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**THE ERASMUS+ FUNDED KNOWLO PROJECT DIGITALIZATION ON A
GLOBAL CONTEXT IN EDUCATION A TEACHER’S PERSPECTIVE**

***Annotation.** This paper reflects the works being carried out under the Erasmus+ funded on-going KNOWLO project, Promoting knowledge-sharing culture in Learning Organization, Project number: & Code 2021-1-LV01-KA220-VET-000029991KA220-VET-Cooperation partnerships in vocational education and training. The project is aimed to cater an essential support to any vocational or traditional Higher Education Institution (HEI), which is looking forward for a change or transforming to become Smart learning organization. The project is ongoing and schedule to finish by December 2023, The KNOWLO project has 5 results that project partners from 4 difference countries are committed to develop they are arranged in the order as Result number 1 to Result number 5. This particular paper discusses about the Result number 1, Sub-criteria identified or the development of Transformational Framework (Digitalization of Learning Practices) on a Global context. This paper can be treated as a case study towards identifying various aspects of consideration when undergoing transformation from traditional learning organization to Smart learning organization. The paper discusses the perspective from the point of view of one of the crucial stakeholders in the educational sector (Teachers). This paper puts forth what is the perspective of teachers towards smart learning organization*

and what aspects they assume are necessary to involve all the stake holders towards such a transformation. The paper highlights the current situation in context with digital transformation from the teacher's perspective and the results collected highlight how teachers from different regions view digital learning practices on with different aspects and needs. The data collected has been analyzed on a qualitative & quantitative pattern and the final discussions put forth a guide of do's & don't, for any learning organization looking forward for a transformation into smart learning organization from the teacher's perspective.

Key words: KNOWLO, digital learning, education, HEI, teachers, students

Анотація. Цей документ відображає роботу, яка виконується в рамках поточного проекту KNOWLO, який фінансується Erasmus+, «Сприяння культурі обміну знаннями в освітній організації», номер проекту: & Код 2021-1-LV01-KA220-VET-000029991KA220-VET-Партнерство у сфері професійно-технічної співпраці освіти та навчання. Проект спрямований на надання необхідної підтримки будь-якому професійно-технічному або традиційному вищому навчальному закладу (ВНЗ), який з нетерпінням чекає змін або перетворення, щоб стати розумною освітньою організацією. Проект триває і планується завершити до грудня 2023 року. Проект KNOWLO має 5 результатів, які партнери проекту з 4 різних країн зобов'язуються розробити. Вони розташовані в порядку від результату № 1 до результату № 5. У цьому документі йдеться про Результат № 1, Визначені підкритерії або розробка трансформаційної основи (цифрування практик навчання) у глобальному контексті. Цю статтю можна розглядати як тематичне дослідження щодо визначення різних аспектів розгляду під час переходу від традиційної організації навчання до організації розумного навчання. У документі обговорюється перспектива з точки зору однієї з найважливіших зацікавлених сторін в освітньому секторі (вчителі). У цьому документі пояснюється, якими є погляди вчителів на розумну організацію навчання та які аспекти, на їхню думку,

необхідні для залучення всіх зацікавлених сторін до такої трансформації. У документі висвітлюється поточна ситуація в контексті цифрової трансформації з точки зору вчителя, а зібрані результати підкреслюють, як вчителі з різних регіонів бачать практику цифрового навчання з різних аспектів і потреб. Зібрані дані були проаналізовані за якісною та кількісною моделлю, а підсумкові обговорення сформулювали посібник щодо того, що можна і чого не робити, для будь-якої навчальної організації, яка з нетерпінням чекає перетворення на розумну навчальну організацію з точки зору вчителя.

Ключові слова: *KNOWLO, цифрове навчання, освіта, ВНЗ, викладачі, студенти*

Introduction. The digitalization of learning practices has been widely accepted as well supported by various member states of the European Union. The European unions renewed agenda for 2020 in respect towards higher education specifically underlines that technology boosts and opens new ways of organizing and structuring digital learning and teaching practices (OECD, 2019) [7]. Education is in a state of flux. Digitalization is radically changing the way we learn and teaching, due primarily to the increase in online networking and connecting with students, as well as the access to information that is available online. As a result, graduates are becoming more tech savvy and have additional skills in using technology to their advantage (Keane, 2005) [5].

Knowlo is a project that is supported by the Erasmus+ KA220-VET Program. The aim of this project is to develop a framework and methodologies for the staff & the educational institutions to help them become SMART Learning organizations of the 21st century (Knolow, 2022) [6]. The Knowlo project consists of a group of six consortium members from four different European Union (EU) countries, namely Latvia, Slovakia, Czech Republic & Italy. It is currently an ongoing project that was kicked-off in the year 2021 and is schedule to finish up by December 2023. This project is designed to supplement vocational higher educational organizations, with various frameworks,

methodologies, data bases as well as tools that will empower them to measure their strengths & overcome the limitations. The framework & methodologies designed in this project can be implemented by any educational organization, looking forward to become a SMART learning organization of the 21st Century.

The Aim of the KNOWLO Project. The aim of the Knowlo project is to develop a framework that helps traditional VET & HEIs transform into modern learning organizations. A smart learning organization can possess various aspects of a traditional learning organization, however, the aspects that make it smart are features such as organizational self-awareness, communication, diversity, inclusion, emotional intelligence, and digitalization. The project aims to establish an online community platform for students to share resources and ideas. Students can easily communicate with each other regarding best practices and innovative approaches in their respective fields. It also acts as a forum where students can access necessary information regarding their courses and qualification (e.g., employability skills).

The KNOWLO project has 5 results to develop namely R1 to R5 where R1 is a Transformational Framework, R2 Self-Assessment tool for organizations, R3 Learning & sharing platform for VET & HEIs, R4 Resource Database, and R5 promotion of a Smart sharing culture

Aim of the paper. This paper aims to offer crucial support to understand the perspectives of key stakeholders of learning organizations that is teachers on the aspect of transformation of traditional learning organization into a smart learning organization. This paper can be treated as a case study towards identifying various aspects of consideration when undergoing such a transformation from the perspective of a teacher/trainer.

This paper highlights crucial criteria developed under Result 1 for transformational framework.

Situation with the current literature. According to (Taleba & Hassanzadehb, 2015) [13], the modern smart educational system is a concept that has made a huge impact in this

modern age. Now it is considered to be a necessity in all areas of education. Currently, new educational systems that have been massively deployed have enabled students to learn on the move by providing digital resources whenever they are needed at any place or time. As per (Reding, 2003) [9], Modern Smart Learning organizations have come up with an integrated and effective method that empowers students to acquire knowledge with greater flexibility, comfort, and interactivity.

The partnership between the European Union and its member states has been working extensively on fostering many research, exchange and development programs. Also, Erasmus+ is one such program funded & supported by the European Union. One of the challenges is how to self-assess if an organization is traditional or smart to foster a knowledge-sharing culture. For example, if a company does not have a diversity policy it can be categorized as a traditional learning organization, as opposed to an organizational culture where all employees are treated equally and encouraged to contribute their ideas regardless of their ethnicity etc. (Vveinhardt & Minkute-Henrickson, 2015) [17].

As stated by (Uskov et.al, 2019) [15] A smart learning organization is commonly defined as being a traditional learning organization with digitalization, digitization and automation incorporated into the system. According to (Botella et.al, 2017) [3] Online learning, in general, is considered more beneficial compared to traditional mode. However, it is stressed that teaching and learning processes require to be centrally assessed so that they can provide learners with opportunities to demonstrate their abilities and capabilities of an organization to foster such developments. According to (J.W.Gikandi et.al, 2011) [4] online mode of instruction is more desired by learners than that of traditional mode and therefore there comes the need for a framework for assessing the efficacy of online education based on feedback from faculty members and students.

According to (Taylor & James, 2001) [14] it is stated that Knowledge-sharing culture in higher education institutions have been regarded as a potential enabler to achieve the established goals of such institutions. However, in most academic studies across the globe,

knowledge sharing has rarely been addressed as an essential element of organizational performance. Therefore, it is claimed by (Rusly, 2014) [11], that there is limited understanding of knowledge-sharing culture in comparison to other sectors that are similarly challenging by nature. It is also claimed that organizational transformations do not happen automatically; it needs proactive human mediation. Stakeholders' participation often benefits such transformations in organizations. Hence, KNOWLO project aims to work on these areas to help learning organizations with a framework that comprises all the essential criteria necessary for a Smart Learning organization

The Teachers Perspective. One of the very common question almost all the teachers/trainer come across in their professional career is on How to Improve and Evaluate the Benefits of Digital Transformation? According to (Vindač, Ľubkina, & I. Žogla, 2022) [16] the authors have identified some key aspects such as To ensure a successful transition to a digitized world, it is important that students gain not only IT knowledge and skills, but also an understanding of how to apply these skills in a real-world setting. This can be done by evaluating student performance and activity in a simulated or actual online environment, measuring the results of these activities, and observing the products they create using the information they have gathered.

As per (Bierwold, 2020) [2] it has been identified that in order to improve Learning Communities in the Digital Transformation era and to address their individual needs in these communities it is essential that the Learning communities must be created spontaneously by sharing open lecture resources. Online social networks can be used to create a learning community. This way, familiar online platforms can be transformed into spaces for learning according to the learners' needs. Individual support should be given according to the availability of pupils and the situation in the learning environment.

The educational sector is vast and there are various needs according to type of education, practical lectures, courses, etc. Hence as stated by (Balyer & Öz, 2018) [1] it is very crucial to Redesign Physical and Virtual Learning Environments Based on

Personalized and Collaborative Digital Transformation points. Such as in education, smaller class sizes have been found to lead to better outcomes for students. This is because teachers are able to give more individual attention to each student. In a large class, it is difficult for a teacher to give every student enough attention. Further (Pan, 2005) [8] states that Students benefit from the peer learning and feedback that is possible in an intimate environment. It can be more difficult to replicate this experience in a virtual setting. However, by careful design of mixed learning environments, it is possible to provide students with experiences that are just as valuable as those in physical environments. One such environment is known as the flipped classrooms, According to the International Society for Technology in Education, flipped learning is a learning method that «involves teaching with digital media and technology to prepare students for class». In flipped learning, students learn new material virtually on their own time. Then, they come together in a physical space to work on problems and apply what they have learned

How to Plan Educational Technologies to be Used in a Digital Transformation and How to Ensure Student Safety, Data Security and Learning at the Top Level in These Technological Instruments.

When talking about technology and digital learning it is often overlooked that with technology comes many concerns and one such concern is, how to ensure that Educational Technologies practiced for the purpose of digital education can be safe, for the stakeholders of educational organization, so that the material created by teachers is not copied/stolen/or student works do not get lost or plagiarized. There has been a huge debated over the matter of Data Security when it comes to digital learning practices. According to (Rezgui & Marks, 2008) [10] it is emphasized that digital technology has made our lives much easier, but it has also posed many challenges. In order to minimize the risks and maximize the benefits of using technology, it is important that we find ways to use such resources carefully. The only way to do this is to teach young people from an early age how to use these tools responsibly. Informal learning should start as early as

preschool, when children first learn how to handle data with confidence and thinking skills through online games and various types of interactive exercises involving technology. Students should be monitored in real time, while the teacher should be well-equipped with all the necessary materials as a back-up in case technology breakdown etc. As per (Zaslavskaya, 2018) [18] it is essential for the organization to incorporate secure cloud storage and learning platforms, thus developing a sense of security amongst the teachers and the student with their learning/ teaching material or data.

Methodology. This paper supports this research segment by showcasing the developed results of an ongoing Erasmus+ funded educational project, where the «International College of Cosmetology (ICC) in Riga, Latvia», is the project coordinator. This paper only reflects the findings and results analyzed during the development of first Result 1. Which is known as Criteria for A Smart framework. Gathered data is subsequently analyzed according to various EU regions, helping the project to understand the strengths & weakness of EU regions according to their capabilities in technological transformations and other aspects educational sector necessary to become a Smart Learning organization.

This study examines various approaches to assessment and evaluation of e-learning in the past ten years. The results show that assessments of e-learning cannot be conducted by following the same assessment criteria used when evaluating face-to-face learning. This is because there are several aspects of face-to-face learning that are difficult to replicate in an online environment, such as instructor's physical presence in class, verbal feedback, group work and collaborative activities among other factors. These limitations might have affected the effectiveness of a course; therefore, the level of confidence with which instructors can draw conclusions about students' progress or competencies may be questionable.

Research Model. The technology acceptance model (TAM) is a theory that explains how end users decide whether or not to use a particular technology. The model was

created by the University of Illinois at Urbana-Champaign (UIUC) Professor Dr. Fredrick E. Davis in 1989, who further published over 30 articles on TAM (Silva, 2015) [12].

Research Sampling. Research involves 2 purposeful samples: In order to gather input from stakeholders and gain insight into their perceptions, needs and issues related to knowledge networks support for VET & HEIs in their countries, we conducted two surveys. The purposeful sampling involved a total of 265 stakeholders from the partner countries: KNOWLO Consortium partners details: 1. International College of Cosmetology (Riga, Latvia), 2. Eurofortis It (Riga, Latvia), 3. Catholic University of Ruzomberok (Slovakia), 4. Harmony Academy (Tarnava, Slovakia), 5. Schola Empirica (Prague, Czech Republic), and 6. Euroreso (Italy).

Research question. Do teachers use Modern Technologies for teaching to its optimum in their current educational setup?

Research methods. A total of five, structured interviews of stakeholders from HEIs in Latvia, Slovakia, and the Czech Republic, Italy were performed. The interviewees were a professor from the Catholic University of Ruzomberok, Teacher from Harmony Academy in Slovakia, a Communication & Marketing Manager & teacher from the International School of Latvia. In addition to these three academic stakeholder interviews, two adult learners were also selected as interviewees: one from the International College of Cosmetology in Riga Latvia and another teenager who studies at a primary school in Riga (Latvia). Mixed methods of research have been used to gather and analyze data. For qualitative data analysis, narrative analysis was used while for quantitative data – descriptive statistics were applied!!

Research process. The KNOWLO survey was specifically targeted at stakeholders of educational institutions in order to better understand their perceptions on these sustainable goals in a global context. All stakeholders were carefully selected according to the project proposal guidelines, it was made sure that the respondents answer the survey

questions through an online survey that consists of target questions on topic, digitalization of learning practices in a global context. Ref fig 1-3.

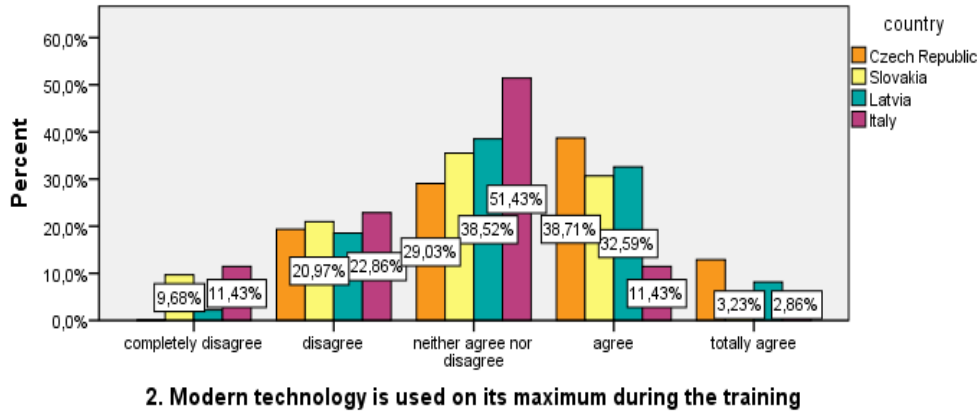


Fig 1. Use of modern technology is done to its optimum in the current educational setup of the stakeholders

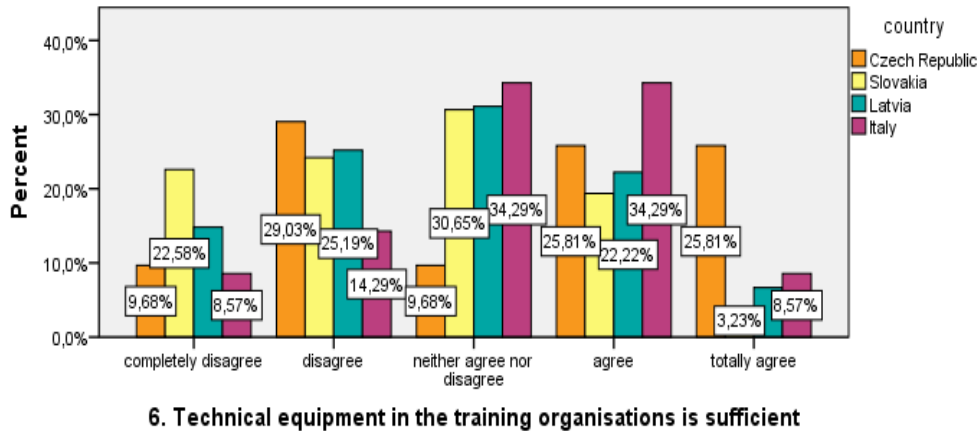
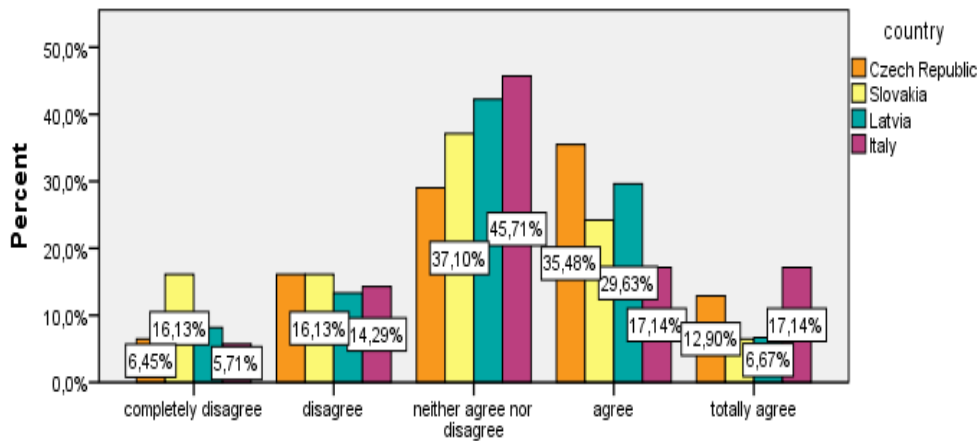


Fig 2. Technical hardware resources are compatible and modern at the stakeholder’s current educational institution



8. Digital classes are organised and interactive for everyone

Fig 3. The teachers are able to conduct interactive classes online in the current digital setup at their respective educational institution.

Summary. The fig 1, clearly reflects that the modern technology is not used to its maximum in most of the EU educational organizations as the totally agree percentage is 2,86% from Latvia to 3,23% in Czech Republic, the interviews reflect the same pattern and hints at the reasons that can be best understood as lack of trainings & infrastructures or wrong technology for adoption. Fig 2, shows that the partner EU regions differ when it comes to Technical equipment in the training organizations is sufficient, fig. 3, shows a considerable agreement in all EU regions about digital classes being conducted in an interactive way, however the engagement percentage is still low and not even close to maximum.

Research period. From November 2021 – November 2022.

Discussion. The Knowlo Consortium has completed a number of research studies as part of our effort to develop the transformation framework for this report. The criteria for this section are listed below. Organizational self-awareness, strategy and development Learning, communication, and cooperation Organization and its people Clients Sustainability and Product Orientation Digital transformation, global context and value creation Results & Benchmarking and this paper focuses on the development of Result 1 only.

Transformation of the teaching practice at all levels is underway, but many opportunities remain to stimulate and lead developing countries towards greater use of modern technologies in education, especially as regards new pedagogical approaches. To bridge this gap further, this report addresses two objectives: 1) to identify and analyze indicators that can be used by governments to measure progress in the application of information and communication technologies (ICTs) in education, 2) to determine where particular countries stand on those indicators and what policy recommendations could help them improve their performance.

Knowlo's Digital Transformation framework will help traditional Higher Education Institutions and Vocational Education training operations transform into modern learning organizations. The qualitative results from the Knowlo stakeholder survey highlight the necessity of new methods/forms of learning and individual approach to learners, as well as organizational vision, constructive feedbacks and learner experience. KNOWLO Project will endeavor to create a self-evaluation tool and framework for learning organizations that are seeking transformation from traditional to modern learning organizations.

Conclusion. In this study it has been concluded by the analyzed results that Czech Republic teachers, in comparison to Italian teachers indicate that Czech Republic teachers are more likely to agree that they use technology to its maximum than those from Italy.

It was also concluded that Czech Republic teachers do not always agree with assessment prior to training digitally and they believe that such assessments can help utilize technology to its maximum.

Further it is concluded by the stakeholder's survey that Stakeholders from all the partner countries agreed on two things unanimously, that there is not enough technical equipment in their current educational organizations and not enough government funding is available to support the use of technology to the fullest. The participants also noted that teachers have an important role to play in equipping schools with necessary equipment, as

well as they are responsible for providing training on how to use these technologies effectively.

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