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Empowering digital citizens: lessons from the DI4ALL project and National Life Skills Programme in Lithuania

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Abstract

Purpose – The purpose of this study is to assess the feedback from the teachers participating in the training course, which was delivered within the DI4ALL project and the National Life Skills Program in Lithuania.

Design/methodology/approach – To evaluate the increase of teachers' competencies and to explore their satisfaction with the training course, a survey method was used ($N = 278$). To analyse the results of the survey, a statistical analysis, correlation analysis, and content analysis were applied.

Findings – The research presented and elaborated the key result of the DI4ALL project – a specialized training course, intended to promote digital inclusion at all education stages and increase awareness about modern technologies. The feedback from the training course participants showed significant competency gains among participating teachers, particularly in digital systems, Open Educational Resources (OER), AI, and innovative assessment methods. Nearly two-thirds of participants effectively applied their knowledge in practice, advancing high-quality, flexible online education.

Originality/value – This study contributed to filling the gap in scientific and practical literature on diversity and digital inclusion in education. It provides valuable insights into the effectiveness of training on digital education, the practical implementation of the DEIA (diversity, equality, inclusion, and accessibility) concept in education, and the broader implications for educational practice in the digital age. Recommendations for similar training in the future are proposed.

Keywords Inclusion, Digital, Upskilling, DI4ALL, School, DEIA, OER, Life skills

Paper type Research article

1. Introduction

In today's interconnected world, digital participation has become a fundamental human right. This perspective is advocated by both UNESCO and the European Union (EU), which emphasize the importance of diversity, equality, inclusion, and accessibility (DEIA) in promoting active citizenship in a digitally advanced, sustainable society, especially in the context of rapid advances in artificial intelligence. These principles are deeply embedded in the United Nations' fourth Sustainable Development Goal (SDG4) and the 2030 Agenda (United Nations, 2015a, b), which aim to provide quality education for all and ensure that no

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one is left behind. DEIA, quality education, and lifelong learning are central to achieving this vision.

In line with these global goals, the European Commission (EC) has identified three main pillars to support the development of active citizens: digital transformation, green sustainability, and diversity and inclusion. The EC has issued supporting documents to promote the effective implementation of these pillars. One of them is the Digital Decade policy program (European Commission, 2024), which targets multiple areas of citizen's life, such as digital infrastructure, modern technology-based solutions for business, and more convenient and widespread e-government services that increase social inclusion and democratic participation in decision-making. Moreover, digital skills are a great necessity for the mentioned transformations. The following document, the Green Deal, is a comprehensive response of Europe to climate change and sustainability-related issues (European Commission, 2019). Finally, discrimination is tackled, and diversity and inclusion are promoted in the EU anti-racism Action Plan (European Commission, 2020). These mentioned pillars emphasize the need to equip people with the skills and knowledge they need to succeed in an increasingly digital and environmentally conscious world. According to Nordregio (2024a), in the dynamic digital landscape of the Nordic and Baltic regions, inclusion is not just a goal but a necessity. For this reason, The Nordic Council of Ministers developed the action plan for Vision 2030; Nordic Co-Operation (2020) in order to promote sustainable development, gender equality, and children's rights in Nordic countries and to share the good experience with other countries, including the Baltic States. Moreover, Nordregio (2024b) pointed out that in the 2021–2023 period, Nordic and Baltic countries published 19 new strategies on digital inclusion. This fact evidences the growing importance of digitalization for practitioners and policymakers of the Nordic and Baltic Sea Region. Besides conforming to EU policies, it shows their motivation to distinguish and solve region-specific issues in this field.

After analysing the scientific and practical literature on diversity and inclusion, it is clear that this research area is underinvestigated and needs greater academic and practical attention. Within this framework, outlined in the reviewed policy documents and research publications, the ERASMUS + project Digital Inclusion for All Learners (DI4ALL), running from 2022 to 2024, aimed to improve the learning outcomes of young students by promoting quality improvements and innovative practices in educational institutions (DI4ALL, 2024). The project pursued two goals: to ensure digital inclusion in education and thus create equal opportunities for all students and to combat disinformation through comprehensive training for teachers and educators. The target groups of this initiative included students, school staff, educational institutions, public bodies, and national agencies.

This research article examines the results and findings arising from participation in the DI4ALL initiative and the National Life Skills Program at Vytautas Magnus University. The particular outcomes of the project were studies on digital inclusiveness in Lithuania and Sweden, including international initiatives and best practice cases from each country, and the training course for school teachers. However, aiming to stress the importance of practical activities, key attention in this paper is paid to the survey of teachers who participated in the training course under the National Life Skills Program within the DI4ALL context.

This study aims to contribute to the ongoing discourse on digital inclusion and quality education. It provides valuable insights into the effectiveness of the DI4ALL project, the practical implementation of the DEIA concept in education, and the broader implications for educational practice in the digital age.

After this brief introduction, the literature review follows. Then, the methods applied in the research are described. The results are then presented and explained. This is followed by a discussion and conclusions.

2. Literature review

According to the Clarivate Analytics database, since 2000, the number of publications on digital inclusion has exceeded 15,000. Since 2019, a rapid growth of publications has been noticed – the annual number of records in the database has crossed 1,000. The key fields of research in the context of which digital inclusion is analysed, are computer science, engineering, education, health care, and business economics. Particularly, in the field of education, there are more than 1,500 publications on digital inclusion, evidencing a growing necessity for a scientific analysis of this process. Moreover, some studies are highly innovative, analysing such elements as adaptive platforms (dos Santos and Martinati, 2023), engagement of parents in learning support (Owens *et al.*, 2023), music therapy (Amaral *et al.*, 2019), the inclusion in the society of young people with developmental disabilities (Khanlou *et al.*, 2021) and digital storytelling (Akyar *et al.*, 2020; Simsek and Akyar, 2020).

However, the DEIA concept has not received much attention among scholars, and most publications belong to a very recent period. Overall, in the Clarivate Analytics database, there are 14 publications on DEIA, where this concept is understood in its classical meaning as diversity, equity, inclusion, and accessibility. Senel (2023) presents the application of DEIA in the classroom while teaching languages. Bethea *et al.* (2024) propose a practical implementation of this engaging idea and point out how to set up a committee on diversity, equity, inclusion, and accessibility in a higher education institution in order to promote a vibrant academic community. Hersugondo *et al.* (2024) investigated the influence of DEIA on job satisfaction of employees with disabilities. Some researchers transferred this quite soft phenomenon to a very "hard" area – the design of buildings (Zallio and Clarkson, 2021). Moreover, in several most recent publications, particularly related to pharmaceutical education and analysing US situation, DEIA is transcribed as diversity, equity, inclusion, and anti-racism (Abdelhakiem *et al.*, 2024; Assaker *et al.*, 2025). There are only 6 publications in Clarivate Analytics that use this approach. Along with that, two researchers broadened the DEIA term beyond diversity, equity, inclusion, and accessibility and used the DEIA + acronym, meaning that it may include more additional elements that are in line with the same values (de la Hoz and Khalil, 2024). Such an approach could foster an even broader analysis of the DEIA and related issues in academic research. Regardless of the above-mentioned modern points of view, we will perceive DEIA in the current research in its classic meaning set up by UNESCO.

To make a deeper analysis of inclusion in education, it is worth paying attention to the study by Van der Steer *et al.* (2024). As part of the European Digital Education Hub and its Squad on Diversity, Equity, and Inclusion, they argued that everyone should have equal opportunities to participate in education. They emphasized that the need for Diversity, Equity, and Inclusion (DEI) also applies to digital education, where there are different challenges compared to traditional education – unequal access to digital devices, poor internet connectivity in certain areas, or insufficient training in digital skills, to name a few. Their research focused on how DEI can improve digital education and vice versa. In addition, they looked at the digital divide and promoting digital equity, as well as marginalized groups in digital education, and how DEI can limit technostress and increase well-being.

With the fast development of digital technologies in recent decades, training intended to develop digital competencies of people of various ages has been widely conducted and analysed. Chohan and Hu (2022) described the completed training on e-government services in Pakistan, which contributed to increased digital inclusion. There were different studies on the digital inclusion of various separate groups of people, such as marginalised populations (Choudhary, 2024), rural communities (Wagg and Simeonova, 2022), or older adults (van Leeuwen *et al.*, 2023). Researchers actively sought ways to promote digital inclusion and literacy in education. For example, the results of the study performed by Kim *et al.* (2021) show that to improve digital inclusion in schools, we need proper digital infrastructure, confident and skilled teachers who can use various modern technological tools in teaching, and strong digital skills for both teachers and students. Mkhize and Davids (2021) agree with the

digital infrastructure and skills factors but also add the opinions of school stakeholders as an element to consider. Alternatively, Marcus-Quinn and Hourigan (2022) stated that digital resources are one of the most critical factors for proper online education. Finally, after a broad literature analysis, Pušnik *et al*. (2024) distinguished 24 factors into six categories that impact digital inclusion.

A separate issue covered by the literature was a disruption in education during the COVID-19 pandemic and the related necessity to switch to online or distance learning (Mkhize and Davids, 2021; Möhlen and Prummer, 2023). Livingston *et al*. (2023) distinguished barriers and challenges in the transition to online education, as well as possible solutions. Moreover, according to Pittman *et al*. (2021), the COVID-19 crisis showed that any educational changes, including the broader integration of various technological and digital elements, should be made by combining the efforts and cooperation of learners, teachers, educators, and leaders. However, to the best of our knowledge, after the COVID-19 pandemic, which substantially altered the education process, no assessment of teachers' competencies after participation in digital skills training was performed in the Nordic-Baltic region.

3. Methodology

Since the research aims to analyse the feedback of teachers who participated in the training course, the data collection procedure will be described in more detail. The survey method was chosen to obtain information from the respondents. The questionnaire of this study consisted of 11 questions:

(1) 4 closed type questions;

(2) 4 open-ended questions;

(3) 3 questions requiring responses on a Likert scale.

All questions, grouped according to three themes and purposes, are presented in Figure 1.

The MS Excel program was used to process and analyze the data obtained during the questionnaire survey of this study. The results of the answers are represented using tables and charts. Descriptive statistics is also used. Analyzing responses to questions where statements were asked to be rated on a Likert scale from 1 to 5, as recommended in scientific literature and

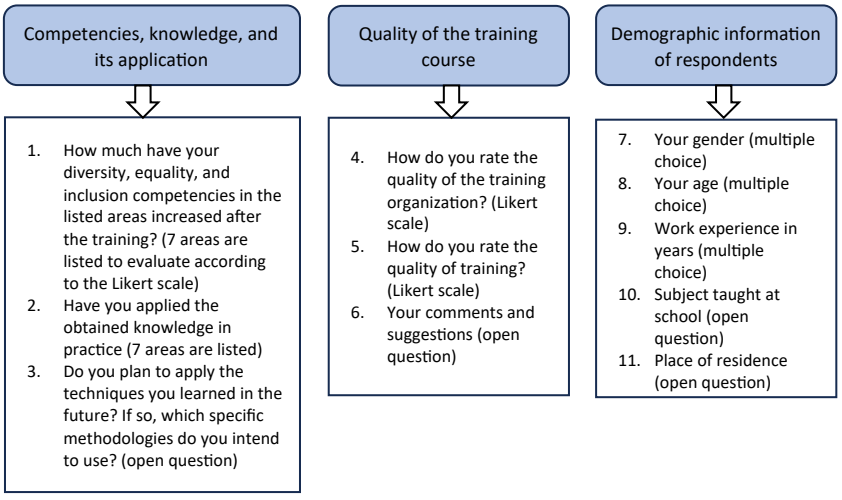

Figure 1. The structure of the questionnaire. **Source:** Figure by authors

practical sources (Boone *et al.*, 2012; Joshi *et al.*, 2015; Surveyplanet, 2022), statistical parameters were calculated – mean, mode, median, and standard deviation. A correlational analysis of the evaluations of the statements was also carried out.

When conducting research, the principles of ethical research were followed (Panter and Sterba, 2011; ALLEA, 2017). Also, substantial attention was given to ensuring the privacy of the respondents. The questionnaire did not ask for any personal information that could identify them. It was also emphasized that the researchers and institutions participating in the study comply with the EU General Data Protection Regulation (GDPR).

4. Results of the training course assessment

In order to evaluate the utility of the training course for the teachers, the questionnaire was prepared, and training participants were asked to fill it. The questionnaire contained 11 questions for teachers, as presented earlier in the text in Figure 1. Three questions were of a closed type in order to determine whether the competencies of the teachers have improved, as well as to evaluate the quality of the organization of the training and the content of the training itself according to the Likert scale with points from 1 to 5, where 1 is the worst rating, and 5 is the best. The next question was aimed at finding out whether the teachers applied the acquired knowledge in practice, and one more question was about how they plan to use the learned methods in the future. There was also an open question about possible comments and suggestions for the program. The remaining questions aimed to obtain information about the gender, age, work experience, subject taught, and place of residence of the training participants. However, in order to better disclose the utility of the training course, the answers to the questions will not be analysed in the same sequence as they appeared in the questionnaire. The questionnaire was distributed to 720 training course participants via email in February 2024. A total of 278 teachers answered the questionnaire, which amounts to a 38,6% response rate.

The presented analysis of the survey will give some insight into the usefulness of training programs for teachers in terms of the purposeful application of innovative digital technologies for their work.

4.1 Demographic information of respondents

First, it is worth analysing the demographic data of respondents. 258 women and 20 men participated in the survey. Most teachers were aged 51–60 years old (around 41%). A slightly lower part, almost 33% of participants, fell into the age category of 41–50 years old. Almost 60% of teachers who participated in the training program and subsequently – in the survey – have more than 20 years of experience (Table 1). According to their place of residence, most of the teachers participated from the big cities – Vilnius and Klaipėda, slightly less – from Kaunas and Šiauliai. There were few participants from the districts and small towns.

After examining the most common subjects taught by teachers at school, we noticed that the majority of training participants teach the subject of life skills at school. Given this remark, we can conclude that the topic of digital inclusion is the most relevant for teachers teaching the life skills program. Often, this subject is not the only one taught by the teacher. Life skills are usually taught together with nature, moral education, human safety, ethics, physical education, and citizenship. There were also quite a few interviewed teachers who teach students biology, chemistry, and history, as well as social pedagogues, for whom the knowledge of digital inclusion in education is also relevant and valuable.

4.2 Competencies, knowledge and its application

One of the most important questions related to the improvement of teachers' competencies was, "How much have your competencies in diversity, equality, and inclusion in the listed

Table 1. Demographic information about survey participants

Answer category	Answer	Sample size	Percentage (%)
Gender	Man	20	7.19
	Woman	258	92.81
Age	Below 30 years old	6	2.16
	31–40 years old	51	18.35
	41–50 years old	91	32.73
	51–60 years old	115	41.37
	Over 61 years old	14	5.04
	No answer	1	0.36
Years of experience	Up to 5 years	28	10.07
	Up to 10 years	30	10.79
	Up to 15 years	20	7.19
	Up to 20 years	33	11.87
	20 or more years	166	59.71
	No answer	1	0.36

Source(s): Table by authors

areas increased after the training?". The generalized results of teachers' answers are presented in Table 2.

The results presented in Table 2 show the magnitude of the increase in teachers' competencies in the listed field, according to their self-assessment. The average value, median, and mode of all 278 responses are presented. Since median and mode are equal for all seven listed areas, the average is the only parameter that can show a slight difference. It can be noticed that the highest average value belongs to the topic of *High-quality systems of open, flexible, and distance learning online* (3.82 points), which indicates that teachers, on average, learned the most in this field. The lowest average value is 3.54 and belongs to the theme *ERASMUS + objectives of the European Commission. European Year of Skills.* In this field, teachers' competencies increased at a slower pace. However, it could also mean that this topic was not so relevant to them. Anyway, the difference between the highest and lowest average values is minimal. Thus, no theme is significantly prioritized according to the answers to this question.

The standard deviation shows the spread of values around the mean. The higher it is, the farther the values are from the average; in other words, the respondents' opinions are very different. In the analysed case of seven topics, standard deviation values vary from 0.87 to 0.97. Thus, it can be noted that the opinion about *Learning assessment methods and*

Table 2. Statistical parameters of the increase of competence assessment

No	The topic of the training	Average	Median	Mode	Stdev.
1	UN Sustainable Development Goals	3.6190	4	4	0.9479
2	ERASMUS + objectives of the European Commission. European Year of Skills	3.5474	4	4	0.9794
3	Digital systems for education	3.7754	4	4	0.9027
4	Open educational resources	3.7164	4	4	0.9239
5	Artificial Intelligence (AI) + CHAT GPT	3.8007	4	4	0.9724
6	Learning assessment methods and opportunities	3.8007	4	4	0.8739
7	High-quality systems of open, flexible, and distance learning online	3.8225	4	4	0.9348

Source(s): Table by authors

opportunities is treated more uniformly. On the other hand, the highest standard deviation appears for the topic *ERASMUS + objectives of the European Commission. European Year of Skills*. This means that teachers mostly disagree about the increase in their competence in this area. A slightly lower than maximum standard deviation belongs to the topic *Artificial Intelligence (AI) + CHAT GPT*. For this reason, we can conclude that the competencies of using AI in the learning process have not increased so uniformly in all participating teachers' cases. The cause of that may lie in the difficulty of understanding modern AI tools and their application.

Next, it is worth taking a look at the correlation coefficients among teachers' answers about the increase of their competencies in all seven fields (Table 3). We can see that the increase of the teachers' competencies in the fields of *UN Sustainable Development Goals* and *ERASMUS + objectives of the European Commission. European Year of Skills* has correlated a lot. Also, a high correlation coefficient belongs to the pair of topics about *Digital systems for education* and *Open educational resources*. It is quite natural because both are related to modern teaching and learning methods.

To perform a deeper analysis, an assumption has been made that the increase in teachers' competencies may depend on the duration of their work experience. For this reason, the average and standard deviation of competencies increase assessments were calculated separately for each group of work experience of the respondents (Table 4).

From Table 4, we can see that participants of the training with experience of less than 5 years generally show the lowest increase of competencies in all 7 topics, according to their own assessment. The highest average value of their points is only 3.7, while in other experience categories, we can find 3.8, 3.9, and even 4.1 points average assessment. Comparing assessments throughout all five experience categories, it is clear that the group with experience from 16 to 20 years provides the best assessment of all their competencies' increases. Even the lowest increase of their competences amounts to 3.7 points. The lowest standard deviation belongs to the assessment of Topic 6 in the group having experience of more than 20 years. However, the highest standard deviation was also noticed in that experience group for assessments of Topic 1 and Topic 2. Combined with low average assessments of these topics, we can conclude that older teachers treat the utility of these two topics very differently. Moreover, we can notice that in the breakdown analysis according to the groups of experience, there are higher standard deviations than in the overall dataset. In Table 4, around half of all standard deviations exceed 1, while in Table 2, all are below 1.

The next question aimed to determine whether teachers have already applied the obtained knowledge in practice. Again, the answers were broken down according to each topic of training. The results are presented graphically in Figure 2.

Table 3. Correlation coefficients of the increase of competence assessment

	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7
Topic 1	1						
Topic 2	0.8294	1					
Topic 3	0.7223	0.6841	1				
Topic 4	0.6373	0.6344	0.7598	1			
Topic 5	0.4844	0.4995	0.6034	0.6324	1		
Topic 6	0.5811	0.5491	0.6714	0.6832	0.6292	1	
Topic 7	0.6024	0.6319	0.6421	0.6564	0.5450	0.7088	1

Note(s): Topic numbers correspond to the topic titles in Table 2

Source(s): Table by authors

Table 4. Average and standard deviation values of the increase of competence assessment, according to work experience

Experience	Up to 5 years Average	Stdev.	Up to 10 years Average	Stdev.	Up to 15 years Average	Stdev.
Topic 1	3.3704	1.0111	3.6667	1.0753	3.6842	1.0616
Topic 2	3.1786	1.0495	3.4333	1.0571	3.6842	1.0595
Topic 3	3.5000	0.9388	3.8000	0.9555	3.7368	0.9348
Topic 4	3.5185	0.9520	3.7667	1.0085	3.8421	0.9869
Topic 5	3.6429	1.0135	3.9333	1.0377	3.6316	1.0049
Topic 6	3.7143	0.9376	3.8000	0.9349	3.5789	0.9145
Topic 7	3.6071	0.9685	3.8333	0.9839	3.5263	0.9754

Experience	Up to 20 years Average	Stdev.	20 or more years Average	Stdev.
Topic 1	3.8125	1.0538	3.6098	1.0981
Topic 2	3.6875	1.0620	3.5915	1.0875
Topic 3	4.0606	0.9727	3.7697	0.9910
Topic 4	3.9091	1.0165	3.6909	1.0400
Topic 5	3.9697	1.0447	3.7879	0.9812
Topic 6	3.8788	0.9426	3.8242	0.8902
Topic 7	3.8485	1.0142	3.8848	0.9849

Source(s): Table by authors

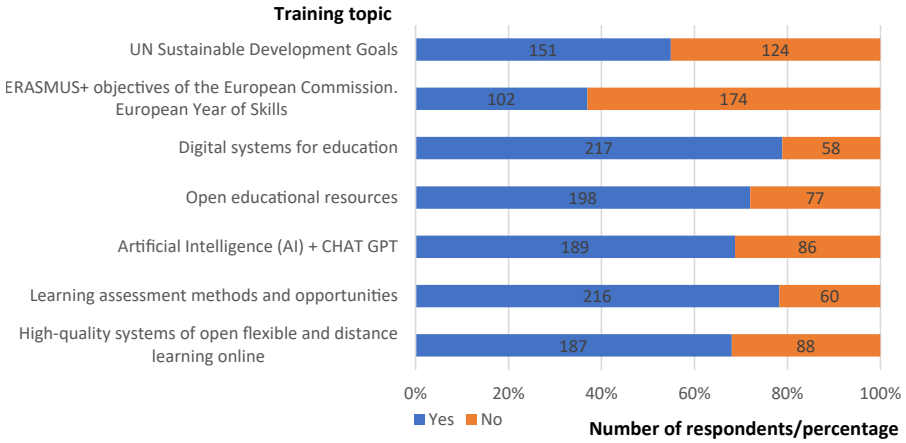

Figure 2. Number and percentage of teachers who applied the obtained knowledge in practice. **Source:** Figure by authors

We can see that the teachers mostly applied in practice the knowledge gained on the topics of *Digital systems for education* (217 teachers, or 79%) and *Learning assessment methods and opportunities* (216 teachers, or 78%). The theme of *Open educational resources* was also among the highly applicable topics. It has been applied in practice by 198 teachers, or 72% of the respondents. On the contrary, *ERASMUS + objectives of the European Commission. European Year of Skills* has not been applied in practice very often. It was used by 102 teachers, or 37% of the participants.

The next question about the competencies and their application was: "Do you plan to apply the techniques you learned in the future? If so, which specific methodologies do you intend to use?" It was an open question, so the respondents could choose whether to answer it and indicate the particular methods. Of 278 respondents, 182 answered "yes" to this question, which is as much as 65% of the respondents. 20 respondents answered that they are not sure or still need more information. 5 teachers answered that they did not intend to apply the learned methods. 71 teachers left the question unanswered. A frequent answer was that respondents would apply the knowledge gained about Chat GPT. Several teachers indicated they would use the UN Sustainable Development Goals information and apply Digital systems for education.

4.3 Quality of the training course

The quality assessment questions group had two Likert scale questions and one open question. The first question was about the quality of the training organization. It was assessed according to four criteria (Table 5). All criteria were assessed similarly, with communication having a slightly lower average value but a higher mode. The handout quality was evaluated very positively, with the highest average value and lowest standard deviation, meaning that the respondents generally agreed on the assessment of this criterion.

The second question was about the general quality of the training (Table 6). According to the estimated parameters, the training was assessed well. The relevance of received information obtained the greatest average and mode value. The benefits of training for direct work were evaluated by a slightly lower average value – of 3.8 and a higher standard deviation in comparison to the other three criteria, meaning that the opinions on this criterion differed among participants.

Finally, there was an open-ended question about the overall remarks of teachers regarding the training. The results of this question reflect various opinions and suggestions of the participants about the organization of training, content, and quality of teaching. Many respondents expressed gratitude for the valuable and engaging lectures, but constructive suggestions and criticism were also given. Participants appreciated the teachers' high professionalism, the topics' relevance, and the valuable information provided during the training. Several participants emphasized that the training provided them with new knowledge and ideas that can be applied in practice. Teachers preferred the training to be more focused on

Table 5. Statistical parameters of training organization assessment

Criteria	Average	Median	Mode	Stdev.
Training duration	4.0073	4	4	0.9297
Training time management (breaks, etc.)	4.1091	4	5	0.8975
Communication before training	3.9891	4	5	1.0018
Handout quality	4.1527	4	4	0.8577

Source(s): Table by authors

Table 6. Statistical parameters of training quality assessment

Criteria	Average	Median	Mode	Stdev.
Relevance of received information	4.0432	4	5	0.9528
Content of training	3.9856	4	4	0.8991
Benefits of training for direct work	3.8381	4	4	1.0402
Forms of information presentation, variety of work methods	4.0252	4	4	0.9089

Source(s): Table by authors

practical application, have a more explicit structure, and be easier to apply in the school environment, especially in life skills classes.

5. Discussion and implications

Our research presents a key component of the DI4ALL project – the development and delivery of a training course that reflects current international trends and initiatives in innovative learning landscapes and scenarios. It strongly aligns with the guidelines of UNESCO and the European Commission (UNESCO, 2019; European Commission, 2018). This course was integrated into the National Life Skills Program of Vytautas Magnus University in Lithuania.

The results of teachers' feedback on the course quality and organization show that around two-thirds of the participating teachers have successfully applied the knowledge acquired in training, with a focus on the use of digital systems, OER, the integration of AI, innovative assessment methods and the improvement of online learning platforms. More than half of the participants plan to apply the knowledge they have obtained in their future work. The highest increase in teachers' competencies was noticed in the topic of *High-quality systems of open, flexible, and distance learning online*. The competencies in the field of *ERASMUS + objectives of the European Commission. European Year of Skills* increased at the slowest pace and with the most significant standard deviation.

Overall, the findings of our research are in line with the previous studies (Perifanou *et al.*, 2021; ElSayary, 2023). It is evident that digital or ICT training lowers digital exclusion, promotes active citizenship, and spreads the online use of public services among different social groups of citizens. Continuous education in digital literacy, especially for learners with fewer opportunities, such as older people, people with special needs, and the unemployed, represents an implementation of lifelong learning principles and serves as an investment in human capital (Tomczyk *et al.*, 2022). But in order to bridge the digital divide in the future, educators must act today and solve digital exclusion issues at school. In this sense, our research points out the necessity of directing more efforts to teachers by extending their competencies. Moreover, teachers should be educated not only on the particular digital teaching tools, as broadly advised in literature, but also in the fields that indirectly contribute to digital competencies and facilitate their work, such as new assessment techniques or sustainability principles.

The performed research has some implications. The structure and content of the teachers' training, which was analysed in the paper, can not only be applied in practice but serves as a good platform for the future development of the training programs. Also, the analysis of teachers' feedback presents a good practice for assessing the quality of similar training.

It is worth noting that even if the National Life Skills Program "Digital Inclusion for All" was intended for teachers working with children at school, it can benefit educators working with adults. The techniques and methods proposed for school learning could be easily applied to working with people of all ages, thus promoting their upskilling and corresponding to the principle of life-long learning. Moreover, the program stresses teaching digital skills and promoting inclusion – it means not leaving behind any person in the class. This viewpoint is directly applicable to adults at risk, with fewer opportunities, and refugees, who, due to their lack of knowledge in language or digital skills, often are not fully integrated into the classwork and thus lose valuable knowledge. Using the experience and evidence gained during the "Digital Inclusion for All" training, valuable insights and best-practice elements for future projects and various practical initiatives could be drawn.

6. Conclusions and recommendations

The training course "Digital Inclusion for All", conducted as part of Lithuania's National Life Skills Program, addressed seven relevant topics. Teachers generally responded positively about the quality of the training and indicated an increase in their competencies in these fields.

Most teachers already applied the obtained knowledge in practice, and 65% say they will apply the learned techniques in their future work.

Based on the research we have conducted, we will give the following recommendations for similar training in the future. In the future, training content should be further tailored to the individual needs of participants, taking into account their prior experience, field of work, subjects, and teaching styles. *An individual approach* would increase the effectiveness and inclusiveness of training. Also, lecturers should use the *latest teaching technologies and new methodologies* to ensure high interactivity and practical applicability of training. It is particularly important to promote the use of artificial intelligence, open educational resources, and digital learning platforms. From the organizational point of view, for better experience, it is advised to *improve communication with participants before training*, ensure precise time planning, and organize training effectively. It is essential to enable the participants to familiarize themselves with the content and objectives of the training in advance. An ongoing *feedback collection and evaluation system* that allows for rapid response to participant needs and real-time program improvement should be developed. Such a system would allow the organizers of the training to evaluate not only the content of the training but also the organizational execution. Finally, *interdisciplinary cooperation* between different representatives of the education sector should be actively promoted to create universal curricula that reflect the needs of various fields and the latest trends in education.

The performed research is not without limitations. Regardless of the international relevance of the analysed topic, the training was performed only in Lithuania. In the future, conducting such training in more European countries and comparing the results would be beneficial. Moreover, since digitalization and its application possibilities in education quickly evolve, future training should not be limited to the seven topics presented. The training could include more topical issues on the research agenda in Europe. Also, in future digital inclusion research, more attention should be paid to digital skills and learning methods for students with special needs.

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