemic have shown that this target group also needs to be qualified for digital life and work.
	We carry out the project "Stark im Beruf - Mütter mit Migrationshintergrund steigen" of four weeks. Among other things, we offer job-related computer training.
Identified organizational /institutional barriers that prevent effective education	During the COVID-19 pandemic, there was a switch from face-to-face classes to digital formats in many cases. Some language course exams were cancelled and had to be postponed to a later date. This delayed language development and subsequent career paths.
Resource needs (i.e. human resources, infrastructures or materials needed)	With regard to the resources required, the interviews conducted focused on the one hand on resources of the course providers and on the other hand on resources of women (e.g., at home).

Resources on the part of learners:

- Time resources (often limited by childcare)
- Learning skills
- Stress-free, self-directed learning that addresses women's issues and interests
- technical equipment (to be able to practice at home):
- Many of the women have their own smartphones (not all)

Resources on the part of the carriers:

- Further training of trainers in the area of digital competencies
- Expansion of digital tools for persons with increased support needs for digital learning. It should be possible to switch between languages.

Use of technology/digital networking tools for the collaboration in private contexts (social media, TV etc.)	**The course participants use their smartphones in a personal context:** • Social media (Facebook, WhatsApp, Tik Tok) • Entertainment: watch videos and listen to music (e.g. YouTube), play games • Communication (WhatsApp and Zoom) • Assessment Bildungszentrum Lernen+Technik gGmbH: During the pandemic, the course participants were integrated into a group via Zoom, where classes were held regularly.

6. DigComp and low-skilled women with a migration background

First conclusion toward the European Digital Competence Frame work (DigComp) and its meaning among low-skilled women with a migration background	All interviewed teachers knew the levels of DigComp, however, teachers lack qualification to current and future requirements (higher proportion of new forms of learning such as online events, higher proportion of digital learning, mix of online and face-to-face learning) to make their contribution to successful inclusion work. The women interviewed in the focus group had very low digital skills. They have no difficulty in using their smartphones to Use communication e.g. via WhatsApp and Facebook. It is more difficult however, when it comes to the use of laptops/PCS and the programs as well as applications.

1. General Information	
Country	Slovenia
Partner institution	Ljudska univerza Celje
Sample and typical profile of respondents (number, how selected)	**Interview with teachers:** We have selected 4 teachers who have a lot of experience working with foreign women with lower level of education. They are all well acquainted with work of The University for Adult Education Celje. **Teacher profile 1:** She is a teacher of English and Chinese and she has 10 years of experience in teaching English and Chinese with different age groups. For the last five years, she has been working on the project Social Activation of Albanian-speaking Women. In addition, she runs a Slovene language course for immigrants who need a work visa. **Teacher profile 2:** She is an English teacher and has been employed at The University for Adult Education for two years. Her work includes teaching Slovene in the primary school program for adults and teaching English in secondary school programs. She also offers individual language learning assistance. Even though she has only a few years of experience, her knowledge and pedagogical approaches are very valuable, as she is also an immigrant in Slovenia and has been involved in the integration process. **Teacher profile 3:** She is a teacher of Slovene, and she has 8 years of working experience in teaching Slovenian language. For the last five years, she has been teaching Slovene within the project of Social Activation of Albanian Speaking Women. Her experiences date back to elementary school, where she taught immigrant children. **Teacher profile 4:** Teacher of History and Comparative Literature. In addition to her experience in primary school, she also has several years of practice teaching Slavic-speaking immigrants. She is helping with the project Social Activation of Albanian-speaking Women with the task of integrating and getting to know culture, habits, public institutions... **Focus group:** We invited 6 participants aged 39 to 58 to the focus group. Their mother tongue is Albanian, and they come from Kosovo and Northern Macedonia. They are participants in the project Social Activation of Albanian-speaking Women. Four participants have completed primary school, one has completed secondary school, and one of them has not attended school at all.

Research ethics (where respondents informed about anonymity/data protection/are they interested in the findings)	We presented the STRENGHT project and its purpose to all participants in this research activity. Respondents were filmed with their permission, and they will inquire about the project results in person with the project partner. Eventually, we will inform them about the online-published results.
Main challenges for the successful implementation of the research activity (i.e. any risks or prerequisites)	In the interview with the teachers, we had an interview via Zoom, as the teachers work in different locations. Due to the nature of his or her work, it was difficult to reconcile a common term that would suit everyone. Due to the lack of good knowledge of the Slovene language, we hired a translator for the focus group.
Specific relevance for STRENGTH project and STRENGTH institution	• Based on the content of the STRENGTH project and the findings from research activities, we establish the following: • Participants have very little experience with digital devices. • the participants have very little experience with computer programs, applications, ... • Teachers did not receive special training in digital empowerment • Teachers have expressed interest and desire for additional training in digital empowerment

2. Method

Description of data collection procedure (technical aspects, how interviews took place, how data was processed by whom)	We conducted an interview with teachers via the Zoom video conference. Two researchers were present at the interview. One conducted the interview and the other filmed and provided technical support. The material obtained lasted about an hour. The video was transcribed using Microsoft Office 365 in Word. The transcript needed to be corrected and edited. Based on the edited text, the codes were determined and placed in the appropriate categories. The focus group was performed live. One researcher led the focus discussion and the other recorded it with a mobile phone. The obtained material lasted about half an hour. Based on the video, both researchers wrote a focus group report. Code fixing followed again.

3. Data

Original interview data (selected, anonymized)

In teaching, three teachers use digital methods, and one does not. All three have similar approaches. The lessons are enriched with a Power Point presentation, presentation of web applications such as YouTube, weather review, timetable insight, Google Translator, email sending... Participants are encouraged to be as independent as possible in using digital applications. Digital competences are not part of our curriculum. None of the interviewees is familiar with the European Digital Competence Framework (DigComp.Edu), but all of them acquire digital competences on their own initiative and due to the nature of their work. Digital literacy is included in our curriculum only as an additional module. Participants use only smartphones; they do not know how to use a computer. They use smartphones only for communication channels. Prior knowledge of digital competencies is not a condition for inclusion in formal education. Interviewees identify finances, status and place of origin as specific characteristics of specific groups that influence digital competences. They also report that the participants do not have any learning goals or. They are not even aware of their existence. Their suggestions for decision makers are as follows:

- analysis of individual groups and design of a program adapted to their needs and abilities
- introduction of digital literacy as a compulsory subject in primary schools
- direct cooperation of decision-makers with education providers included in the plan only as an additional module. Participants use only smartphones; they do not know how to use a computer. They use smartphones only for communication channels. Prior knowledge of digital competencies is not a condition for inclusion in a formal education. Interviewees identify finances, status, and place of origin as specific characteristics of specific groups that influence digital competences. They also report that the participants do not have any learning goals, or they are not even aware of their existence. Their suggestions for decision makers are as follows:
  - analysis of individual groups and design of a program adapted to their needs and abilities
  - introduction of digital literacy as a compulsory subject in primary schools
  - direct cooperation of decision-makers with education providers

Presentation of categories
and codes

Interview:

1. Work:

- Field
- Years of service

2. Use of digital methods:

- Web applications
- Websites

3. Digital competencies:

- Digital learning support
- Teaching digital competencies
- Learning forms
- Skills and knowledge of participants
- Skills and knowledge of teachers
- Standardized curricula
- Knowledge of dig.com.edu
- Learning objectives of the participants

4. Digital literacy:

- Learning objectives
- Additional module
- Contents

5. Digital devices of the participants:

- Smartphones
- Computers

6. Prior knowledge of digital skills:

- Use of different applications
- Video calls
- Use of social media
- Conditions of enrolment in the course

7. Specific characteristics of the participants:

- Financial situation
- Age
- Education
- Origin
- Partnerships
- Culture

9.   Digital future:

- Teacher advice to decision makers

Focus group:
- Education of female participants
- Prior digital knowledge
- Participants' digital devices
- Use of digital devices
- Challenges in using digital devices
- Learning objectives
- Distance learning
- Advancement of digital skills

4. Transversal Findings of respondents

Level of education of respondents (e.g. primary/secondary/ vocational/higher/others)	• 1 participant without primary school • 4 participants with primary school • 1 participant with high school
Information on socio-economic status of respondents in home country	We do not know this information but based on the deteriorating economic situation of their countries and migration, we assume that they are economic migrants.
Other information on respondents' profile seeming to be relevant	• All are married and have children • Most of them come from rural areas
Identified personal barriers that prevent effective education.	• cultural and religious differences • poor information • lack of motivation • lack of independence and self-confidence • financial dependence on the husband
Are respondents connected with their family (is there a partner/are there parents or children/do they have care about, etc.)?	All participants are married and have children. Families who migrated to Slovenia are still in contact with their families in their homeland and help them financially. They regularly return home on vacation.

5. Transversal findings of organizational/institutional contexts	
Identified organizational/ institutional structures toward education in the home country or now	We implement the ZIP program (initial inclusion of immigrants) in the scope of 180 hours. We offer free language learning assistance and counselling for further educational and career guidance.
Identified organizational /institutional barriers that prevent effective education	Because the ZIP program is free of charge funded by the state and has an estimated number of groups per school year, there are too long queues, and thus delays in acquiring the basics of the language. With free learning assistance, however, there is a shortage of staff.
Resource needs (i.e. human resources, infrastructures or materials needed)	Slovenian institutions dealing with adult education, as public institutions, have a certain systematization of jobs, which means that they have insufficiently qualified teachers in view of the demand for language learning and inclusion. Therefore, this would mean that they could not hire new staff according to needs but according to the systematization.
Use of technology/digital networking tools for the collaboration in private contexts (social media, TV etc.)	Teachers encourage their participants to use smartphones and their benefits. They learn about the use of communication channels, useful applications, which brings them greater information, and at the same time, they gain a set of digital competencies and language skills.

6. DigComp and low-skilled women with a migration background	
First conclusion toward the European Digital Competence Frame work (DigComp) and its meaning among low-skilled women with a migration background	Teachers do not know DigComp, which means that they do not pass this knowledge on to participants, except for the knowledge that teachers acquire on their own initiative.

9. Summary

The article addresses an important and timely issue: the relevance of digital skills for low-skilled women with a migration background. In today's rapidly digitalizing world, the need to equip all individuals with digital competencies is critical, particularly for groups that are often marginalized or overlooked. While the academic discussion around digital competence frameworks has been ongoing for some time, this article brings unique value by specifically focusing on the target group of women with a migration background. Despite the abundance of research on digital skills, there has been relatively little focus on the distinct needs and challenges faced by low-skilled women with a migration background. This gap in the

literature is what the article seeks to fill, making it a significant contribution to the field by presenting fresh empirical data of cross-national comparative dimension.

However, there is room for improvement as the research report does emphasize in its core findings. The central aim as stated in the introduction (Chapter 1) is primarily concerned with assessing whether low-skilled women with a migration background possess digital skills. As well, the report is investigating whether the "European Digital Competence Framework" adequately captures the unique digital capabilities and needs of these women. Here the authors conclude that additional dimensions of digital skills may be necessary for any training to better represent the realities faced by this target group.

Furthermore, the report finds out that one of two trainers already works with the digital competence framework. That suggests however, that such is not always the case, i.e. the studies multidimensionality does help figuring out needs via a cross-national perspective. However, it remains unclear to which individual dimensions or partial competencies the digital skills being taught so far - what shall be addressed in the later to be developed training of the STRENGTH consortium.

Given that numerous digital competence frameworks characterized in the current (and perhaps last 25 years') academic discourse, it is essential to clearly identify how different frameworks and even generations of the "European Digital Competence Framework" are referred to in effective way. Doing so would enhance not only the rigor of the scientific work, but does allow for more precise discussions of the framework's relevance to low-skilled women with a migration background in quite practical terms. For the subsequently developed train-the-trainer approach STRENGTH and based on the context of this research, the report is referring to the "DigCompEdu" framework (European Commission/Christine Redecker, 2017), which is designed for educators especially and outlines the digital competencies required for effective teaching in a digital age.

Additionally, Chapter 3.1 references several digital skills categories, such as "operating digital devices, using digital technologies to share and collaborate on data and information, researching, searching and filtering data, and solving technical problems." In practical terms, it will always be helpful to clarify where these categories are addressed as well respective training frameworks are linked - e.g., whether they come from the European Digital Competence Framework or another source. Identifying the origin of these categories would help contextualize the findings and connect them to broader discussions on digital competence.

In summary, the research report addresses an under-researched and highly relevant topic. Its contributions highlighting the potential of better quality in education through clearer articulation of its aims and the specific frameworks it engages with goes beyond the respective target group. The study's focus on low-skilled women with a migration background offers valuable insights into the unique digital competencies required for this group. Still, further clarification of training objectives and theoretical foundations may significantly enhance the impact of such work.

References

Curriculum Erwachsenenbildung (2022). URL: ↗ https://www.levelup-erwachsenenbildung.at/start

Ehlers, U., Rauch, E., Eigbrecht, L. & Schindele, N. M. (2022) Future Skills im Vergleich; cf. URL:
↗ 2022-01-Future-Skills-Bildungsforschung_final_Vs_2.pdf (nextskills.org)

Europäische Kommission, Gemeinsame Forschungsstelle, Redecker, C., Punie, Y., European
framework for the digital competence of educators: DigCompEdu, Punie, Y.(editor),
Publications Office, 2017, URL: ↗ https://data.europa.eu/doi/10.2760/159770

initiative-erwachsenenbildung (2023): Beobachtungs- und Beurteilungsraster für Digitale Kompetenz.
Begleitmaterial zur Umsetzung des Curriculums Basisbildung in der Initiative
Erwachsenenbildung, URL: ↗ https://www.initiative-erwachsenenbildung.at

Lehrplan Digitale Grundbildung in Österreich (2019). RIS – BGBLA_2022_II_267 – Bundesgesetzblatt
authentisch ab 2004, URL: ↗ https://bka.gv.at