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DIGITAL JOB ONBOARDING - A EUROPEAN JOINT EDUCATION PROJECT ENHANCES EMPLOYABILITY AND DIGITAL JOB ONBOARDING OF YOUNG JOB-SEEKING EUROPEANS

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Abstract

The Erasmus+ project Digital Job Onboarding (DJO) project helps job-seeking young people adapt to the new normal after COVID-19 by improving their digital skills. The main objective of the project is to develop, test and deliver a training course. The training will help job-seeking youth prepare for the new demands of the workplace.

A multimethod study was conducted to gather data of the needs of young people, and employers. The findings of this study were used for the course design and development. This paper is presenting the results of this multimethod study before the training was fully designed and implemented.

Companies value the safest use of computers and the internet and personal organization for the demands of present-day jobs, such as work-life balance, manners, self-management, and time-management. Also, the new forms of work and requirements (agility, entrepreneurial thinking, self-organization, teamwork, networking, sustainability, innovation, and basic legal knowledge) were appreciated by the employers.

Common principles were created for course design. There are guidelines, such as clear, simple structures, small number of chapters in each module. Learning analytics would be used. The participants can gather points, and gamification is an option, too. Micro credentials can be implemented. Quizzes are interesting for young people, too.

The joint international project group does peer evaluation of the contents and the learning methods that include blended learning. Unemployed young people need coaching, support, empowerment, and personal touch – everything is not meant to be conducted solely online. According to the learning design principles, the feedback is collected through the training to improve quality continuously and iterate maximum results.

A good result for the joint education project DJO is the rate of employment of course participants and the increased competences of digital and general job skills for new work. If the training is effective, the best practices can be instilled and shared to encourage and empower young job-seeking people in Europe.

Keywords: Digitalisation, employability, unemployment, job onboarding, digital skills, joint education project.

1 INTRODUCTION

Youth unemployment and lack of education and training is an international problem, which has severe consequences, not only to the persons themselves, but also to the society. Youth unemployment rate in EU [1], persons under age 25, varies across countries between 5,7 % (Germany) and 31,4 % (Greece). The statistics (2022) show the rate of young people (aged between 15-21) with no education, employment, or training (NEET) in EU is 13,1 % [2]. In Finland, according to adjunct professor of special education, Lotta Uusitalo, there are 60 000 young people belonging to this group [3]. To combat this problem, EU has a recommendation to Bridge a Job, which 'calls upon the Member States to continue to address youth unemployment and the issue of young people not in employment, education or training ('NEETs') through prevention of early school leaving and structural improvement in the school-to-work transition, including through the full implementation of the Youth Guarantee'. [4]

The Erasmus+ Digital Job Onboarding program aims to close this gap of digital divide during job onboarding for vulnerable target groups [5], especially young unemployed people without academic educational background, participating partners coming from Cyprus, Finland, Italy, and Czech Republic.

The Austrian lead European Erasmus+ project plans to develop a training program and evaluate its application within the frame of work-related sustainability projects. These projects, having both strong

relations to sustainability, digitalisation, and innovation, which are defined by the participants during the training under the supervision of the Italian are an important part of the training for several reasons.

To examine how to train and onboard young people in digital skills, a multi-method inquiry was conducted in 2021 in all participating countries. Firstly, there was an online survey done for 233 unemployed people at ages 18 – 25 years and 252 employers to find out the competence needed what comes to digital jobs. Secondly, 50 structured interviews were conducted among employees on digital skills at work. Thirdly, a literature review on the topic were collected in each project country. Based on the survey, a training course for unemployed young people in Europe is being planned during 2022 – 2023.

This conference paper focuses on presenting and disseminating the results of the multi-method Digital Job Onboarding Study. It answers through survey, interviews, and literature review to following questions:

- 1 What digital skills are needed from the point of view of employers?
- 2 What digital skills do unemployed young people think to meet the demands of the current job market?

The results can be utilised in other countries to enhance digital job onboarding of young, unemployed people as the problem is general.

1.1 Literature review

The literature review covers areas of onboarding of new employees, and skills needed in the workplace today, as they relate to the aim of the examined and planned digital onboarding trainings.

The digital transformation has been accelerated by the COVID-19 pandemic, which has led to digital skills gap [6]. Some level of digital skills is becoming a prerequisite for any profession [7]. Digital skills are broadly defined as the ability to use digital devices, communication applications, and networks to access and manage information [8]. Digital competences are defined as ‘confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participating in society, combination of knowledge, skills and attitudes’ [9], [10] Digital skills can be categorized many ways, such as basic functional skills, generic and advanced digital skills. Basic functional skills mean accessing and engaging with digital technologies (e.g., using mouse and keyboard). Taking a certified as computer driving license courses is one way to gain the basic functional skills (ICDL) [11]. Generic digital skills stands for the ability to use digital technologies in meaningful and beneficial ways [8, p. 27]. Generic competence areas are: information and data literacy (web-based research, data entry and handling), communication and collaboration (email and instant messaging, word processing), digital content creation (social media), safety (behaving safely and legally online), and problem solving [10]. Advanced digital skills include the following: user experience design, coding, web and app programming, SEO, SEM, and content creation, and data analysis [12]–[14].

Regarding the digital skills of Generation Z, also called as iGeneration [15], [16] or the digital natives, people born between years 1997-2010, they have excellent mobile, social and operational skills, but they are lacking some important digital skills. Generation Z students are not confident in selecting online information, do not have good skills of publishing resources they create online, they have only few skills related to website design and content's licenses, and the use of content [17]. To motivate your millennial employees [18], to comprehend technology in the workspace, one needs to understand how Gen Z learns. The old training methodologies can no longer be implicated to Gen Z. Implementing the mobile learning solutions to the organization is a productive way to understand how Generation Z prefer to learn [19].

Soft skills are strategic to be successful in personal and professional life. They are essential for a candidate when he tries to obtain any kind of job. Enterprises generally hire new employees, in particular recent graduates, taking more in consideration their soft skills than their hard skills [20].

Members of Generation Y tend to desire regular feedback on their performance: therefore, it is unwise to wait until the annual review to provide it. It would be far better to set up regular review meetings right from the start to reduce employee anxiety [21], [22]. The employer's expectations, expectations and procedures for employees should be clarified right from the start to avoid confusion or misunderstandings [23]

A study of the most important digital skills for the employees list the following: knowledge of social media forums and basic features, cloud services, search engine knowledge, visualization skills, emotional skills (cannot be delegated to computers), basic skills of cybersecurity.[24]

1.2 Digital Job Onboarding project

The Digital Job Onboarding (DJO) project [5] is dedicated to help young people to acquire skills that help them to become employable and find a job. This is done by developing a training course, localized, and launched by the participating organizations. The DJO project is run jointly by the lead partner FH Joanneum (University of Applied Sciences, later UAS) in Styria, Austria, and project partners Haaga-Helia (UAS) in Helsinki, Finland, DEX Innovation Centre (social enterprise) in Liberec, Czech Republic, Jugend am Werk (Youth work organization) in Styria, Austria, Fenice Green Energy Park in Padua, Italy. The actors have diverse functions, but they aim at the same target: to enhance the employability and digital job onboarding of young people in Europe. The project is divided into two areas, study of (PR1) and development of the training course (PR2). This paper discusses the PR1 phase of the project.

The project started at the end of the year 2021. In 2022 an extensive study was conducted to examine the needs of young people and employers in the five competence areas 1) Computer programs and PC software 2) New forms of work and requirements of the job duties in the future 3) Personally organizing the demands of present-day jobs 4) Professional use of social media in professional applications 5) Safe use of computers and the Internet.

At the end of year 2022 and at the beginning of year 2023 the training courses are being designed and implemented (PR2). To create courses with the best possible impact, digital learning design methods were used to create user-friendly and goal-oriented training. Firstly, to empathize with the customers, learning personas were created to visualize the learners and find the right approach. The second phase was to define and set the goals. The third phase was about ideation of diverse possibilities. The fourth phase is to prototype the courses, and the fifth to test them. Later in 2023 the training would be run and tested to gather feedback for continuous improvement and dissemination of results.

2 METHODOLOGY

The multimethod study of the project gathered data with a quantitative online survey, and qualitative interviews. Online survey was conducted in Austria, Cyprus, Czech Republic, Finland, and Italy during 1 March – 31 May 2022, using a sample of 233 unemployed people of age 18-25, and 252 employers. LimeSurvey [25] online tool was utilised. The topics covered in the survey were: evaluation of importance of job fitness competencies; dealing with computer programs and PC software; new forms of work and requirements for the job duties in the future; personally, organizing the demands of present-day jobs; professional use of social media in professional applications; and safe use of computers and the internet [5].

Qualitative interviews were conducted in Austria, Cyprus, Czech Republic, Finland, and Italy during 1 May – 31 July 2022. The sample was 50 employers, 10 employers in each of the participant countries. The interviews (n= 50) were done online via video meetings (TEAMS and Zoom). Data of the interviews were gathered using templates (MS Word), with the following thematical topics: general company description, onboarding process, check of qualifications, 5 different groups of competences (1. competences for using computer programs and PC software, 2. new forms of work and requirements for job duties in the future, 3. demands of present jobs and personally organizing, 4. competences for professional use of social media, and 5. safe use of computer and internet), motivation of participating training courses, what type of training format is preferred.

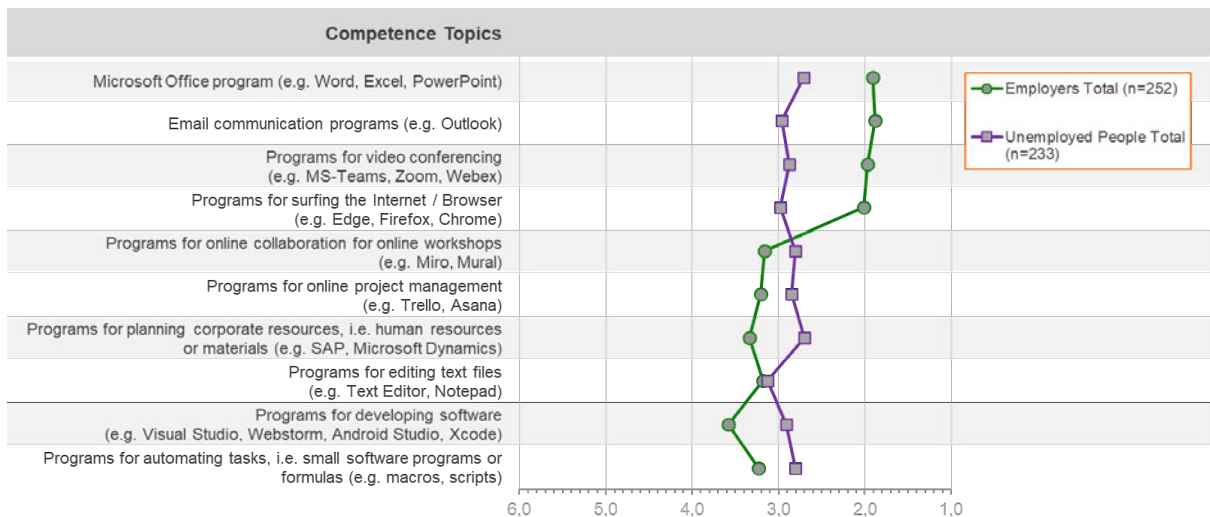
3 RESULTS

The online survey results are presented together with the results of the interviews, and in five thematic categories.

3.1 Dealing with computer programs and PC software

Figure 1 presents how employers and unemployed people experience the importance of competences related to dealing with computer programs and PC software.

The competence area topics cover the following programs: Microsoft Office (e.g., Word, Excel, PowerPoint), email communication (e.g., MS Outlook), video conferences (e.g., MS Teams, Zoom, Webex), looking for information (web surfing) the internet (e.g., browsers of Edge, Firefox, Google Chrome), online communication for online workshops (e.g., Miro, Mural), online project management (e.g., Trello, Asana), planning corporate resources (ERP), such as human or material resources (e.g., SAP, Microsoft Dynamics), text editing (e.g. Text Editor, Notepad), developing software (e.g., Visual Studio, WebStorm, Android Studio, Xcode), and small programs for automating tasks (e.g., macros, scripts).



1 = Training/Competence for recently hired employees would be extremely important for me.
 6 = Training/Competence for recently hired employees would not be important for me at all

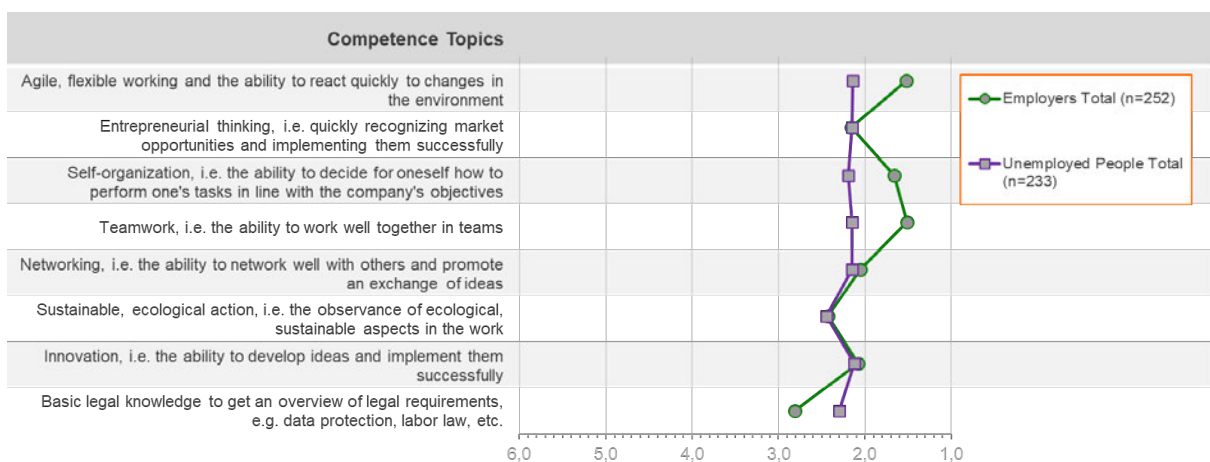
Figure 1. Importance of the competences related to dealing with computer programs and PC software.

For both target groups (unemployed and employers), the results of the importance of the competence areas are in average relatively low (average mean scores employers = 2.75 and unemployed people = 2.87). In the area of dealing with computer programs and PC software, there are clear differences between the target groups of employers/companies and the unemployed people. While the importance of training using a wide variety of software tools is expressed homogeneously among unemployed people, there is a clear preference among companies. Classic software programs for day to day-work (office, mail programs, online communication, and browser programs) are preferred from the company's point of view as basic skills in their importance. High-end programs (online-collaboration, project management, ERP solutions) on the other hand, are clearly losing their importance from the companies' point of view, in contrast to unemployed people.

3.2 New forms of work and requirements for the job duties in the future

Figure 2 presents the how employers and unemployed people experience the importance of the competences related to new forms of work and requirements for the work in the future.

Competences are measured in the following areas: agile, flexible working and the ability to reach quickly to changes in the environment, entrepreneurial thinking to recognize market opportunities; self-organization (ability to decide oneself how to perform one's tasks in line with the company's objectives); teamwork (ability to work together in teams); networking; sustainable, ecological action; innovation as the ability of develop ideas and implement them successfully; and basic legal knowledge (data protection, labor law etc.).



1 = Training/Competence for recently hired employees would be extremely important for me.
 6 = Training/Competence for recently hired employees would not be important for me at all

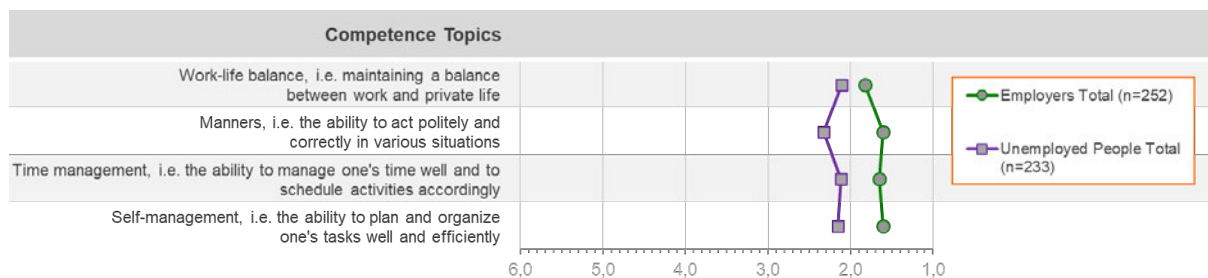
Figure 2. New forms of work and requirements for the job duties in the future.

For both target groups the importance ratings are in average relatively high (average mean scores employers = 2.03 and unemployed people = 2.21).

Unemployed people experience the need of different competencies for new forms of work and requirements for the job duties in the future a little different than the employers. On the other hand, there are clear priorities from the point of view of the companies: competences of agile and flexible working, competences of working in teams, and competences of self-organization. Interestingly, that the crucial global challenge of sustainable, ecological actions is regarded with low relevance in the point of view of both target groups.

3.3 Organizing the demands of present-day jobs

Figure 3 shows how the employers and unemployed rate the competences topics regarding the organizing the demands of present-day jobs. The topics are work-life balance, manners (ability of act politely and correctly in various situations), time management (ability to manage one's time well to schedule activities accordingly), and self-management (ability to plan and organize one's tasks well and efficiently).



1 = Training/Competence for recently hired employees would be extremely important for me.

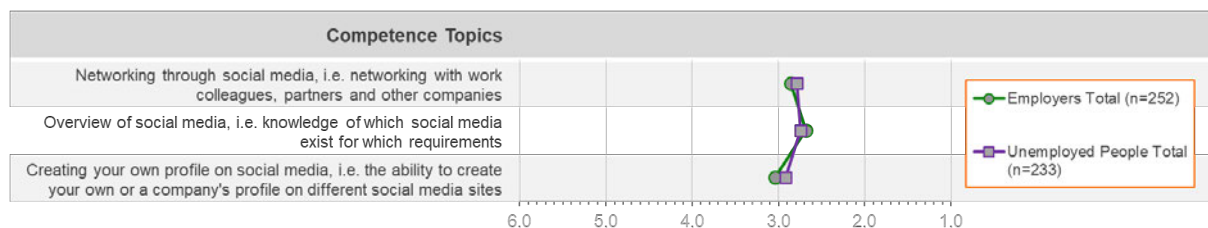
6 = Training/ Competence for recently hired employees would not be important for me at all

Figure 3. Organizing the demands of present-day jobs.

For the employers the importance ratings are in average higher than for the unemployed people (average mean scores employers = 1.67 and unemployed people = 2.18). When it comes to skills for personally organizing the demands of present-day jobs, there is a clear difference between the assessments of companies and unemployed people. Companies say that these skills are clearly more important than unemployed people estimate their need for further training. While in the case of work-life balance both groups express relatively uniform importance, aspects such as politeness/manners, self-management and time management are assessed with higher importance by the group of employers.

3.4 Professional use of social media in professional applications

Figure 4 presents the how employers and unemployed rate the competence topics related to professional use of social media. The competence topics cover networking through social media, overview of social media, and creating your own profile on social media.



1 = Training/Competence for recently hired employees would be extremely important for me.

6 = Training/ Competence for recently hired employees would not be important for me at all

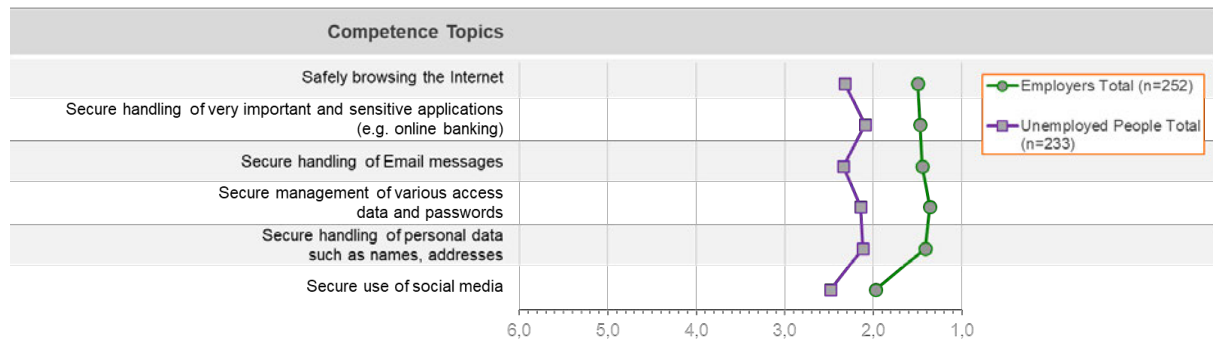
Figure 4. Professional use of social media in professional applications

For both target groups the importance ratings are in average relatively low (average mean scores employers = 2.86 and unemployed people = 2.82). When it comes to skills for the use of social media in professional use (e.g., Facebook, Instagram, Snapchat, LinkedIn, Twitter), the assessments of importance are for companies (in the direction of their employees) and for unemployed people in terms

of their need for further training exact at the same level. However, the absolute level of importance in this area is still relatively low.

3.5 Safe use of computers and the Internet

Figure 5 covers the theme of safe use of computers and internet. The competence topics are safe browsing of the internet, secure handling of very important and sensitive applications, secure handling of email messages, secure management of accessed data and passwords, secure handling of personal data, and secure use of social media.



1 = Training/Competence for recently hired employees would be extremely important for me.
 6 = Training/Competence for recently hired employees would not be important for me at all

Figure 5. Safe use of computers and the Internet

For the employers the importance ratings are in average higher than for the unemployed people (average mean scores employers = 1.52 = high score and unemployed people = 2.25). When it comes to skills for safe use of computers and the internet, the assessments of importance are for companies (in the direction of their employees) and for unemployed people in terms of their need for further training are very different. For companies, these competencies are the most important of all five topics. They expect their employees to have very high qualifications in almost every aspect. For unemployed people, in contrast, there is less need for further training in these skills.

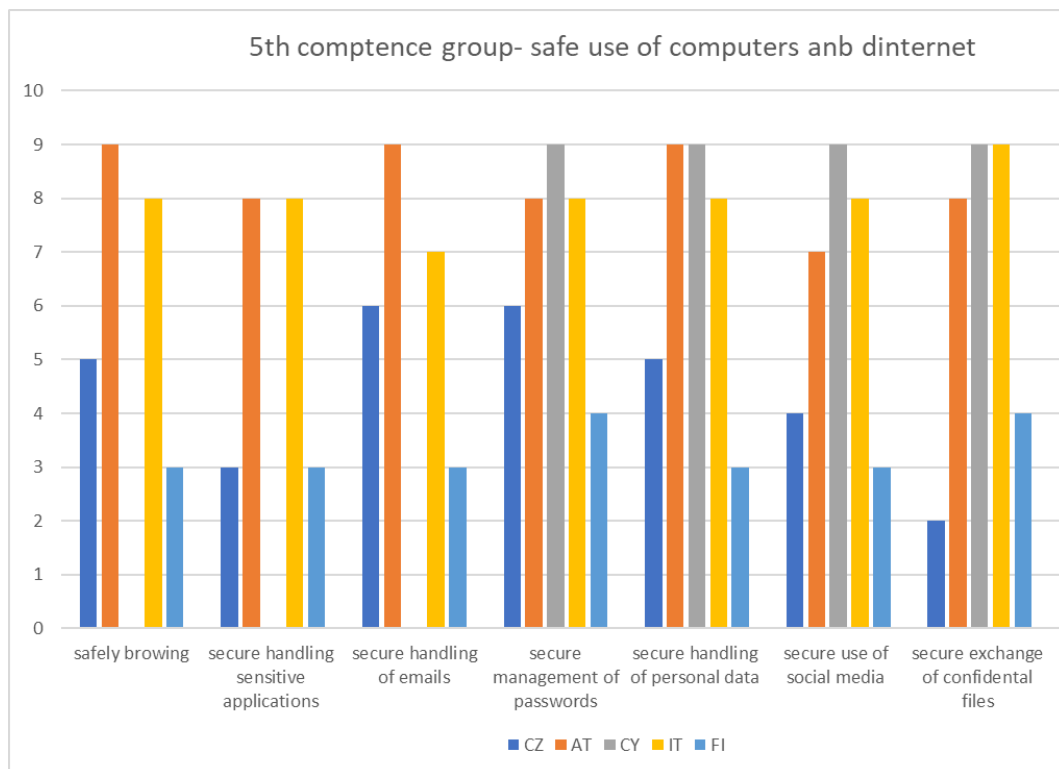


Figure 6. Safe use of computer and internet, geographical results

According to CrowdStrike [26] the data security attacks have become more high-profile and sophisticated in the aftermath of the pandemic and the Internet disruption caused by it. There are newly named adversaries that multiply, increased interactive intrusive campaigns and ransomware-related data leaks. Therefore, the risks are real. Finland and Czech Republic show the lowest interest in safe use of computers and Internet. Finland is also a small country what comes to population (5,5 M). Finland is one of the least corrupt countries [27] in the world. Maybe there is a false trust in honesty there even if there are data security companies such as F-Secure in Finland.

4 CONCLUSIONS

The results indicate that when organisations and unemployed people rate the competence areas mentioned, unemployed people value the importance of further training which is positive if the objective and significance of the project Digital Job Onboarding is evaluated. There is a genuine need for training on digital skills and new work.

The importance of training is rated relatively equally among unemployed people. We can still compare both importance ratings, they also show an interesting picture. The importance of training is rated relatively equally among unemployed people across all five competency areas. However, the situation is different in companies: there are major differentiations between the individual competencies. From the point of view of the companies, three topics of competence are particularly important (ranking):

- 1 Safe use of computers and internet
- 2 Personally, organizing the demands of present-day jobs (work-life balance, manners, self- and time-management)
- 3 New forms of work and requirements for the job duties in the future or skills managing new forms of work (agility, entrepreneurial thinking, self-organization, teamwork, networking, sustainability, innovation, and basic legal knowledge).

If we evaluate the inquiry, it was extensive as it was carried out in all five project countries and 233 unemployed people, and 252 representatives of employers answered the questionnaire. The results were triangulated by 50 qualitative interviews with companies and international literature reviews. Naturally, the study was limited in that sense that it covers only five European countries, and the results cannot be generalised in a global perspective.

However, it is valuable that the target groups of the project were informants to ensure the true need of the unemployed young people and employing companies. Therefore, co-creation and student empowerment and up-to-date learning with relevant impact and extension will be designed. In next phase of the project, we will go on researching the learning results and making recommendations for implementing the lessons learned in the project Digital Job Onboarding.

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