Project title: DigitalCRAFT: Enhancing Vocational Skills Through Design Thinking and Graphic Design
Project No. 2023-1-RO01-KA210-VET-000166913
Project implemented by the **Free Education Union of Bacău County (SLI BACĂU) in partnership with UN-LAB -Italy**

EVALUATION OF THE PROGRAM
"DigitalCRAFT: Innovation and creativity through Design Thinking and digital tools in education"

-organized by the **Free Education Union of Bacău County (SLI BACĂU**) in partnership with **UN-LAB -Italy**, within the **ERASMUS** project**+** ,,**DigitalCRAFT: Enhancing Vocational Skills Through Design Thinking and Graphic Design**" -

1. GENERAL INFORMATION:

THE MAIN OBJECTIVE OF THE PROJECT is to measurably improve the quality and relevance of vocational education and training in the field of design, innovation and graphic design during the 14-month project implementation period by fostering international collaboration, developing and implementing a common curriculum and training a minimum of 50 VET teachers/trainers from Italy and Romania, with the ultimate aim of improving the employability and career prospects of VET students in the dynamic job market.

SPECIFIC OBJECTIVES OF THE PROJECT are:

- Promoting collaboration and knowledge exchange between UN-LAB -Italy and the BACĂU COUNTY EDUCATION FREE UNION (SLI BACĂU) for the improvement of education and training, as well as training methods in the field of design, innovation and graphic design.
- Improving the capacity of teachers/trainers and vocational training institutions to effectively train students with skills relevant for the future labor market by creating a common curriculum integrating design thinking methodologies and graphic design techniques into the educational process.
- Enhance the professional development of VET teachers/trainers and VET institutions by providing them with access to face-to-face and online workshops and training sessions designed to improve their understanding and implementation of the new curriculum, teaching methods and graphic design tools.
- Increase the visibility and understanding of the new curriculum among teachers/trainers in VET schools by designing and running an awareness-raising campaign, which will use a short video to effectively communicate the benefits of incorporating design thinking methodologies and graphic design techniques in VET education.
- Improving the employability and career prospects of VET students by providing, through the new curriculum incorporating design thinking methodologies and graphic design techniques, industry-relevant skills, ensuring their preparation for the dynamic demands of the labor market.

EXPECTED RESULTS:

- **DEVELOPING A CURRICULUM** that incorporates design thinking methodologies and graphic design techniques, designed for VET education and focusing on different sectors such as advertising, branding and digital media.
- **ORGANIZING WORKSHOPS FOR TEACHERS AND TRAINERS** [virtual and face-to-face workshops and training sessions] for VET teachers and trainers to familiarize them with the new curriculum, teaching methods and graphic design tools.
- **DEVELOPING A SCHOOL AWARENESS CAMPAIGN, by producing short** videos to promote the new curriculum and the benefits of integrating design thinking methodologies and graphic design techniques in VET education.

2. TRAINING PROGRAM "DigitalCRAFT: Innovation and Creativity through Design Thinking and Digital Tools in Education"

The training activities in Romania within the Erasmus+ **DigitalCRAFT** project were designed to respond to the general and specific objectives of the project, aiming to modernize VET education in the field of design, innovation and graphic design, by developing the competences of VET teachers, to modernize education in the field of graphic design, innovation and design thinking, with the ultimate goal of facilitating the professional insertion of students.
The training objectives are designed in line with the general objective and specific objectives of the project, based on the developed curriculum, having a direct impact on teaching methods and on the preparation of students for the labor market.

A. PROGRAM PURPOSE: to develop teachers' skills in using **Design Thinking** and **graphic design** to improve teaching and to facilitate creative thinking and problem solving among students.

During the course, teachers will learn how to use digital tools such as **Canva** (graphic design and presentations), **TimelineJS** (interactive timelines) and **CapCut** (video editing) to create innovative teaching materials.

B. SPECIFIC OBJECTIVES:

1. Understanding the fundamental steps of the **DESIGN THINKING** process: **empathizing**, **problem definition**, **idea generation**, **prototyping**, **testing**

2. Adapting these steps to solve specific learning and teaching problems.

3. Practice collaborative and creative thinking skills in identifying innovative solutions to educational challenges.

C. DURATION: **30 hours**: **15 hours [face-to-face] and 15 hours [online asynchronous]**

The training program includes theoretical activities, practical workshops and feedback sessions to ensure applied learning of the concepts.

At the end of the training activity, the participants will be issued certificates of completion, which will mention the general and specific competences acquired by the participants as a result of the training program.

D. STRUCTURE OF THE TRAINING PROGRAM:

- **MODULE 1: INTRODUCTION TO THE DIGITALCRAFT PROJECT: OBJECTIVES, ACTIVITIES, EXPECTED RESULTS - 1 HOUR**
- **MODULE 2: PRINCIPLES AND METHODOLOGIES RELATED TO DESIGN THINKING AND ITS INTRODUCTION IN THE LEARNING PROCESS - 4 HOURS**

2.1. The concept of DESIGN THINKING

2.2. The relevance of DESIGN THINKING PRINCIPLES in education

2.3. Stages of DESIGN THINKING in an educational context

- **MODULE 3: CREATING VISUAL EDUCATIONAL RESOURCES - 2 HOURS**

3.1. Overview of the Canva platform

3.2. Creating educational posters and infographics

3.3. Creating Interactive presentations in Canva

3.4. Collaboration and group projects in Canva

- **MODULE 4: CREATING INTERACTIVE TIMELINES - 3 HOURS**

4.1. Introduction to the use of timelines in education

4.2. Presentation of timeline platforms and their functions

4.3. Creating timelines for history, science or literature lessons

4.4. Integrating multimedia resources into timelines

4.5. Presentation and evaluation of timelines.

- **MODULE 5: CREATING AND EDITING EDUCATIONAL VIDEOS - 2 HOURS**

5.1. Introduction to video editing and CapCut

5.2. Video editing techniques for creating visual lessons

5.3 Using visual and audio effects to enhance videos

5.4. Creating video lessons and integrating them into the teaching process

- **MODULE 6: INTEGRATING DESIGN THINKING IN EDUCATIONAL PROJECTS - 3 HOURS**

6.1. Introduction to integrating design thinking in education

6.2. Planning an educational project using Design Thinking

6.3. Creating visual and interactive materials for the project

- **DAY 4 (individual study): DEEPENING DESIGN THINKING AND THE USE OF DIGITAL TOOLS - 8 HOURS**
- **DAY 5 (self-study): DEVELOPING AND EDITING CAPCUT EDUCATIONAL EDUCATIONAL VIDEOS: 7 HOURS**

E. NO PARTICIPANTS:

- 29 teachers from "Dimitrie Ghica" Technical College "Dimitrie Ghica" Comănești and 1 teacher from "Grigore Cobălcescu" Technical College Comănești - 2 training groups;
- 58 teachers from "Ion Ghica" Economic College "Ion Ghica" Bacău - 2 training groups;
- 24 teachers from the pre-university education unit "Gheorghe Asachi" Technical College

Total persons trained = 112
Total certificates issued = 112

F. WHERE THE TRAINING ACTIVITIES TAKE PLACE:

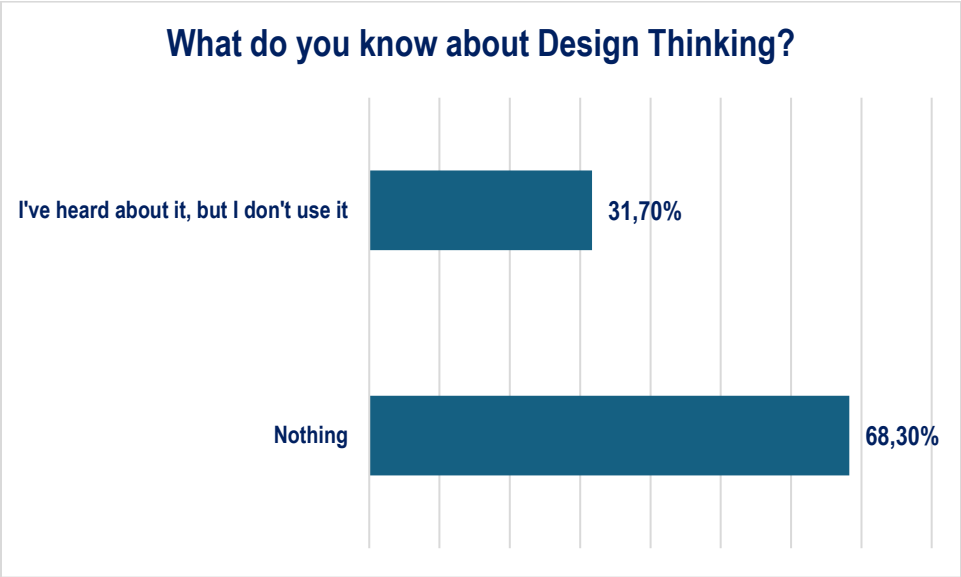
- 2 groups - at "Dimitrie Ghica" Technical College "Dimitrie Ghica" Comănești;
- 2 groups - at "Ion Ghica" Economic College "Ion Ghica" Bacău;
- 1 group - at "Gheorghe Asachi" Technical College Onești

ANALYSIS OF APPLIED EVALUATION QUESTIONNAIRES

At the beginning of the training activities, each trainer administered an INITIAL KNOWLEDGE ASSESSMENT QUESTIONNAIRE to the trainees. The purpose of this questionnaire was to assess the participants' initial level of knowledge on the use of Design Thinking and digital tools (Canva, Timeline, CapCut) in the educational process. The answers provided helped to adapt the training content according to the needs of each participant.

SECTION 1: KNOWLEDGE ABOUT DESIGN THINKING

Question 1. What do you know about Design Thinking?



The results of the questionnaire show that the majority of the participants were not familiar with the Design Thinking method before participating in the training program:

1. Low level of knowledge of Design Thinking before training

- **68.3% of the trainees stated that they did not know anything about Design Thinking, which indicates that this methodology was not previously included or promoted significantly in teacher training or teaching practice.**
- **This result suggests a lack of access to specific resources and training on Design Thinking in VET education.**

2. Limited awareness but existing interest

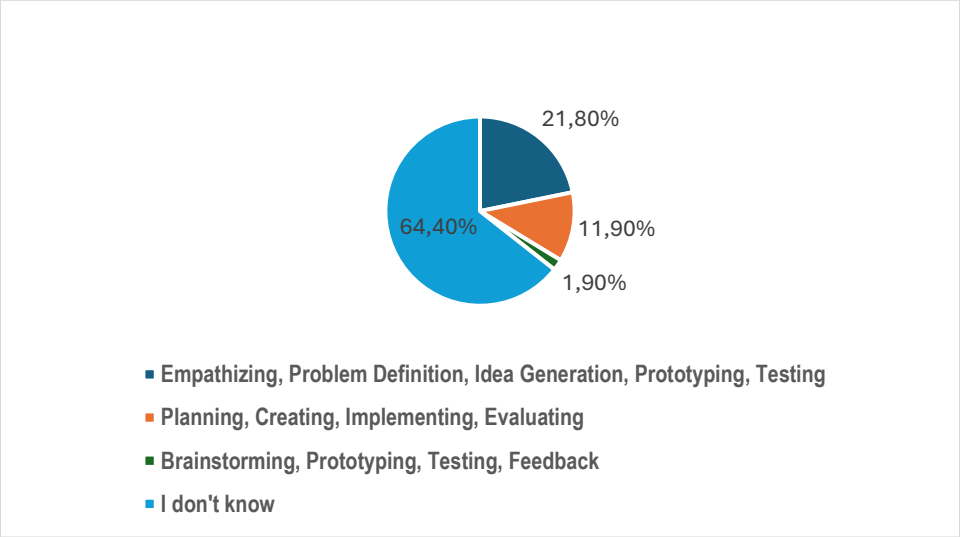
- **31.7% of participants had heard of the method, but were not using it, suggesting that there was a latent interest, but not the knowledge to apply it in the teaching process.**
- **This percentage indicates a real possibility of integrating the method into education, once teachers receive adequate training.**

3. The need to train and adapt methodology to VET education

- **The results confirm that the introduction of Design Thinking in teacher training is a valuable and necessary initiative, as it offers an innovative and practical methodology for stimulating creativity, collaboration and problem solving.**
- **The training program played a key role in familiarizing teachers with this method and developing the necessary skills for its application in education.**

The results indicate that Design Thinking was an almost unknown concept prior to the training, but has a high potential for applicability once teachers are trained in its use.

What are the stages of Design Thinking?



Empathizing, Problem Definition, Idea Generation, Prototyping, Testing	21,80%
Planning, Creation, Implementation, Evaluation	11,90%
Brainstorming, Prototyping, Testing, Feedback	1,90%
I don't know	64,40%

The results of the questionnaire show that the majority of participants were not familiar with the steps of the Design Thinking method before the training:

1. <u>Low level of knowledge of Design Thinking stages</u>

- **64.4% of the participants answered "don't know", which confirms that the method had not been previously studied or applied by the majority of the trainees.**
- **This lack of knowledge indicates that Design Thinking is not commonly part of teachers' teaching practice and that training was essential to familiarize them with this methodology.**

2. <u>Partial knowledge and confusion about the Design Thinking structure</u>

- **21.8% of trainees correctly mentioned the steps of the method, suggesting that a small proportion of participants had a general understanding of the concept.**

- 11.9% of the respondents gave an incorrect variant (*Plan, Create, Implement, Evaluate*), which indicates a confusion between the traditional learning process and the iterative model of Design Thinking.
- 1.9% mentioned Brainstorming, Prototyping, Testing, Feedback, which are components of the process, but do not capture the whole methodological structure.

3. Need to strengthen training and practical application

- The results show that training has been instrumental in the introduction of Design Thinking, but it is necessary for teachers to continue practicing this methodology in order to understand and apply it correctly in their teaching.
- As Design Thinking is an iterative and collaborative process, teachers could benefit from practical examples, case studies and applied exercises to better understand each step.

Conclusions:

- The results confirm that the Design Thinking method was unknown to most teachers before the training and its steps were not well understood.
- The training program has been essential to familiarize them with the Design Thinking framework, but further deepening through practical exercises and applied examples is necessary.

Question 3. How do you think Design Thinking can help in the educational process?

Responses were open. Below are some of the responses from the trainees:

- don't know
- It can help discover people's needs
- Personalizing homework content, developing attention, creativity and communication
- By raising awareness
- Through variety, creative thinking, constructive atmosphere etc
- Helps creative thinking
- School performance
- Personalizing homework content and developing communication
- Help teachers and students solve problems in a creative and effective way

- I believe that every course I take is a plus in my professional training and helps me to create interactive lessons that are more interesting, easier for students to perceive and assimilate
- In teaching and
- Deepening, evaluation
- Identifying the needs of learners
- In creating learning algorithms
- Motivated involvement
- Doing a design thinking project can transform the way students approach the problems they have to solve and prepare them for future challenges when they have to deal with unexpected situations.
- Design Thinking can help me by improving my teaching style.

The results of the responses to this question reflect an emerging understanding of how Design Thinking can contribute to the educational process.

1. Variable awareness of the impact of Design Thinking in education
   - Some of the respondents do not yet know how Design Thinking can be applied in concrete terms, suggesting that the method is still new for many teachers and that more work is needed to explore how it can be implemented in the classroom.
   - On the other hand, the more elaborate answers indicate an understanding of its benefits, especially in terms of creativity, personalization of content and improved learning.
2. Positive perception of Design Thinking as a method for personalizing and improving learning
   - Several respondents highlighted the method's ability to help personalize teaching content, which shows an openness to adapting lessons to the individual needs of students.
   - This is essential in modern education, where flexibility and adaptability are key factors in creating effective learning experiences.
3. Focus on developing creative thinking and communication
   - Many participants identified Design Thinking as a useful tool for developing creativity, critical thinking and communication for both teachers and students.
   - This indicates a recognition of the method's potential to enhance learning, particularly in terms of creating a more open and collaborative learning environment.

4. Design Thinking as a problem solving method in education

- Some answers emphasized the role of the method in problem awareness and problem solving, which shows that Design Thinking is perceived not only as a creative tool, but also as a practical strategy for improving the educational process.
- Teachers are beginning to realize that the method can help students approach learning in a structured and effective way by testing solutions and adjusting them based on feedback.

5. Increasing interest in using interactive methods

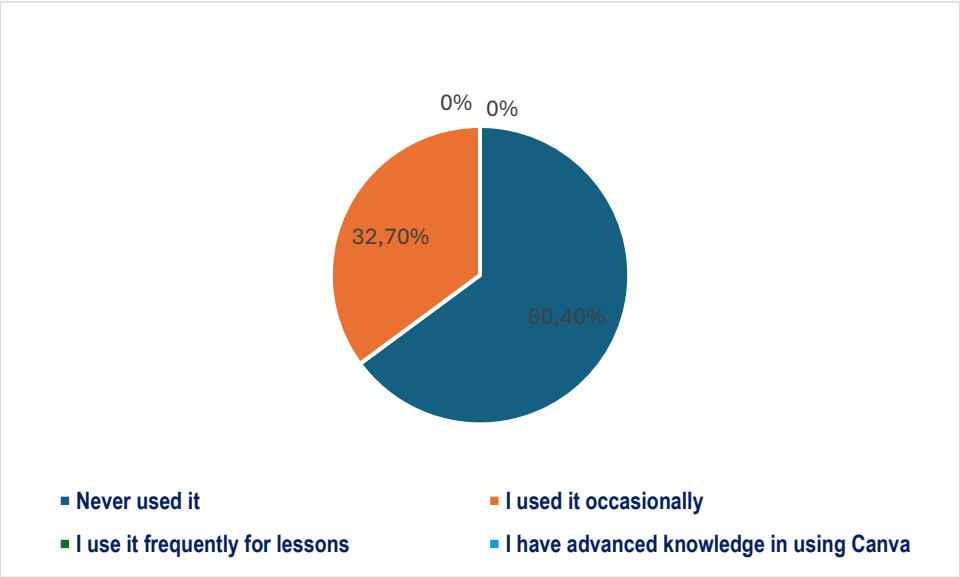
- One significant response was: *"I believe that any course taken is a plus in my professional preparation and helps me to create more interesting interactive lessons that are easier for students to perceive and assimilate."*
- This indicates that teachers are open to innovation and are looking for ways to make lessons more dynamic, engaging and effective.

Conclusions:

- Design Thinking is perceived by participants as a promising method for personalizing learning, developing creativity and improving the educational process.
- Teachers are beginning to recognize the benefits of the method in stimulating critical thinking, creating a constructive learning atmosphere and improving school performance.

SECTION 2: USING DIGITAL TOOLS (CANVA, TIMELINE, CAPCUT)

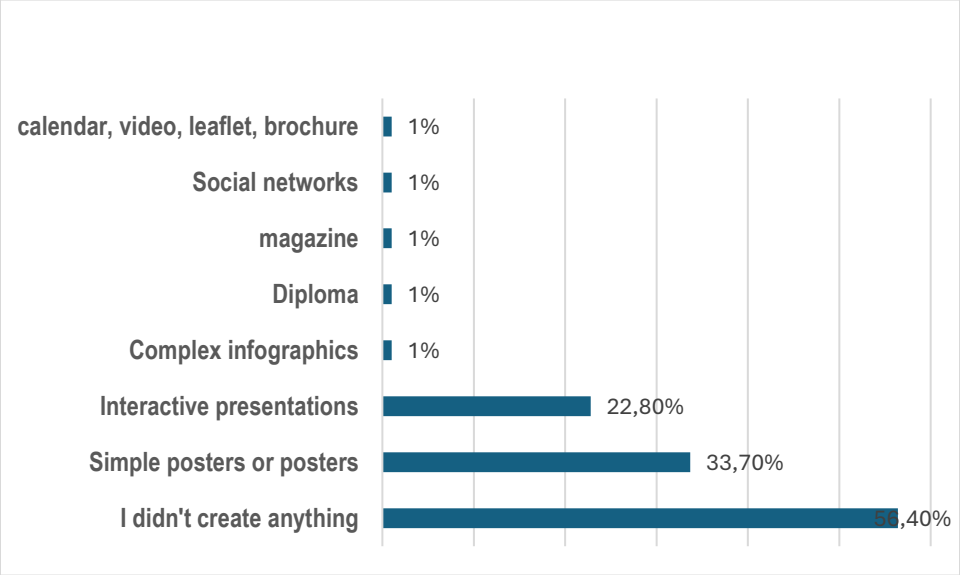
Question 4. Have you used the Canva platform to create educational materials?



Have you used the Canva platform to create educational materials?

Never used it	60,40%
I used it occasionally	32,70%
I use it frequently for lessons	0%
I have advanced knowledge in using Canva	0%

Question 5. What kind of materials have you created so far with Canva?



What kind of materials have you created so far with Canva?

I didn't create anything	56,40%
Simple posters or posters	33,70%
Interactive presentations	22,80%
Complex infographics	1%
Diploma	1%
magazine	1%
Social networks	1%
calendar, video, leaflet, brochure	1%

The results of the questionnaire indicate a low use of Canva in pre-service teachers' teaching, but suggest a high potential for its integration in the educational process.

1. Low level of use of Canva in pre-training education

- **60.4% of respondents have never used Canva to create educational materials, indicating a lack of familiarity with the platform and its advantages.**
- **32.7% of the participants have used it occasionally, which shows that there is an initial interest, but use is not yet steady or advanced.**

This result suggests that the DigitalCraft training program addressed a real need for training in the use of Canva, providing teachers with the knowledge and tools needed to integrate the platform into their teaching.

2. The types of materials created are generally simple, but there is potential for diversification

- **56.4% of respondents have not created any material with Canva, which confirms that Canva was not a frequently used tool in educational work before the training.**
- **33.7% of participants created simple posters or posters, which shows that teachers have started to explore the basic functionalities of the platform, but not the more complex ones.**
- **Only 22.8% have made interactive presentations, indicating an interest in creating more dynamic materials, but requiring additional guidance.**
- **The very low percentage of those who have produced complex infographics, diplomas, magazines, social media, calendars or leaflets (1% each) suggests that most teachers have not explored the advanced functionalities of the platform before training.**

Teachers are in the initial stage of using Canva, using it mostly for simple materials (posters, posters), which indicates a lack of knowledge of the advanced functionalities of the platform.
The training program can play a key role in expanding the use of Canva by helping teachers to create more complex and interactive materials (e.g. infographics, magazines, dynamic presentations).

3. High potential for integrating Canva in education

- **Although Canva was not frequently used prior to the training, the existence of a group already using the platform occasionally shows that teachers are open to learning and implementing this technology.**
- **The low diversity of materials created indicates the need for structured guidance for using Canva in an advanced way.**
- **If teachers are given concrete examples and support in using Canva, the likelihood that this platform will become a commonly used tool in education is very high.**

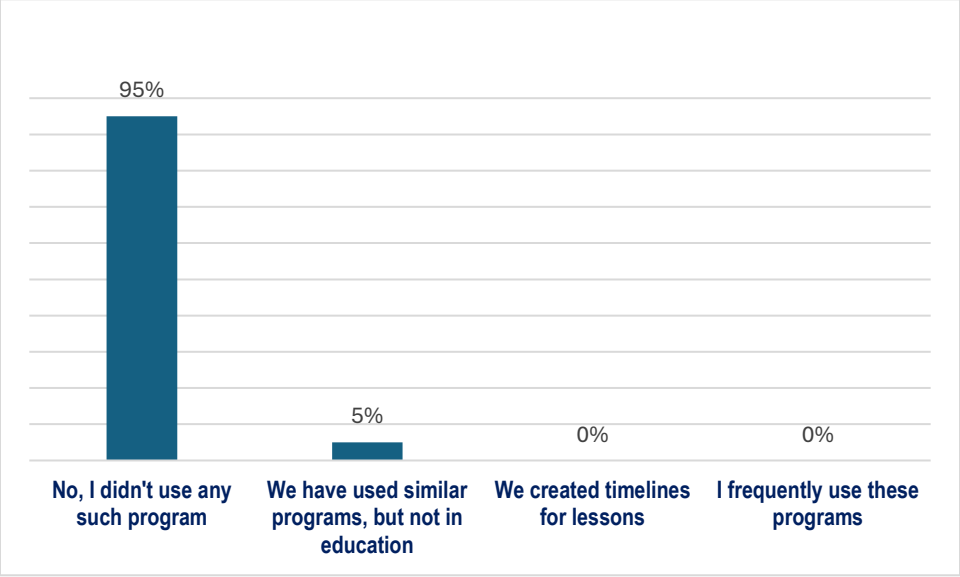
Increasing the level of digital competence of teachers will enable a diversification of educational materials, making lessons more attractive and effective.

Canva can become a key tool in the teaching process, helping to visualize content, stimulate students' creativity and develop visual communication skills.

Conclusions:

- Before training, Canva was used only occasionally by teachers and most of the materials created were simple.
- The training program was needed to help teachers discover the real potential of Canva and learn how to create more varied and interactive educational resources.
- Integrating Canva into the educational process can significantly help to modernize teaching, increase interactivity and improve visual communication in the classroom.

Question 6. Have you used Timeline programs to create interactive timelines?



The results of the questionnaire indicate an extremely low use of Timeline programs for creating interactive timelines in educational activity:

1. Lack of use of Timeline programs in education

- 95.5% of respondents have never used Timeline programs to create interactive timelines, suggesting that this type of resource has not been promoted or included in teachers' teacher training so far.
- This indicates either a lack of access to specific tools and training, or that teachers were not aware of the benefits of using these platforms in their teaching.

2. Limited familiarization, but existing potential for integration

- 5% of the respondents have used similar programs, but not in education, which means that there is a group of teachers who have been exposed to this type of technology but did not consider it relevant for teaching.
- This suggests that, once presented with concrete examples of application in education, these teachers can begin to use interactive timelines as teaching resources.

3. The need to introduce and promote Timeline programs in the educational process

- The results demonstrate an opportunity for development and innovation in education by introducing this type of digital tool.
- Timeline programs, such as TimelineJS, Tiki-Toki or Preceden, can improve chronological understanding of events and are extremely useful in subjects such as history, social sciences, literature and science.
- Teachers can use these platforms to create more interactive, visual and engaging lessons, helping students make connections between events and concepts more easily.

Conclusions:

- Timeline tools are almost unknown and under-used in education, indicating a lack of familiarization and training in this area.
- The DigitalCraft training program filled a real need, giving teachers the opportunity to explore and integrate these tools into their teaching.
- The use of interactive timelines can help to improve teaching, especially in areas where it is important to visualize information chronologically.

SECTION 3: APPLYING METHODS IN TEACHING

Question 7. How have you used technology to enhance students' learning experience?

Open answers (below are just some of the responses)

- I didn't use
- We used platforms like Eduboom
- By selecting content, creating ppt's, quizzes, etc.
- Videos, Power Point
- It is useful and necessary in the teaching process
- Using audio-visual support to develop communication skills in English
- We used educational platforms
- Educational games, interactive presentations
- We used PPT, KAHOOT, presentation links, evaluations and demonstration videos
- Interactive assessment
- Google Classroom, Jamboard, Wordwall etc,
- making Power Point presentations, Canva, Genialy, Prezi, ChatGPT
- we conducted questionnaires
- worksheets, handouts, various stimuli to increase curiosity and willingness to get involved
- Worksheets, projections, specialized online information
- Interactive whiteboard
- I haven't used it in class yet
- The traditional passive learning and teaching model is outdated and increasingly ineffective
- With technology in the classroom, the teacher gains confidence, students become interested
- Technology is an essential element in education through the use of digital tools and resources to facilitate the learning process, making digital creativity applications accessible and more effective.

The participants' responses indicate a diversity of approaches to the use of technology in the educational process, ranging from teachers who have not used digital tools at all to those who frequently use interactive educational platforms.

1. Some teachers did not use technology in teaching

- **A significant proportion of respondents said they had not used technology in their teaching, suggesting either a lack of training in the use of digital tools or a reluctance to integrate them.**

- This may indicate the need for mentoring sessions and examples of good practice to help these teachers build their confidence in using technology.

2. The use of technology is predominantly for content presentation and interactive assessment
   - Among those who used technology, the majority used PowerPoint, interactive presentations, worksheets and videos.
   - Tools such as Google Classroom, Kahoot, Wordwall, Jamboard, Canva, Prezi and Eduboom are used to organize lessons, interactive assessments and create engaging visual content.
   - Technology is used to facilitate learning through educational games, quizzes and audio-video support, suggesting a positive impact on student engagement and motivation.

Teachers who already use technology use it to make lessons more interactive, demonstrating that digital resources are effective in capturing students' attention and diversifying the learning process.
Training needs to focus on expanding the use of technology beyond static presentations, providing teachers with more advanced solutions for collaboration, creativity and personalization of learning content.

3. The importance of technology in creating a modern learning experience
   - Some respondents emphasized that the traditional teaching model is outdated and that technology can transform education through a more interactive, accessible and effective learning process.
   - There is a clear realization that digital tools are not just optional, but necessary to meet the needs of today's generation of students.
   - Responses such as *"The traditional model of passive learning and teaching is outmoded and increasingly ineffective"* reflect a shift in the mindset of teachers, who are beginning to recognize the benefits of integrating technology into teaching.

Teachers are beginning to recognize the importance of technology for engaging students and making teaching more effective. Training programs need to support the development of digital competencies, providing applicable strategies for each subject so that teachers can integrate technology in a relevant and effective way.

Conclusions:

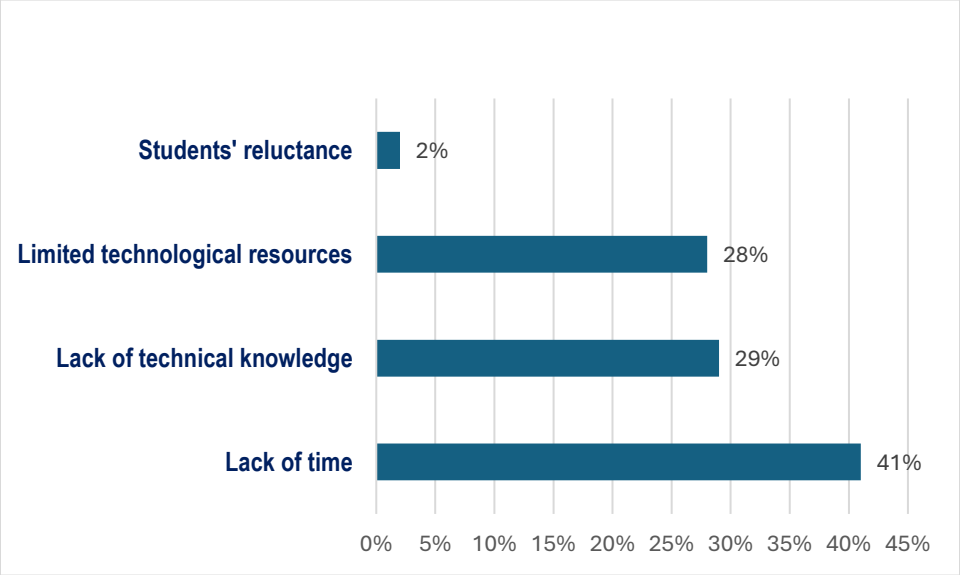
The results indicate a diversity in teachers' use of technology, ranging from those who have not used digital tools at all to those who frequently use interactive educational platforms.

Technology is predominantly used for content presentation (PPT, videos) and interactive assessment (quizzes, worksheets), but there is potential for more complex integration into the teaching process.

Teachers are aware that technology is an essential resource for modern learning and that integrating it into education helps to increase student motivation and achievement.

There is a need to provide additional support for teachers who do not use technology, through practical training sessions and concrete examples of application, to help them overcome their reluctance and gain confidence in using digital resources.

Question 8. What do you think are the main challenges in using digital tools in teaching?



he results of the questionnaire highlight a number of significant obstacles that prevent teachers from making effective use of digital tools in their teaching. These challenges are mainly related to factors such as available time, technical skills, access to resources and student engagement.

1. Lack of time - main barrier to using digital tools (41%)

- The biggest obstacle identified by teachers is lack of time, suggesting that the high volume of administrative tasks and curricular pressure leaves little room for effective learning and integration of technology into teaching.
- Teachers may have difficulty exploring digital platforms, creating interactive materials or adapting lessons to new technologies due to busy schedules and bureaucratic requirements.

2. Lack of technical knowledge - a major obstacle (29%)

- Almost a third of respondents see a lack of technical skills as a significant challenge in using digital tools.
- This suggests that many teachers have not received adequate training in the use of technology or that they feel insecure in applying it in the classroom.
- The DigitalCraft training program responds to this need by developing digital competences and providing practical examples for the effective integration of technology in education.

3. Limited technological resources - a problem for 28% of teachers

- Almost a quarter of respondents identified limited technological resources as a barrier to using digital tools.
- This can include lack of appropriate equipment (interactive whiteboards, laptops, projectors), poor internet connection or restricted access to educational software.

4. Students' reluctance - a minor challenge (2%)

- The very low percentage of those who consider students' reluctance as a challenge suggests that the majority of students are open to the use of technology and that it is not a significant obstacle to integrating digitization in education.

SECTION 4: COURSE EXPECTATIONS

Question 9. What are your expectations from this training course?

The open responses were mainly:

- Improvement
- Learning new things, useful topics for developing skills and practicing effective communication in lessons

- **New digital skills**
- **Use these new methods**
- **Learning to use design thinking in teaching**
- **Useful apps for making content accessible and developing classroom communication, Improving skills**
- **Acquisition of new knowledge and how to implement it in teaching**
- **To improve digital methods in teaching and assessment**
- **To learn new techniques of working in the classroom leading to a quality educational act**
- **Discover useful and attractive methods to make learning more efficient and easier.**

Participants' responses reflect a strong interest in professional development and in improving digital and pedagogical skills.

1. Desire for continuous learning and improvement

- Many answers highlight the expectation to learn new things and improve their professional skills, indicating a mindset open to continuous development.
- Teachers want to discover and learn new methodologies and techniques to improve the educational process.

The participants are motivated to improve their skills, which is conducive to an effective implementation of what they have learned in the course.

2. Increasing digital competences and using apps in teaching

- A significant number of responses emphasize the interest in acquiring new digital skills, in particular the use of educational apps to enhance teaching and assessment.
- Teachers are interested in integrating technology into lessons to make content more accessible and engaging for students.

There is a clear need for practical training in the use of digital tools. Teachers are looking for concrete solutions for the digitization of teaching activities, which shows that this course responds to a real need in education.

3. The need to learn how to apply Design Thinking in education

- Some participants explicitly mentioned a desire to learn to use Design Thinking methodology in their teaching.
- This indicates an openness to innovative pedagogical methods and a desire to make lessons more structured, interactive and effective.

Teachers recognize the potential of Design Thinking as an applicable methodology in education, but need clear guidance and concrete examples to implement it effectively.

4. Desire to improve teaching and assessment

- Teachers want to improve their teaching methods by using new techniques and applications to enable more effective teaching and assessment.
- They are interested in methods to make learning more accessible, interactive and engaging for students.

The need for innovative methods is real and teachers are open to learning and applying them. The course should emphasize practical examples and relevant case studies to facilitate the rapid integration of new methods into teaching.

Conclusions:

- **Course participants want to improve their digital competences, learn new methodologies such as Design Thinking and integrate educational applications in teaching and assessment.**
- **Teachers are motivated to adopt innovative methods to make learning more accessible and engaging for students.**
- **It is essential that the training provides practical solutions, applicable examples and resources tailored to the real needs of teachers to facilitate quick and effective implementation of new knowledge.**

Question 10. Are there specific areas or tools that you are particularly interested in learning more about

The main responses were

- **Canva**
- **Robotics**
- **Apps for creative thinking**
- **No**

- don't know
- Graphic design
- Digital marketing
- Easy to use apps
- economics, accounting, marketing
- business administration, economics, tourism
- How do I apply what I have learned in class to these subjects?
- Miscellaneous applications, Interactive test creation tools
- Applications in math
- The challenges of AI in teaching and assessment
- Communication, marketing, technologies no
- using technology in foreign language teaching
- I would like to use platforms more in literature lessons
- Application in teaching - learning - assessment in mathematics
- I don't yet have an opinion on this subject
- creating movies, videos
- I am open to proposals and challenges
- About the kind of websites that correct your work on the spot according to the teacher's settings Creating assessment tools on educational platforms
- Using RED

The responses indicate a diversity of interests among teachers, ranging from the use of digital applications and artificial intelligence in education to specific areas such as marketing, economics, tourism and foreign languages.

1. High interest in specific digital applications in education

- Among the most frequently mentioned tools are Canva, interactive quiz creation tools, creative thinking apps and educational video creation.

- This indicates a clear interest in digitization and modernization of teaching, suggesting that teachers want accessible, effective and interactive solutions for teaching.

Teachers are open to embracing technology and are looking for easy-to-use tools to improve their teaching methods. Training should include practical demonstrations and applicable examples to help teachers quickly integrate new skills into their teaching.

2. The need to apply technologies in specific areas

- Some respondents expressed an interest in how they can apply what they have learned on the course in areas such as economics, accounting, business administration, tourism, mathematics and foreign languages.
- This indicates a clear need for practical examples and case studies adapted to each discipline.

Teachers don't just want to learn about technology, they want to understand how to apply it concretely in their field. A personalized approach to training, including subject-specific modules, could increase the effectiveness of integrating digital technologies.

3. Increasing interest in AI and its challenges in education

- **There is an interest in the challenges posed by artificial intelligence (AI) in teaching and assessment, indicating a curiosity about the impact of new technologies on education.**
- **This reflects an awareness of the rapid changes in technology and a desire to understand how AI can be used as a teaching tool.**

Integrating a dedicated AI in education component in training could respond to this interest and provide solutions for the responsible use of technology in assessment and teaching.

4. The need for digital assessment tools

- **Several participants mentioned the interest in creating assessment tools on educational platforms, including sites that automatically correct papers according to the teacher's settings.**
- **This suggests a desire to automate the assessment process in order to optimize teachers' time and provide personalized feedback to students.**

Teachers are interested in streamlining the assessment process and are looking for solutions to better manage their time and teaching activities. The training should include practical examples of how to use educational platforms for testing and assessment, such as Google Forms, Kahoot, Quizizz, Socrative or other self-assessment tools.

5. Open to exploring new technologies

- **Some responses indicate a positive attitude towards exploring new digital applications and tools, such as OER (Open Educational Resources), platforms for language teaching, or the use of technology in Romanian literature.**
- **This suggests that teachers are ready to experiment and apply new methods if they receive guidance and practical examples.**
- **Flexibility and a willingness to innovate are evident, which means that training needs to be interactive, practical and tailored to the needs of each discipline.**
- **Providing a customized set of resources for each specialization could increase the impact and applicability of the course.**

Conclusions:

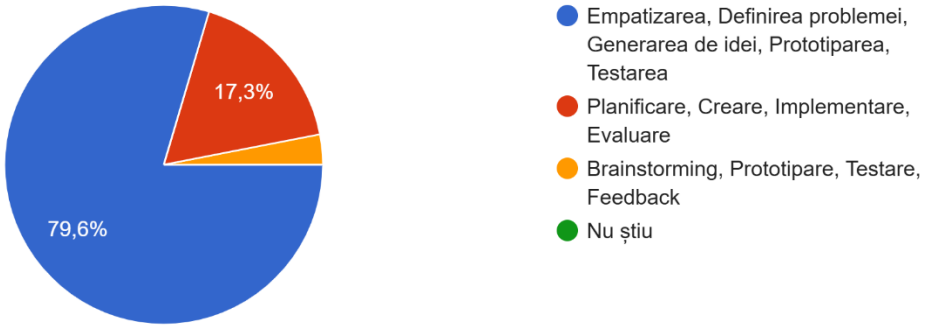
- **Teachers show a strong interest in digitization, especially in areas such as graphic design, artificial intelligence, digital marketing, educational apps and digital assessment.**
- **An important challenge is the integration of these technologies into specific disciplines, suggesting the need for applied case studies for each domain.**
- **Teachers are open to exploring new platforms, but need clear guidance to integrate them effectively into the educational process.**
- **The training should include dedicated AI sessions, open educational resources, digital assessment tools and practical examples for the use of technology in each subject.**

QUESTIONNAIRE

A. PART I: QUESTIONS ABOUT THE CONCEPTS

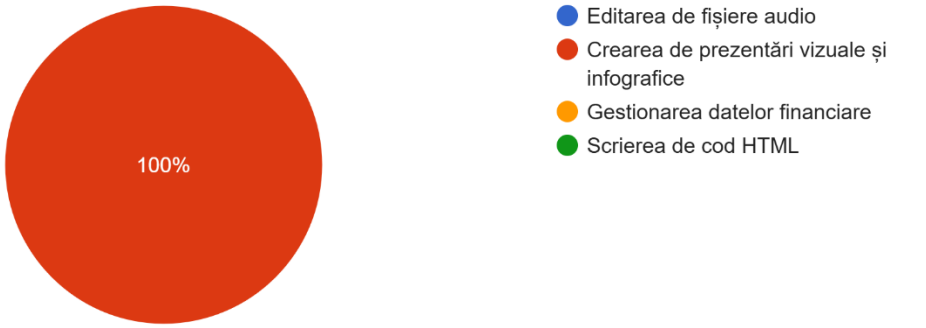
Care sunt etapele Design Thinking?

98 de răspunsuri



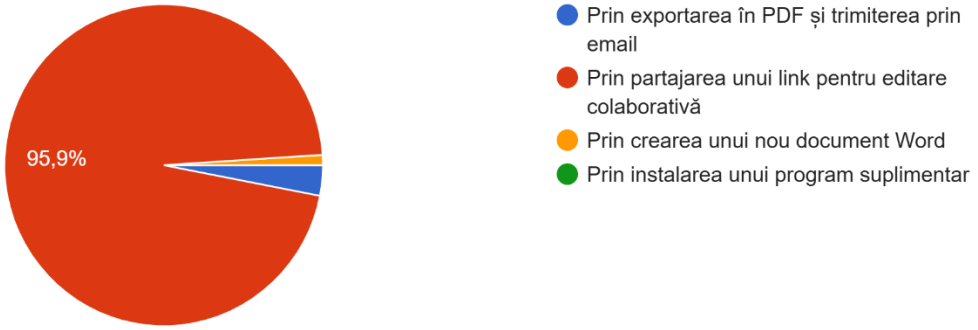
Care este una dintre funcțiile de bază ale Canva?

98 de răspunsuri



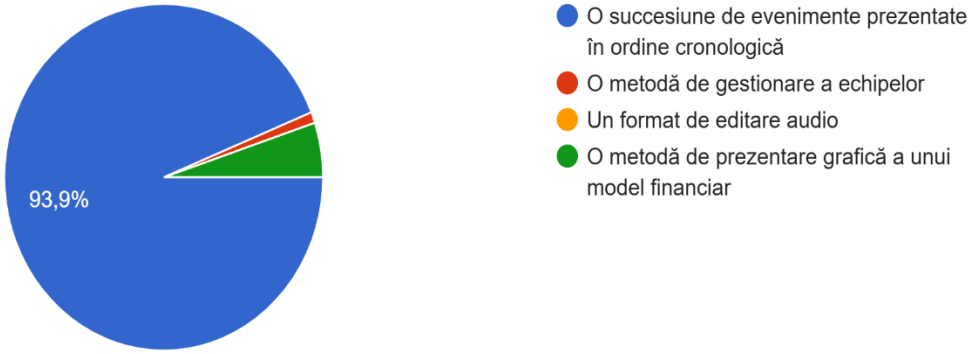
Cum se pot partaja proiectele create în Canva cu alți colegi pentru colaborare?

98 de răspunsuri



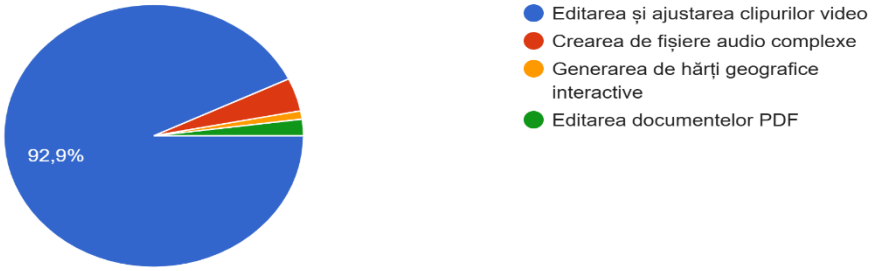
Ce reprezintă o linie temporală (Timeline) într-un proiect educațional?

98 de răspunsuri



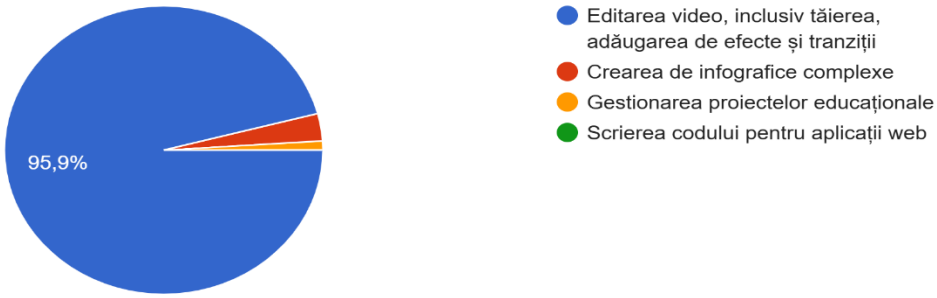
Care dintre următoarele funcții este specifică aplicației CapCut?

98 de răspunsuri



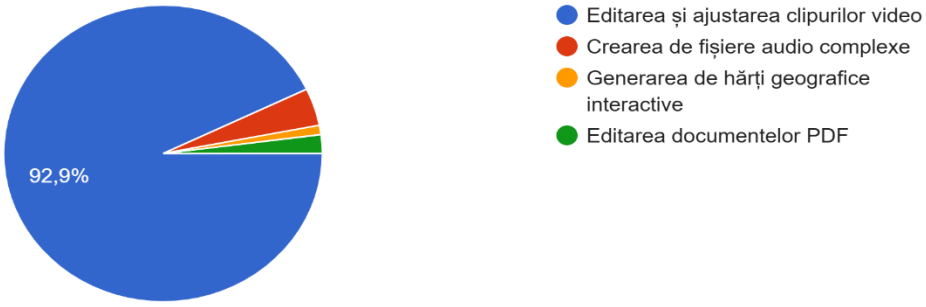
Pentru ce este utilizat CapCut?

98 de răspunsuri



Care dintre următoarele funcții este specifică aplicației CapCut?

98 de răspunsuri



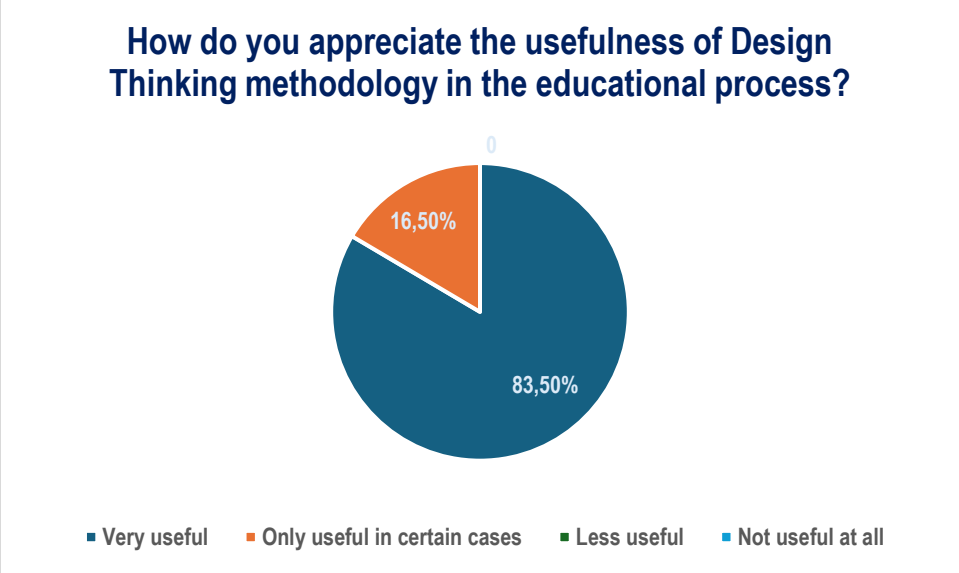
B. Overall program evaluation

Question 1: How do you appreciate the usefulness of Design Thinking methodology in the educational process?

The first question asked about the usefulness of Design Thinking methodology in the educational process.

Answers:

Very useful	83,50%
Only useful in certain cases	16,50%
Less useful	0
Not useful at all	0



Conclusions on the usefulness of Design Thinking methodology in the educational process

The results of the questionnaire indicate a high degree of appreciation of Design Thinking as an applicable methodology in education:

a. Major acceptance and high teaching relevance

- 83.50% of the learners consider Design Thinking methodology very useful in the educational process, which shows that it is perceived as an effective strategy for teaching innovation and improving the learning experience.

Teachers recognize the value of iterative, student-centered thinking and creative problem-solving that can improve student engagement, collaboration, and the development of critical thinking skills.

b. Contextual usefulness for some participants

- 16.5% of respondents said that the methodology is useful only in certain cases, suggesting that some subjects or teaching styles may need to be adapted to effectively integrate Design Thinking.

This may indicate that teachers in certain subject areas (e.g. science, technical subjects) may need specific examples of applying Design Thinking in concrete subjects.

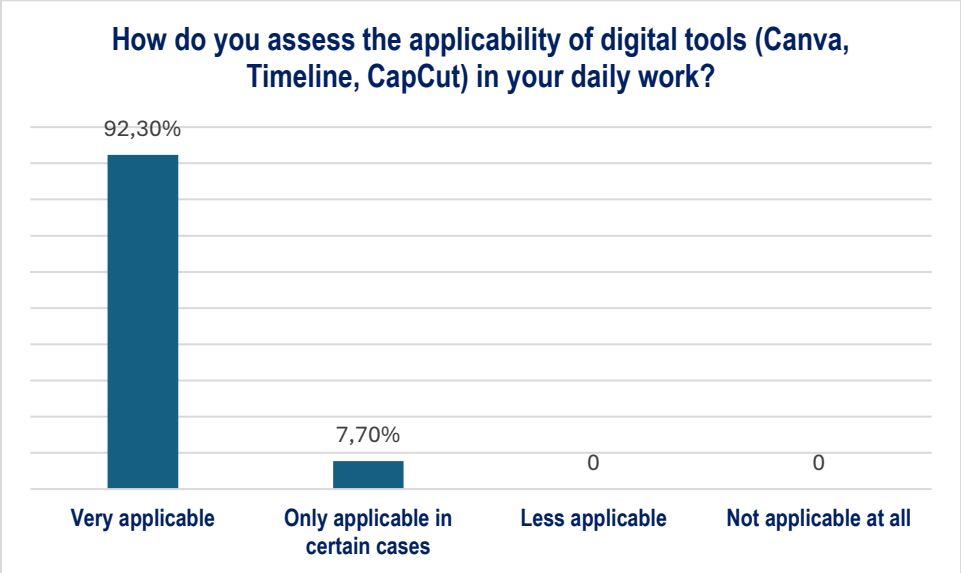
.

Question 2: How do you assess the applicability of digital tools (Canva, Timeline, CapCut) in your daily work?

The second question aimed to assess degree of applicability of digital tools (Canva, Timeline, CapCut) in teaching.

Answers:

Very applicable	92,30%
Only applicable in certain cases	7,70%
Less applicable	0
Not applicable at all	0



The results of the questionnaire indicate a high level of applicability of digital tools in the trainees' professional activity after participating in the training program.

Main conclusions:

1. **Wide acceptance and educational relevance:**

- **A significant percentage (92.3%) of the participants consider the digital tools to be very applicable, which demonstrates that the resources presented in the course are relevant and can be easily integrated into the teaching process.**

Teachers perceive these technologies as a real support in teaching, either for creating interactive educational materials or for stimulating students' interest and involvement.

2. **Versatility and effective integration in teaching:**

- **Digital tools such as Canva, Timeline and CapCut offer flexibility and diversity in the creation of educational content, which explains the high rate of applicability.**

Teachers can use these platforms to improve visual communication, digital storytelling and chronological organization of information in lessons.

3. **Opportunities to adapt to the specific needs of each teacher:**

- **7.7% of respondents felt that the tools are only applicable in certain cases, which may suggest that some teachers face challenges in integrating them into their subjects or personal teaching style.**

This could be enhanced by additional training sessions tailored to the individual needs of teachers, with more specific examples of application in different subjects.

Question 3: How do you assess the applicability of digital tools (Canva, Timeline, CapCut) in your daily work?

The third question was aimed at assessing the degree of applicability of digital tools (Canva, Timeline, CapCut) in teaching.

Answers:

Very good	**39,8%**
Okay	**48%**
Acceptable	**12,2%**
Major difficulties	**0**

CONCLUSIONS ON THE LEVEL OF COMPETENCE OF THE TRAINEES IN THE USE OF DIGITAL TOOLS ADDRESSED IN THE TRAINING PROGRAM

The results of the questionnaire indicate an overall high level of confidence and competence in using digital tools after participating in the training program:

1. Most learners feel comfortable using digital tools

- **87.8% of participants (39.8% "very well" + 48% "well") consider that they are doing well or very well with the digital tools covered in the training (Canva, Timeline, CapCut).**
- **This result shows that the training program was effective and that the participants were able to acquire the necessary skills to use these tools in their teaching.**

2. A third of learners (39.8%) feel very confident in their digital skills

- **The relatively high percentage of those doing 'very well' demonstrates that the training has provided sufficient practical examples and applied experience for teachers to quickly get to grips with the use of the platforms.**

3.12.2% of learners consider themselves at an acceptable level, which indicates the need for additional support. These learners may need additional practice sessions, individualized support or additional resources to achieve a higher level of digital competence.

COMPARATIVE ANALYSIS: LEARNERS' INITIAL STAGE VS. STAGE AFTER TRAINING

The impact of the DigitalCraft training program on teachers' competences and the integration of digital tools in education

1. INITIAL LEVEL OF LEARNERS

Prior to participation in the training program, data collected through the initial assessment questionnaires highlighted several key issues:

1.1. Knowledge and application of Design Thinking

- **68.3% of the trainees knew nothing about *Design Thinking* and 31.7% had only heard of it, but did not use it.**
- **64.4% of the participants were not familiar with the stages of Design Thinking, indicating a lack of familiarization with this innovative methodology.**
- **The practical applications of the method were not understood and most teachers had no experience in integrating it into the teaching process.**

1.2. Using digital tools

- **60.4% of the teachers had not used Canva to create educational materials, and those who had used it occasionally were limited to simple posters and posters (33.7%).**
- **95.5% of respondents had never used Timeline programs to create interactive timelines.**
- **Only 5% had used similar platforms, but not in education, which shows an untapped opportunity to visualize learning content chronologically.**
- **The use of technology in education was predominantly oriented towards static presentations (PowerPoint) and videos, while digital assessment and the creation of interactive resources were underrepresented.**

1.3. Challenges in using technology

- **41% of learners identified *lack of time* as the main barrier to using digital tools.**
- **29% mentioned a lack of technical knowledge, indicating a real need for training to increase teachers' confidence in using technology.**
- **28% indicated limited technological resources, suggesting the need for affordable and efficient digital solutions.**

2. STAGE AFTER TRAINING: PROGRESS AND IMPACT

After the completion of the training program, the impact on teachers has been significant and the data collected through the final evaluation confirms the progress made.

2.1. Improving knowledge and applicability of Design Thinking

- **83.5% of the participants considered the *Design Thinking* methodology to be very useful in education, which shows a major change in perception from the initial level.**
- **Teachers have begun to understand how to personalize learning content, develop students' creativity and create an interactive and collaborative environment through Design Thinking.**
- **The applicability of the method in practice has increased and teachers have identified concrete ways of integrating it into lessons.**

2.2. Increasing digital competences and using interactive tools

- **92.3% of participants stated that the digital tools used in the course are very applicable in their daily work.**
- **87.8% of teachers feel well or very well prepared in using the digital tools covered in the course.**
- **The use of Canva has increased significantly, and teachers have started to create interactive presentations, infographics, leaflets and other complex visual materials.**
- **The integration of Timeline programs has been better understood and teachers have discovered practical applications in subjects such as history, literature, social studies and science.**

2.3. Changing attitudes towards technology and digital literacy

- **Teachers have become more open to integrating new technologies, seeing their positive impact on student learning.**
- **Lack of time remains a challenge, but increasing confidence in the use of technology and the availability of accessible digital resources can compensate for this.**
- **Student reluctance is no longer perceived as a problem, indicating that teachers have realized that students are receptive and motivated when exposed to interactive methods.**

3. COMPARISON INITIAL STAGE VS. AFTER FORMATION

ASSESSED ASPECT	INITIAL STAGE	AFTER TRAINING
Knowledge of Design Thinking	68.3% knew nothing	83.5% find the method very useful
Using Canva	60.4% had not used Canva	Significant increase in its use for various educational materials
Using Timeline programs	95.5% had never used them	Teachers have identified concrete applications for their subjects
General digital skills	12.2% thought they were doing reasonably well	87.8% feel well or very well prepared
Applicability of digital tools in teaching	Only used for static presentations	92.3% find the tools they have learned very applicable
Main challenges	Lack of time (41%), lack of technical knowledge (29%)	More confidence in using technology, but time remains a challenge

4. GENERAL CONCLUSIONS AND IMPACT OF TRAINING

The DigitalCraft training program has had a major impact on teachers, helping them to improve their digital skills and integrate modern teaching methods.

The results indicate a significant increase in teachers' confidence in the use of technology and Design Thinking methodology, which contributes to more interactive learning that is more tailored to students' needs.

Referring to the initial assessment of the trainees' knowledge, carried out at the beginning of the training activities, we can conclude that the training program has covered a real need for training in Design Thinking method, providing VET teachers with a new innovative pedagogical approach.
While before the course, most teachers only used PowerPoint and static video materials, after the training they have learned to create interactive materials, use digital assessment and apply modern teaching techniques.

1. Increasing the applicability of digital tools in education

- **92.3% of the trainees consider the digital tools (Canva, Timeline, CapCut) very applicable in their daily work, which confirms that the training program was well structured, relevant and adapted to the real needs of VET teachers.**
- **The integration of digital technologies in the teaching process is perceived as an effective solution for modernizing teaching methods, which contributes to increasing student involvement and motivation.**

2. Design Thinking - a methodology perceived as innovative and valuable

- **The results indicate that Design Thinking was an almost unknown concept before the training, but has a high potential for applicability once teachers are trained in its use. Its stages were also not well understood.**
- **83.5% of the participants rated Design Thinking as very useful in education, which shows that this method was well understood and considered a powerful tool for stimulating creativity and critical thinking among students.**
- **The fact that only 16.5% of learners consider the methodology applicable only in certain cases indicates a high potential for integrating this model into teaching, with minor subject-specific adjustments.**
- **Design Thinking is recognized as an innovative methodology that can improve student collaboration, problem solving and autonomous learning.**

3. Increasing teachers' digital competences

- **87.8% of learners feel well or very well prepared in the use of digital tools after completing the course.**

- The high percentage of those doing 'very well' (39.8%) and 'well' (48%) shows that the training program has had a real impact on the development of teachers' digital competences, enabling them to use new technologies autonomously and effectively in the educational process.
- The practical integration of the tools into the training process facilitated the rapid transfer of knowledge into teaching.

4. Positive impact on innovation in teaching

- The results confirm that teachers have acquired essential skills to implement modern teaching methods based on digital technologies and Design Thinking.
- The combination of creative thinking and the use of visual and multimedia tools gives teachers the possibility to adapt teaching content to students' learning styles, leading to an increase in the effectiveness of the educational process.

5. Prerequisites for a digitized and student-centred education

- Teachers who have participated in the training are now better prepared to implement technology-based teaching methods, collaboration and experimentation.
- The integration of digitization in VET education is becoming more accessible given the high acceptance and applicability of digital tools.

In conclusion, the training program has filled a real need for training in Design Thinking, providing VET teachers with a new innovative pedagogical approach.

It has supported teachers in transforming the educational process, facilitating the shift from traditional methods to digitized, innovative and student-centred teaching.

In order to ensure a more consistent application of digital tools, we aim to provide ongoing support and opportunities for those who are still struggling.

We also aim to:

- Extend training sessions to support teachers who feel that the tools are only applicable in certain cases.
- Create a resource library with practical examples for different subjects and educational contexts.
- Monitor the impact of using Canva, Timeline and CapCut in teaching to identify good practice and possible difficulties in implementation.
- Providing case studies and examples of good practice for integrating Design Thinking across disciplines.
- Additional training sessions to support teachers who find the methodology applicable only in certain contexts.

- **Creation of a guide adapted by subject, with concrete steps for implementing Design Thinking methodology in teaching.**
- **Continuous feedback from teachers applying the methodology to identify challenges and possible solutions.**