Research Article

The Challenges of Higher Education Institutions: Including Digital Skills and Preparing Reflective Learners

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Abstract

The higher education institutions in the study programs and during the learning and teaching process should ensure the inclusion of digital skills. The digital skills should be delivered to students along the three pillars of the European Qualification Framework. If the higher education institutions fail to integrate and deliver the digital skills in the curriculum will devastate also the employment perspectives of its graduates. The information itself does not represent knowledge and today students have access to a large amount of information. In the long run this trend may diminish the focus skills of students and it poses a risk for creation of reflexive learner instead of the reflective ones. Thus, it is important that the teaching methodologies, which integrate various digital utilities to help students develop their reflective thinking instead of reflexive one.

Keywords: *higher Education institutions, digital skills, reflective learners*

1. Introduction

The lack of skills in using computer and Internet technologies was identified as the most significant problem and the primacy of access over skills in projects to deal with the digital divide (Leaning, 2017). These models identified the lack of skills as being central to restricting people availing themselves of the benefits of digital media in terms of performing different activities such as

business (Arendt, 2008), political engagement (Seong-Jae Min, 2010) and several other types of activities (Leaning, 2017).

Our brain uses language as a mean of expression, from the rational and emotional point of view, but "*in the current Age of Information Technology, we must also consider the role of technology in our thinking*" (Athreya and Mouza, 2017 pg. 2). New business models are requiring new managerial skills. Compared to the conventional business lines the digital business lines, are much more creative and flexible to launch attractive offerings (Bounfour, 2016 pg. 44). In digital space-time, remote collaboration calls for skills-sharing to be redesigned. Ad hoc (agile) design methods make this possible (Bounfour, 2016 pg. 48).

Youth is experiencing different ways of living on: learning, socializing and communicating. They are born in the time, when most of the activities conducted in the world are facilitated by the technology. The knowledge and information stored over different decades, is readily accessible in the "cloud" at the click of a "mouse". Everything is extremely different compared to the previous generations. Fast communication lies at the heart of the activities that have become an integrated part into youth's daily behaviors i.e. being engaged via text messaging, twitter and social networking (Athreya and Mouza, 2017 pg. 2).

Across the education sector there are various models used to get the very best from the new technology. Still, there are two blocks, the first group focuses on exploiting new technology, while the group other focuses on educating the human capital. Within all the models we can get the best elements. There are some institutions that do operate within the existing education system, while others are alternatives to the traditional system. Some models are realized only by one organization, which might have public, private or non-profit status, however many other models are implemented on the basis of multi-stakeholders partnerships. They join the forces in order to enhance quality, importance and exploitation. Although, the very best elements should be drawn on improving the quality, importance of education and incorporation of skills needed in the study programs (Jayaram *et al.*, 2017 pg. 123).

Teachers across the globe, as long as they are worried about the use of new technology they are also enthusiastic about its use. They are alarmed about how the technology will shape their learning and also their ideas about the environment and the world it surrounds them. Technology creates unlimited opportunities to facilitate the individual's thinking and educators are thrilled about it (Athreya and Mouza, 2017 pg. 4). The authors Athreya and Mouza, consider the onset of information and communication technology another big event, after the arrival of written words. They think, that especially invention of the Internet has given the world completely a new dimension, as was with the arrival of written words that has made remarkable changes in the history of human communication and learning (Athreya and Mouza, 2017 pg. 7).

If we have a look at the European Internet Forum 2018, they have identified a partial list of evolving, emerging and interesting technologies comprising this avalanche, including:

Artificial intelligence; Enhanced/virtual reality; Swarm intelligence; Robots/drones; Machine learning; 5G wireless infrastructure; Manufacturing (Industry 4.0 / "makers"); Internet of Things; Quantum computing; Blockchain; Neural networks; New space ("internet in the sky"); From latency to immediacy; Voice activation; Miniaturisation Cognition as a service (Linton, 2018, p. 5).

2. Literature Review

Increasing use of virtual technology is raising the decision for brand new abilities along three traces. First, workers across a developing range of occupations want to acquire established ICT capabilities with the intention to use such technology of their day by day work, e.g.: online access to information get entry to statistics online or use software program. Second, ICT skilled experts are required to program, develop applications and manage networks. This enables production of ICT products and services such as: software program, web pages, e-commerce, cloud and big data. Third, the ICT penetration has caused profound changes in many areas including the way we work. It has increased the need for new ICT abilities: being flexible, ability to process new information, new way of communication with the employees and customers and creative ways of solving problems. In order to further progress on the ICT skills enhancement specifically on: generic,

specific and complementary skills it is necessary to be equipped with a sound level of basic skills (Organization for Economic Co-operation and Development, 2016).

Washington Post has first used term computer literacy in the early 1980s, when personal computers became widespread. The notion itself was quite narrow as it referred only to: "*the most basic forms of computer operation, such as turning on a computer, opening a folder, and saving a file*". Due to its simple definition, within a decade, its popularity vanished. It covered only certain aspects of computer-related education. There is a relationship with the physical and operational use of a computer that has major inference with the people's productivity with it and interconnects with a range of social aspects, including age (Warschauer, 2003 pg. 111). In between the following notions have been used to describe the set of elementary skills on using computer or Internet technology: technical proficiency (Søby, 2003), technical literacy (Carvin, 2000) and technical competence (Mossberger, Tolbert and Stansbury, 2003).

Across the literature, there are different notions used to describe the same meaning, such as: media literacy, digital literacy, computer literacy, information literacy and network literacy (Bawden, 2001; Bawden, 2008). According to a recent study the three most frequent notions used by researchers when writing about the ability to use ICTs were the following: online, digital and Internet skills. Additionally, inclusion of digital literacy, digital competence and information literacy in the search did not produce any additional results (Scheerder, van Deursen and van Dijk, 2017 pg. 1609). In some of the earlier definitions Internet has been incorporated to demonstrate some of the basic abilities including: navigation, searching for information or downloading files (Bunz, 2004; Bunz, 2009; Hargittai, 2002; Potosky, 2007). Internet skills could also be used through the following terms: digital skills, e-skills, digital competence (Scheerder, van Deursen and van Dijk, 2017 pg. 1610). "Internet skills" (Van Deursen and Van Dijk, 2010) or "digital skills" (Fuchs and Horak, 2008) is used across different studies related to technological skills.

Van Dijk and van Deursen (2014) classify and define the following types of internet skills: Operational Internet Skills, Formal Internet Skills, Information Internet Skills, Communication Internet Skills, Content Creation Internet Skills and Strategic Creation Internet Skills. However, we suggest using the term digital skills when referring to the skills needed to use the Internet in general (Scheerder, van Deursen and van Dijk, 2017 pg. 1614). Also for different international organizations such as: European Commission, World Bank, International Monetary Fund etc. it has become much common to use the term digital skills.

Trends of ICT development are quite fast and not easy to follow. In this regard, providing a standard definition for the term of digital skills is a complex issue. It means that providing a definition that embraces all the elements of current issues is not an easy task. Although, some efforts have been put in this direction we will bring some of the definitions used by the authors and international organizations.

> *"Digital skills are defined as a range of abilities to use digital devices, communication applications, and networks to access and manage information. They enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large". (UNESCO, 2018).*

According to tools Van Deursen, Van Dijk and Peters (2011), "digital skills" has a wider focus, compared to "Internet skills" that emphases attention on specific skills. "Digital skills' applies more to skills related to using cell phones, computers, and other digital media.

The notion of "digital skills" is quite extensive and might be preferred in most of the cases. Still, "Internet skills" is appropriate and explicit and "*it can be argued that the know-how to apply Internet technologies and applications is necessitated by the ability to use digital media platforms: cellphones, tablets, computers or any platform on which the Internet is accessed*". The author uses both notions interchangeable, in order to avoid reductions tendency (Oyedemi, 2014).

3. The Conceptual Reference Model

By acknowledging the importance of digital competence in today's everyday life, the European

Commission's 2010 Digital Agenda dedicated a thorough pillar to digital literacy, skills and inclusion. The Digital Competence Framework for Citizens recognizes 5 areas: Information and data literacy, Communication and collaboration, digital content Creation and problem solving (Vuorikari *et al.*, 2016).

Table 1: DigComp 2.0 – The Conceptual Reference Model

Competence areas **Dimension 1**
1. Information and data literacy
1.1 Browsing, searching and filtering data, information and digital content **To articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them. To create and update personal search strategies.** 1.2 Evaluating data, information and digital content **To analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. To analyse, interpret and critically evaluate the data, information and digital content.** 1.3 Managing data, information and digital content **To organise, store and retrieve data, information and content in digital environments. To organise and process them in a structured environment.**
2. Communication and collaboration
2.1 Interacting through digital technologies **To interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.** 2.2 Sharing through digital technologies **To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices.** 2.3 Engaging in citizenship through digital technologies **To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.** 2.4 Collaborating through digital technologies **To use digital tools and technologies for collaborative processes, and for co-construction and co-creation of resources and knowledge.** 2.5 Netiquette **To be aware of behavioural norms and know-how while using digital technologies and interacting in digital environments. To adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments.** 2.6 Managing digital identity **To create and manage one or multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through several digital tools, environments and services.**
3. Digital content creation
3.1 Developing digital content **To create and edit digital content in different formats, to express oneself through digital means.** 3.2 Integrating and re-elaborating digital content **To modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.** 3.3 Copyright and licences **To understand how copyright and licences apply to data, information and digital content.** 3.4 Programming **To plan and develop a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task.**
4. Safety
4.1 Protecting devices **To protect devices and digital content, and to understand risks and threats in digital environments. To know about safety and security measures and to have due regard to reliability and privacy.** 4.2 Protecting personal data and privacy **To protect personal data and privacy in digital environments. To understand how to use and share personally identifiable information while being able to protect oneself and others from damages. To understand that digital services use a "Privacy policy" to inform how personal data is used.**

4.3 Protecting health and well-being **To be able to avoid health-risks and threats to physical and psychological well-being while using digital technologies. To be able to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). To be aware of digital technologies for social well-being and social inclusion.** 4.4 Protecting the environment **To be aware of the environmental impact of digital technologies and their use.**
5. Problem solving
5.1 Solving technical problems **To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).** 5.2 Identifying needs and technological responses **To assess needs and to identify, evaluate, select and use digital tools and possible technological responses to solve them. To adjust and customise digital environments to personal needs (e.g. accessibility).** 5.3 Creatively using digital technologies **To use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.** 5.4 Identifying digital competence gaps **To understand where one's own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development and to keep up-to-date with the digital evolution**

Source: (Vuorikari *et al.*, 2016)

4. Developing Digitals Skills

Digital generation is offered with large opportunities created with the growth of electronic media and Internet. This has been accompanied by new demands as an urgent matter appearing the issue learning how to organize and processing the vast amount of available information, think critically and also use information as practical knowledge. This is linked to other issues such as: advantages, constraints and problems of electronic media, or considered as crucial to help the digital generation for easier decision-making (Athreya and Mouza, 2017 pg. 2).

The importance for the adoption of new trends in skills development, is explicitly highlighted in a recent study conducted by Sousa and Rocha (2019) that emphasis that:

> *"There is a low level of positive correlation between Perceived challenges faced by organizations and Opportunities for new disruptive business, New trends of skills and also shows negative relationship between Perceived challenges faced by organizations and Organizations Digital Transformation and have strong positive correlation between Opportunities for new disruptive business and New trends of skills, Organizations Digital Transformation. The negative perceptions in the Organizational Digital Transformation need to be overcome with new opportunities and to adopt new trends in skills development" (Sousa and Rocha, 2019, pg. 332)*

Via technology youth has an unprecedented opportunity to improve their thinking skills. They need to critically evaluate the position and influence of new and evolving technologies and keep an open eye (Athreya and Mouza, 2017 pg. 3) . It is important to recognize the fact that digital generation should learn how to become reflective learners, instead of reflexive responders. Moreover, Athreya and Mouza have some key recommendations about the digital generation:

a. Learn about thinking in general and its pitfalls; b. Learn to sort and organize useful information; c. Make time to think through information; d. Think critically through information; e. Construct knowledge out of information; f. Learn about external factors which influence thinking and decision-making, particularly media and digital tools; g. Learn to develop individual values by reflecting on your own experiences; h. Be aware of pitfalls generated by technologies; i. Learn to use technology to improve thinking skills; j. Learn to think about thinking (Athreya and Mouza, 2017 pg. 3). In this regard teacher competence and teacher support proved to be very important for

instance in a survey related to the determinants for student satisfaction with the blended learning course (Zhu, 2017). The students' e-skills might be quite much determined not only by the use of information technology from students' side, but also their active participation. Furthermore, enhancement of students' e-skills can occur when interactive learning is applied (Youssef, Dahmani and Omrani, 2014). Even more crucial is the state-of-the-art application of ICT in teaching aspects. It is a prerequisite to get the very best of ICT in higher education (Ben Youssef, Ben Youssef and Dahmani, 2013). In this regard we might link the fact that full exploitation of ICT is very important for delivering the digital skills along the three pillars of the European Qualification Framework.

The research also indicates that the current generation of students is much prone to perform several tasks at the same time and always get fast access to the information. In this regard, they are willing to spend less time in analytical thinking (Powers, 2010).

The attention of the digital generation can be distracted considering the behavior, which is present, while a person searches for a specific information. We look for particular information, and we switch very fast from an image to another, from a web page to another. The core question to be addressed is that are we evading our capability of staying focused and thinking through a problem? Although, technology has created the possibility to store large amount of information and in the mean time various difficult analysis can be performed. However, we should bear in mind that information is not knowledge. Nowadays, the youth has at disposal large information that it has access to, but it does not necessary reads them carefully. They move quickly from on web page to the other. These interferences are not very stimulating for developing sustained attention and deep thinking (Athreya and Mouza, 2017 pg. 7).

Effectiveness and novelty capacity of a company is driven by the 21st century digital skills. The authors Sousa and Rocha distinguish between 21st-century skills and digital skills and make a division between core skills contextual skills. Among the core skills they classify: technical, information management, communication, collaboration, creativity, critical thinking and problem solving, while as contextual skills have identified the following: ethical awareness, cultural awareness, flexibility, self-direction and lifelong learning (van Laar *et al.*, 2017). The most popular digital technologies among employees for learning are found to be: tablets, mobile technologies and smart phone applications, while the main crucial skills recognized were the following: artificial intelligence, nanotechnology, robotization, internet of things, augmented reality and digitalization (Sousa and Rocha, 2019).

The Information Age has come and it will stay for a longer period. It is still uncertain how it will change our brain and reorganize its circuitry for thinking. But the immense changes are ahead, and we should be part to assist these transformations. As noted in the earlier part of the chapter, it is important to highlight that information itself does not represent knowledge. Moreover, the full effect of technology at individual level including learning and other aspects of social life, will be known in the decades to come. Currently, we can only see that our children are exposed to new way of learning and thinking. And the availability of online information is increasing at an exponential rate. We have to adapt the information and communication technology smartly to enhance our thinking. The two challenging questions remain on how can the technology be used to facilitate students to use thinking skills for navigation? And how can we use it develop the thinking skills? (Athreya and Mouza, 2017 pg. 8).

In order to create study programs that are sustainable and flexible, certain elements have to be taken into account. Prior to the design of a study program there is a need for conduction of a skill gap analysis and taking into account appropriate needs. To achieve this purpose the involvement of industry and other key stakeholders from the labor market from early phases is necessary. When the study programs are designed there should be a clarity in the articulation of the goals, outcomes, successes and challenges. Along this flexible curriculum should provide a strong basis for the selection, promotion and implementation of important programs (Jayaram *et al.*, 2017 pg. 140). As the development trends are moving fast, students are looking for new skills, which enables them smooth transition to the labor market (Ben Youssef and Dahmani, 2008).

Furthermore, there is a very revolutionary demand highlighting the importance of e-skills: "*In the economy of 2030, the high-value skills will be those enabling the individual to add value to the capture, communication and analysis of real-time, real-world data. This isn't only – or even primarily*

– about scientific skills. Already today we see the emergence of "niche experts" in many fields able to do this with basic e-skills. And we see internet-based systems (platforms) evolving to recognise an individual's real world skills and achievements" (Linton and Joakar, 2014).

Important note, is made by Bounfour (2014) on the future and type of enterprises and the skills needed: "*Space-time constraints lead enterprises— and R&D intensives enterprises in particular— to develop collaborative co-creation processes, with an emphasis on the teams' integration of factors that are favorable or unfavorable to alignment constraints (whether functional, spatial or skills-related). The 2020 enterprise is an enterprise centered on co-creation, through the management of multiple tensions. Data abundance requires the development of new skills, especially in data analytics. The availability of high-powered algorithms will create demand for such skills. The emergence of new profiles will challenge existing resources, particularly if they are ill-suited to real time and network abundance requirements*" (Bounfour, 2016 pg. 114).

The fast pace of development has affected decision-making and distribution of resources across all organizations. Based on the impacts that are brought by the changes that we are continuously experiencing in our society and along with it all the ambiguities that we are living in, there are two examples that have to be re-visited. It is the business plan and terminal value in finance. Usually, freelancing has much higher requests due to large alterations in the ecosystems. Thus, individuals have to rethink their future consistent to the status they want to have in the society (Bounfour, 2016 pg. 119).

The new Skills Agenda for Europe, adopted by the Commission on 10 June 2016, launched 10 actions to make the right training, skills and support available to people in the EU. The goals and actions on the Agenda are set out in Communication: A New Skills Agenda for Europe. The European Commission's Communication "A new skills agenda for Europe: Working together to strengthen human capital, employability and competitiveness" suggests the way on how the countries can approach to the skill shortages that Europe is confronting with. Actually they have identified the following competences, as crucial for everyday life: literacy, numeracy, science and foreign languages, as well as more transversal skills such as digital competence, entrepreneurship competence, critical thinking, problem solving and learning to learn. Moreover, these set of skills are very important for personal development, social inclusion, active citizenship and employment (Vuorikari et al., 2016 pg. 2). To escape from the "trap" requires building skills for employability and sustainable livelihoods. This requires major re-configuration of many areas (Maclean, Jagannathan and Sarvi, 2012 pg. 4).

Digital technologies are building the way for new forms of business models. We need to consider that the aspect of global equilibrium and the effect of global change on growth is an open question, adding here the importance of digital technology on job creation. In this regard the capacity Europe's innovation systems to absorb the potential coming from new technologies is still a big question. There are a lot of opportunities coming from the digital technologies. Digital transformation at the microeconomic and sectorial level has occurred and will continue to shift the machine-to-machine interaction. Particularly, due to Internet business organization are and will undergo tremendous change. Therefore, there is an urgent need for modification and re-definition of content, structure and building blocks. This way the areas of uncertainty are clear and we need to think about the future challenges (Bounfour, 2016 pg. 29). There are also questions to be raised for the higher education institutions, which represent the supply side of work-force development. Are the Higher Education Institutions ready to prepare the graduates that will be ready to take the jobs of 21st century? How can the HEIs via its study program support the students to get the necessary digital skills coming the 4th industrial revolution?

4.1 Technical and Vocational Education and Training (TVET) as a tool to fight unemployment in developing countries and link to the digital skills

Strategies for Human resource development and skills development should characterize the economic cooperation. The move towards economic cooperation needs to be accompanied by HRD strategies and skills development. Skills development for employability, which stresses practical, technical and vocational, rather than largely academic knowledge, skills and

understandings shall be referred to as technical and vocational education and training (TVET). The model of TVET in Europe is a good model, although countries across the European Union have different models of TVET and higher education. Despite this fact, they have achieved to design common tools and principles for TVET. This is a clear sign that EU countries recognize the importance for cooperating on common issues. Since 2002 this demand for ensuring quality and relevance of education and training has been embedded into policy documents. Ministers devoted themselves to cooperate in TVET, making the TVET as the best region in the world (Maclean, Jagannathan and Sarvi, 2012 pg. 7).

The European Qualification Framework is comprised of three pillars: knowledge, skills, responsibility and autonomy. It provides a good basis to compare the qualifications in different European countries. The European Qualification Framework of the European Higher Education Area provides descriptors for three cycles agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005 in the framework of the Bologna process. Each cycle descriptor offers a generic statement of typical expectations of achievements and abilities associated with qualifications that represent the end of that cycle (ECF, 2018).

Specific guidance, planning, policies and interventions by the government are essential.

Markets alone cannot arrange education and training for individuals in a timely way so that qualified workers are easily available at work when employers need them. Markets go even beyond, not only in terms of the skills demanded by the labor market but also in terms of which industries in the medium to long term growth will be feasible and what skills they will need (Powell and Lindsay 2010).

The public sector can finance from the supply side the private TVET institutions via: vouchers, grants, subsidies, and stipends while, on the demand side, mechanisms are in place to encourage parental selection, competition and accountability. These measures ensure enrolment, improvement of education outcomes and improvement of access equality.

In order to boost private public partnerships (PPPs), governmental organizations must enhance the capacity of public entities to regulate, supervise and recruit TVET providers. In addition, government must develop capacities to private providers to deliver TVET through facilitating access to capital. In addition it is necessary to have an improved education and management practices and established structures and institutions that help set-up and implement PPPs (Maclean, Jagannathan and Sarvi, 2012 pg. 12 & 13).

TVET is largely responsible for training employees in these new competences. This means that trainings in various countries comprehend and anticipate the demands of future employers, that they have the flexibility to adapt to the appropriate TVET and adapt it in a timely way to the alterations in occupations that may not at the moment appear to require green skills but will in the future (Maclean, Jagannathan and Sarvi, 2012). It is important the vocationalisation of education and the reorientation of skills development for employability through Lifelong Learning (Maclean, Jagannathan and Sarvi, 2012 pg. 17).

Inclusion of the elements of professional education in the higher education system is a result of the growing number of students. Now a larger emphasis is put on advancing the skills of students, in order to increase their chances to become part of labor market (Maclean and Wilson, 2009).

Digital transformation of companies and organization can happen through the digital learning. However, digital learning can be stimulating for competence development. The moving towards digitalization will occur when the companies will use the possibilities offered by the social learning. Thus, it is crucial on embedding the social learning into: “in the design and the process of delivering contents, including social elements embedded within the digital content, informal problem solving, knowledge sharing, communities of practice and user-generated content“.(Sousa and Rocha, 2019) There are several studies that give evidence that there is a connection between the well-educated and trained individuals and earning of higher incomes. This is due to the fact hat they have higher knowledge and skills levels, or put simply, higher qualifications are a proxy for more skills (Maclean, Jagannathan and Sarvi, 2012 pg. 17).

4.2 Improving infrastructure for increasing opportunity to interact with digital technologies

The World population has largely benefited by the digital technologies invented within the industry 4.0. Human life has been greatly facilitated by the use of these new technologies. Nowadays, we are enjoying several benefits of the digitalized world starting from: innovative products and markets, cheaper labor expenditures, fast receipt of the product from manufacturer to the customer, workers are kept away from the life-threatening duties. We have an improvement in the standard of living, people may live longer to all the inventions in the field of medicine, disable people may life an easier life due to all the gadgets that are at disposal to help them. New confrontations are ahead in terms of education and employment. Actually, the following aspects can be considered as challenges of education and employment: manufacturing (mainly robotics), analysis of large amount of data, development of innovative products and services and also new forms of organizations of the companies (Sousa and Rocha, 2019).

For instance digital agora are an example of increasing opportunity to interact with digital technologies. The regional social opportunities can be enhanced through creation of new relations and also keeping the existing ones. Region's innovative capabilities can be enhanced through aptitudes, practice and awareness development. Digital agora can be a hub also for engaging communities in digital planning and promotion of digital initiatives. Strengthening of the public facilities can be a way to increase the number of digital agoras. Respectively, libraries and community centers can be offered by public institutions to be used for such initiatives. Government authorities should have as a priority offering to its community high speed internet (Knight, 2015). Companies can grow their business faster if they take advantage of the available chances and of new tendencies on building skills. This will have an impact on the future of organizations to sustainably flourish their business (Sousa and Rocha, 2019).

"Digital region" are very important and might be decisive for future economic of a region. It can represent an important economic foundation, which interlinks the region's economic, ecological and social contexts. Guided by a strategic vision, regional digital growth can be enhanced through series of "digital blocks". Regional economies by having larger involvement in the digital economy, provides a unique opportunity for fastening the economic growth of these areas. This can be achieved through delivery of high-speed connectivity and expansion of digital capability. Digital growth might be feasibly approachable if there is an interaction among several forces of development including: physical, digital and knowledge accessibility (Knight, 2015).

5. Conclusions

The higher education institutions in the study programs and during the learning and teaching process should ensure the inclusion of digital skills. It has to be ensured that the digital skills are delivered to the graduates along the three pillars of the European Qualification Framework: knowledge, skills, responsibility and autonomy. Moreover, it is also important that all the competence dimensions of the Digital Competence Framework for Citizens are covered: information and data literacy, communication and collaboration, digital content creation, safety and problem solving. If the higher education institutions fail to integrate the digital skills in the curriculum will devastate also the employment of its graduates, which appears to be quite futuristic.

As the information itself does not represent knowledge, today students have access to large information. In the long-run this may diminish they focus skills and it poses a risk for creation of reflexive learner instead of the reflective ones. Thus, it is important that the teaching methodologies, which integrate various digital utilities to help students to create their reflective thinking instead of reflexive one.

TVET has the potential to easily respond to the changes happening in the labor market and the overall economy. It can much easily grasp all the dynamic changes happening in various occupations and offer specific technical and vocational education and training. The TVET are shorter and may cost cheaper to design and also shorter in time to deliver, compared to the Bachelor, Master and PhD study programs. On the other hand, they much easily fill the gap for certain professions that are emerging in the market as a result of the fast technological developments.

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