DIGITALCRAFT

Co-funded by the European Union

DigitalCRAFT: Enhancing Vocational Skills through Design Thinking and Graphic Design ACTIVITY A.3 CURRICULUM DEVELOPMENT

- ANALYSIS OF QUESTIONNAIRES APPLIED TO STUDENTS IN VET EDUCATION -

Project number: 2023-1-RO01-KA210-VET-000166913

1. PROJECT DESCRIPTION

The **DigitalCRAFT** project is a pioneering educational initiative aimed at redefining vocational education and training (VET) in the field of design thinking and graphic design.

Recognising the essential role these disciplines play in today's digital and design-oriented labour market, the project seeks to bridge the gap between current educational offerings and skills required in the modern workplace.

Over the course of 14 months, the project aimed at creating a synergy between Italian and Romanian teachers to develop a common curriculum that not only reflects contemporary industry practices but will also be proactive in anticipating future market trends.

This project is particularly significant in its focus on the transformative power of design thinking and graphic design, which have become indispensable tools for innovation, problem-solving and value creation in diverse industries.

GENERAL OBJECTIVE

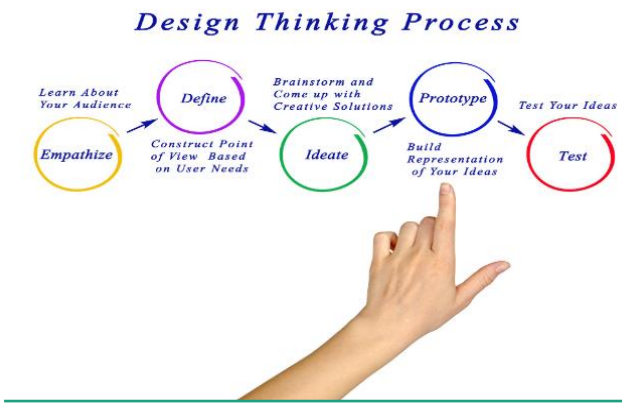
- **Measurably improve the quality and relevance of education and training in design, innovation and graphic design, during the 14-month project implementation period, by encouraging international collaboration, developing and implementing a common curriculum and empowering at least 50 VET teachers/trainers from Italy and Romania, with the ultimate goal of improving the employability and career prospects of VET students in the future dynamic job market**.

SPECIFIC OBJECTIVES

- **Promoting collaboration and knowledge exchange between partners [Un/lab and SLI BACĂU]** to improve vocational education and training, training methods in the field of design, innovation and graphic design.
- **Improving the capacity of teachers/trainers and vocational training institutions** to effectively empower students with skills relevant to the future job market, by creating a common curriculum that integrates design thinking methodologies, design and graphic design techniques into the educational process.
- **Strengthen the professional development of teachers/trainers and VET institutions** by providing them with access to virtual workshop programmes and virtual training sessions designed to improve their understanding and implementation of the new curriculum, teaching methods and graphic design tools.

- **Increase visibility and understanding of the new curriculum among VET teachers/trainers and institutions** by designing and running an awareness-raising campaign, which will use a short video to effectively communicate the benefits of integrating design thinking methodologies and graphic design techniques into VET education.
- **Improve the employability and career prospects of VET students** by providing them with industry-relevant skills through the new curriculum, which integrates design thinking methodologies and graphic design techniques, thus ensuring that they meet the dynamic demands of the future labour market.

MAIN ACTIVITIES

○ **A.1 PROJECT MANAGEMENT** ○ **A.2 COMMUNICATION AND DISSEMINATION** ○ **A.3 CURRICULUM DEVELOPMENT** ○ **A.4 TRANSNATIONAL TRAINING IN ITALY** ○ **A.5 NATIONAL TRAINING IN ROMANIA** ○ **A.6 AWARENESS-RAISING CAMPAIGN**	

TARGET GROUP

DIRECT TARGET GROUP:

- **VET teachers and trainers** from partner organisations and countries, who will gain knowledge on innovative teaching, innovative methods and tools.
- **Educational institutions and organizations** interested in adopting or adapting the developed curriculum.

INDIRECT TARGET GROUP:

- **Students from VET schools in Italy and Romania**, who will acquire skills relevant to the labour market.

- **Schools from Romania and Italy**, which expressed interest in the project activities during the design process, being involved in the needs assessment, as follows:

Romania:

1. "Ion Ghica" Economic College Bacău (100 teachers and 1336 students);
2. "Dimitrie Ghica" Technical College Comănești (88 teachers and 1180 students);
3. "Gheorghe Asachi" Technical College Onești (70 teachers and 823 students).

Italy: VET College "E. Orfini" (53 teachers and 655 students).

2. ANALYSIS AND INTERPRETATION OF PARTICIPANTS' QUESTIONNAIRES

2.1. PURPOSE OF THE RESEARCH

Through its objectives, the project aimed at better preparing students in vocational education and training for the future labor market and to increase their employability.

The **DigitalCraft** project responds to the needs and objectives of the participating organizations, but also to the identified direct needs of the target groups, by acquiring updated knowledge and skills by teachers and trainers in VET education. As these teachers apply the new curriculum and teaching methods, students in VET schools, who form the indirect target group, will acquire skills relevant to the future labour market, increasing their employability and career prospects.

In activity **A.3 CURRICULUM DEVELOPMENT,** it is foreseen that the two partners **[Un/lab and SLI BACĂU]** will collaborate to develop a comprehensive curriculum, incorporating design thinking methodologies and graphic design techniques, making it applicable to various sectors and relevant for students in different VET subjects.

For activity A.3.1 Needs Assessment, national interviews with teachers, students and professionals from the VET sector and industry in the fields of design, innovation and graphic design were carried out, based on the Interview Guides carried out.

Regarding VET students, the questionnaire presented in the annex was applied, its purpose being to gather valuable perspectives and feedback from VET and vocational students, information that will be essential in shaping the curriculum development for the DigitalCRAFT project **: Enhancing Vocational Skills Through Design Thinking and Graphic Design**.

The insights gained, which have been analysed in this material, will contribute to creating a more relevant, comprehensive and forward-looking curriculum that meets the demands of a modern workplace

and has as its main objective the improvement of VET students' skills and competences in these creative areas.

The answers provided by VET students will be analysed below to identify the specific trends and needs of your key population.

2.2. RESEARCH METHODOLOGY

The methods and tools used in the study aimed at collecting information highlighting the following types of effects:

- immediate, at the individual level;
- in the medium term, at institutional level;
- long-term effects, both at individual and institutional level.

Methods and techniques:

- Quantitative research: Questionnaire-based survey
- Descriptive statistical analysis of data collected in the survey

The questionnaire covered the following **ASPECTS:**

1.1. Troubleshooting

Design thinking provides a systematic approach to problem solving. It helps students think critically and creatively and develop solutions that are not only effective but also innovative. These skills are valuable in any professional context, not just design-related fields.

1.2. Resiliency

The modern labour market is dynamic and requires workers who can adapt to new technologies and methodologies. Design thinking and graphic design skills ensure VET students are well prepared to accept changes and new challenges in diverse industries.

1.3. Communication

Graphic design skills are essential for effective visual communication. With the growing importance of digital media, the ability to create clear and compelling visual messages is valuable in sectors ranging from marketing and communication to data presentation and user interface design, including unrelated fields such as electrical, mechanical and hydraulic studies.

1.4. The relevance of interdisciplinarity

Design thinking encourages an interdisciplinary approach, combining knowledge from different fields to create holistic solutions. This is increasingly important as the boundaries between traditional roles blur and collaboration between different sectors becomes more common.

1.5. **User-centricity**

Design thinking focuses on user experience, ensuring that products, services and systems are designed with the end user in mind. Focusing on customer experience is crucial to the success of any business.

1.6. **Innovation**

Both design thinking and graphic design are the drivers of innovation. They encourage thinking outside the box and developing new ideas, which can lead to breakthroughs in any sector.

1.7. **Digital competence**

In today's digital age, graphic design skills are intertwined with digital literacy. Understanding the tools and principles of digital design is now a fundamental skill, as digital content dominates in communication, marketing, and product development.

1.8. **Competitive advantage**

In a busy job market, having design thinking and graphic design skills can differentiate VET students from their peers, giving them a competitive advantage when looking for a job.

1.9. **Entrepreneurship**

These skills are also key to entrepreneurship. Design thinking helps identify market opportunities and develop innovative business models, while graphic design is crucial for branding and customer engagement.

1.10. **Cultural and social responsibility**

Design thinking often involves considering the cultural and social context of products and services, which is important for creating socially responsible and culturally sensitive solutions.

2.3. DATA ANALYSIS

General data:

The questionnaires were applied on a sample of 62 students, who are enrolled in grades X -XII, in 3 VET education units in Bacău county, respectively:

- Economic College "Ion Ghica" Bacau;
- Technical College "Dimitrie Ghica" Comănești;
- Technical College "Gheorghe Asachi" Oneşti.

The responding students are aged between 16 and 18 and come from both rural and urban areas.

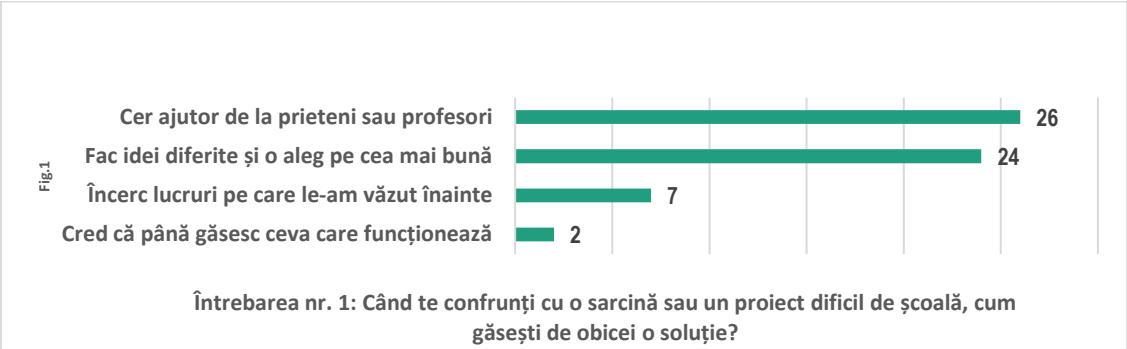
The results obtained from the application of the questionnaire used in the research are presented below:

Question No. 1:

When faced with a difficult school task or project, how do you usually find a solution?

A) I think I try until I find something that works.
B) I try things I've seen before.
C) I generate different ideas and choose the best one.
D) I ask friends or teachers for help.

The answers showed that 26 of the 62 respondents (41.94%) prefer to ask for help from friends or teachers when faced with a difficult task or project at school, 38.71% of respondents try different ideas, choosing the best one, respectively 11.29% try to apply things seen / learned previously:

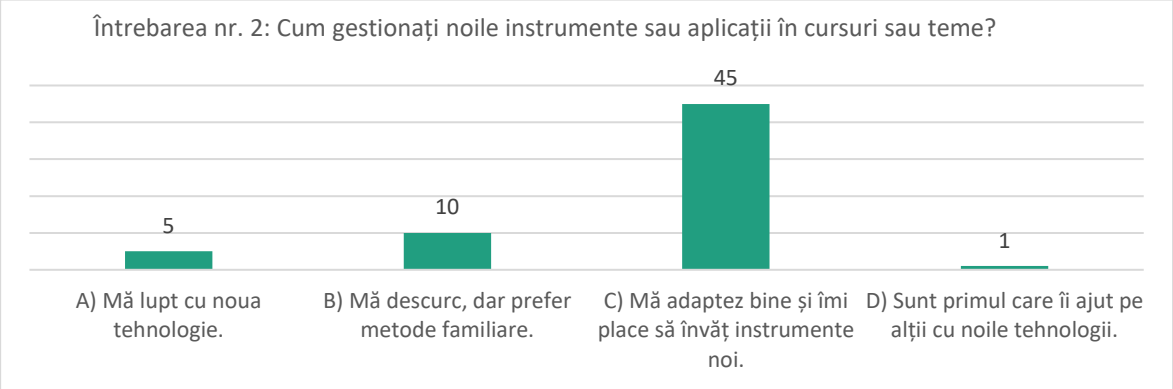


Question No. 2:

How do you manage new tools or applications in courses or assignments?

A) I struggle with new technology.
B) I can handle it, but I prefer familiar methods.
C) I adapt well and I like to learn new tools.
D) I am the first to help others with new technologies.

The answers to this question highlight the fact that 72.58% of respondents (45 students out of a total of 59) adapt well and like to learn new tools or applications in courses or homework, 16.13% of respondents manage, but prefer familiar methods, respectively 8.06% try to understand the new technology:

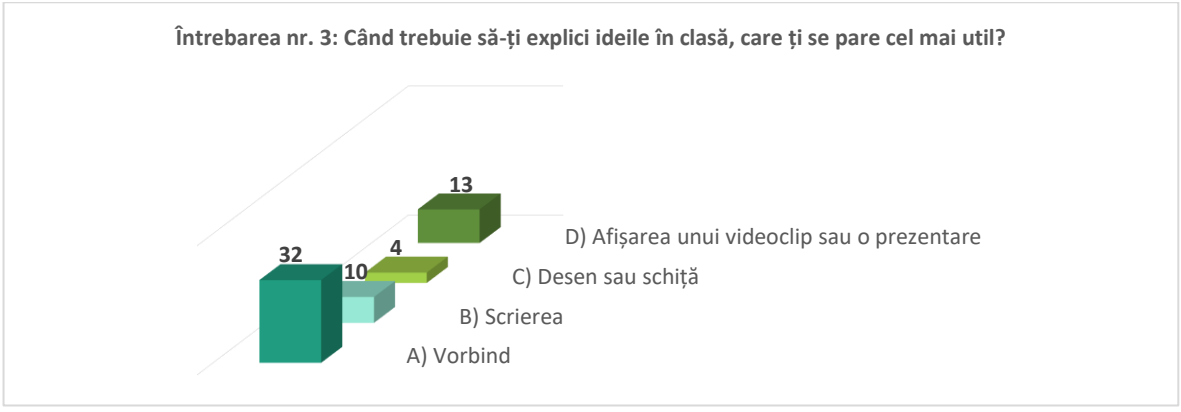


Question No. 3:

When you need to explain your ideas in class, which do you find most useful?

A) Speaking
B) Writing
C) Drawing or sketch
D) Displaying a video or presentation

The answers to this question showed that 32 students out of the total 62 respondents (51.62%) prefer oral speech as a method, when they have to explain/present their ideas in class, 10 students (16.13%) prefer writing as a method, 4 students (6.45%) chose drawing or sketching and only 13 students (20.97%) chose the display of a video or presentation as a method.

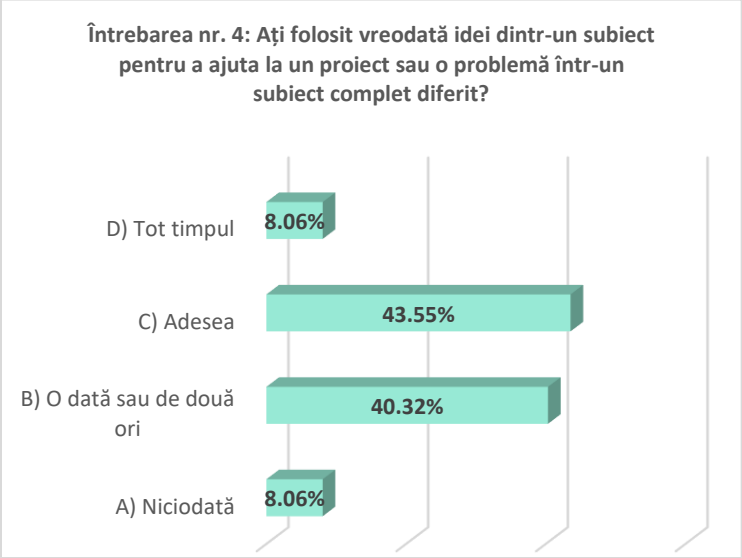


Question No. 4:

Have you ever used ideas from one topic to help with a project or problem in a completely different topic?

a) Never
B) Once or twice
c) Often
D) All the time

The answers to this question showed that 43.55% of respondents (27 students out of a total of 62) frequently use ideas from one topic to help with a project or problem in a completely different topic; Quite a large percentage of respondents, namely 40.32% (25 students) rarely (once or twice) used ideas from a topic to help with a project or problem in a completely different topic, only 8.06% of students using this method always. It is worth mentioning that 8.06% of the surveyed students have never used this method.

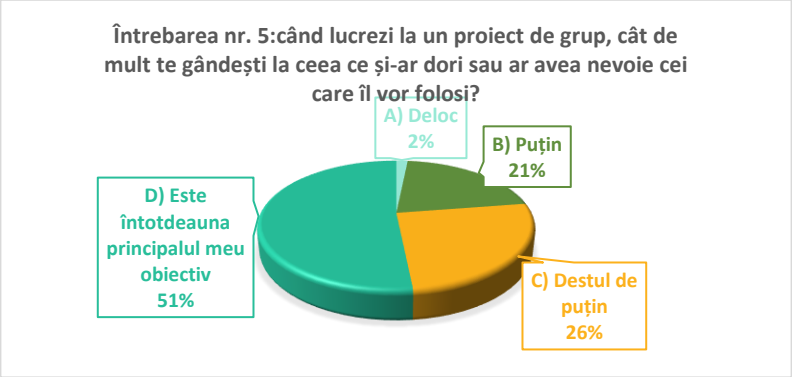


Question No. 5:

When you're working on a group project, how much do you think about what those who will use it would want or need?

a) Not at all
b) Little
C) Quite a bit
D) It is always my main goal

The answers to this question showed that when working on a group project, for 51% of respondents (32 students out of a total of 62), the main objective is to think about what those who will use that project would want or need, 26% (16 students), think quite a bit, 21% little and 2% not at all.



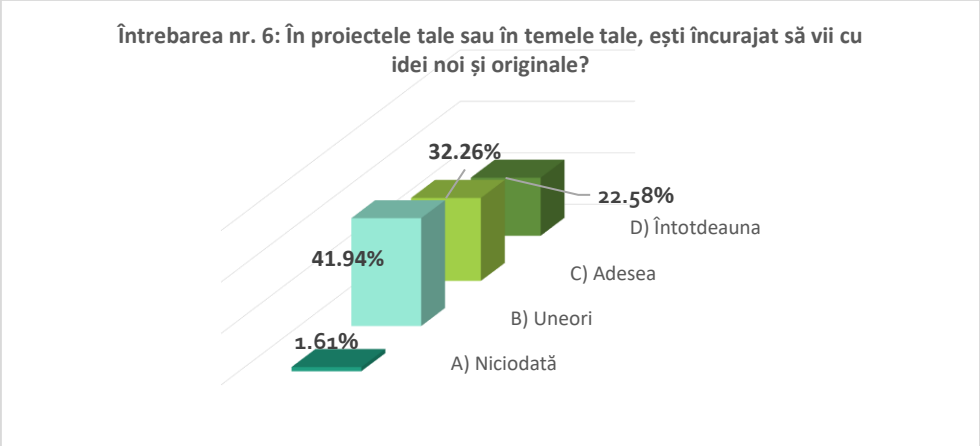
Question No. 6:

In your projects or themes, are you encouraged to come up with new and original ideas?

a) Never
b) Sometimes
c) Often
d) Always

The answers to this question highlighted the following points:

- 32.26% of surveyed students are often encouraged to come up with new and original ideas;
- 41.94% of surveyed students are encouraged less;
- 22.58% each time
- 1.61% not at all.



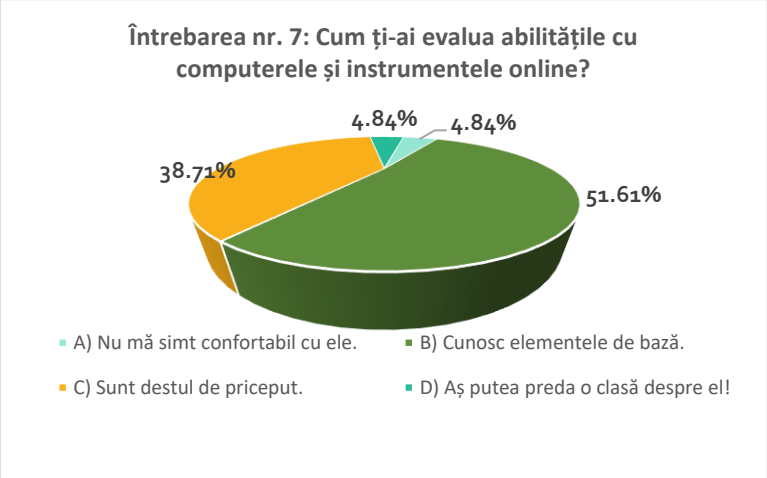
Question No. 7:

How would you assess your skills with computers and online tools?

A) I am not comfortable with them.
B) I know the basics.

C) I'm pretty skilled.
D) I could teach a class!

The answers to the question on self-assessment of digital skills (working with computers and online tools) revealed that more than half of respondents (51.61%) know the basics, 4.84% consider themselves extremely experienced, 38.71% of students consider themselves quite skilled, and 3 students out of a total of 62 (4.84%) do not consider themselves competent from this point of view.



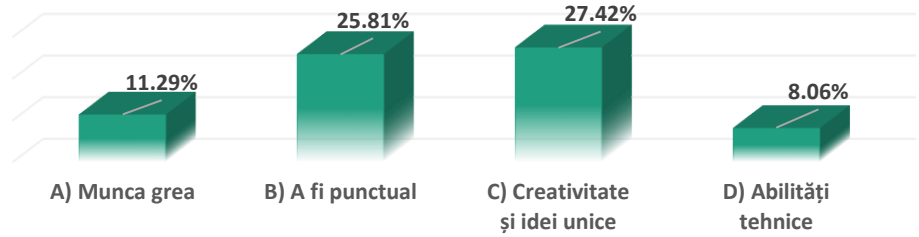
Question No. 8:

What personal strengths do you think will help you get a job in the future?

A) Hard work
B) Being punctual
C) Creativity and unique ideas
D) Technical skills

The question on self-assessment of personal strengths that could help them get a job in the future revealed the following:

- 11.29% (7 students) - hard work
- 25.81% (16 students) - punctuality
- 27.42% (17 students) - creativity and originality
- 8.06% (5 students) - technical skills



Întrebarea nr. 8: ce puncte forte personale crezi că te vor ajuta să obții un loc de muncă în viitor?

It is worth mentioning that 17 students considered that there is not only one answer to this question, choosing several options, thus appreciating that there is not just one strength, but a complex of work that could help them find a job. Thus:

- 3 students considered their strengths to be hard work, creativity and originality and technical skills;
- 3 students chose punctuality, creativity and originality and technical skills as strengths;
- 2 students chose hard work and technical skills as their strengths;
- 3 students chose hard work, creativity and originality as their strengths;
- 2 students considered hard work and punctuality as strengths;
- 4 students appreciated that all 4 aspects mentioned - hard work, punctuality, creativity and originality and technical skills -are strengths.

Question No. 9:

Have you ever thought about starting your own business or making a product to sell?

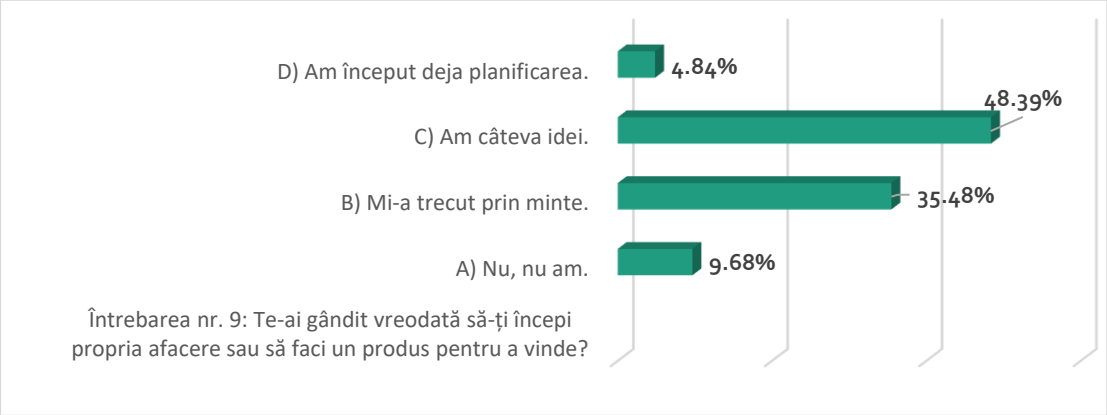
A) No, I haven't.

B) It crossed my mind.

C) I have some ideas.

D) I have already started planning.

Question No. 9 focused on entrepreneurship and the intentions of the surveyed students regarding starting a business or creating a product to sell. The students' answers show that 30 students (48.39% of respondents) have this intention, 22 students (35.48%) are thinking about this option, while 6 students (9.68%) do not have such ideas, and 4.84% say they have already started planning. The students' answers practically confirm the entrepreneurial intentions of young people.



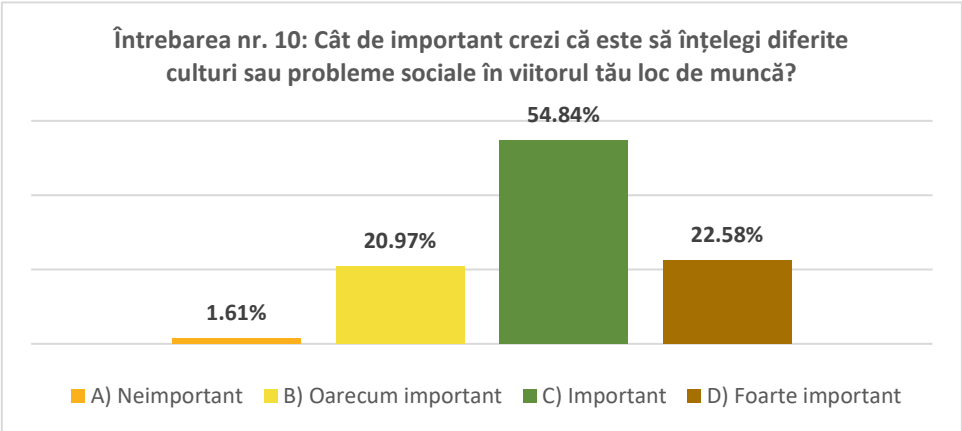
Question No. 10:

How important do you think it is to understand different cultures or social issues in your future job?

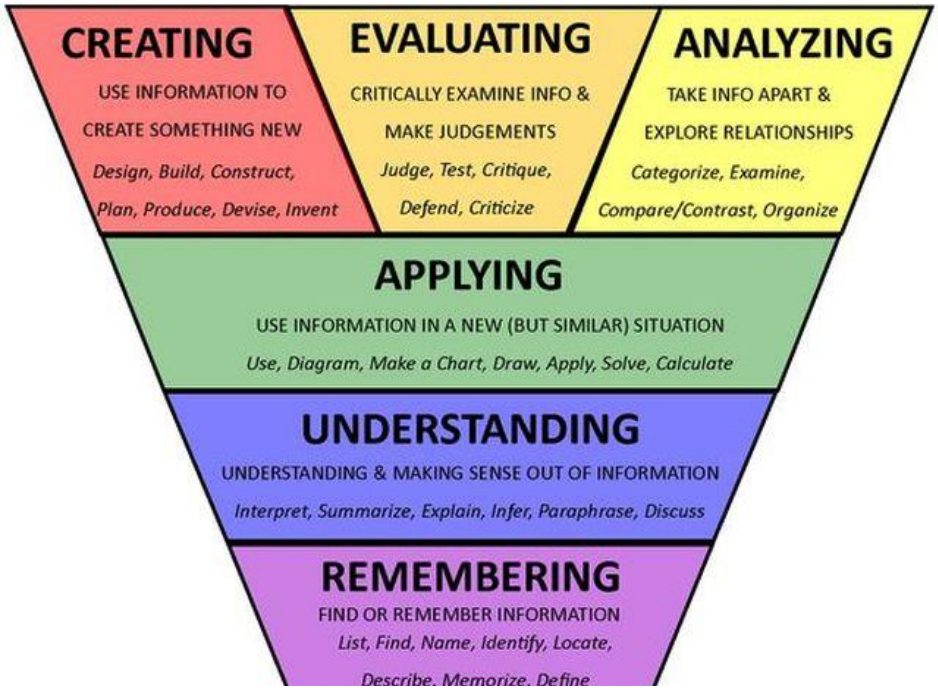
A) Unimportant
B) Somewhat important
C) Important
D) Very important

The last question concerned **cultural and social responsibility –** taking into account the cultural and social context of products and services, important aspects for creating socially responsible and culturally sensitive solutions.

Thus, the students' answers highlighted the fact that understanding different cultures or social issues is important in the future workplace is important for 34 students out of 62 respondents (54.84%), respectively very important for 14 students (22.58%); Less important is considered this aspect for 13 students (20.97%), while 1.61% of respondents do not consider this aspect important.



3. CONCLUSIONS - SPECIFIC TRENDS AND NEEDS OF THE TARGET GROUP



The qualitative analysis of the results of the questionnaires applied to students reveals the following aspects:

- Students;
- In school, students are very little encouraged to use their creativity and come up with new and original ideas;
- technical / digital skills are insufficiently developed, despite the digitalization / computerization trends existing in today's society;
- the knowledge acquired by students is not transferable and applicable;

The integration of design thinking and graphic design principles into the VET curriculum could aim at developing students' personality, training and developing both digital competences and competences necessary for lifelong learning, in integration into a knowledge-based society. It is absolutely necessary to adapt the curriculum to the expectations of society, to the needs of students, but also to the traditions of the national school, so as to achieve a transition from an education for all to an education for everyone, through student-centered instruction.

Design thinking could be the tool teachers can use to understand students' needs and provide structure on which they can build their skills – no matter what level they are at – and integrate their passions into learning.

Therefore, there is a need for teachers to:

- ❖ teach students to use projective thinking, when working on a creative project, to develop empathy, as they should understand their audience or those for whom they design;
- ❖ try to develop their students' skills to understand that it is important to be able to listen to others and understand their needs;
- ❖ be able to work creatively and nurture/develop students' creativity and mindset to do;
- ❖ be able to plan, facilitate and evaluate this process to ensure that students learn and achieve benchmarks.

Students' specific trends and needs may vary depending on the specific educational and cultural context. However, in general, there are some relevant aspects to consider:

1. **Access to technology and digital resources**: Students need access to relevant technology and software to develop their skills. Thus, schools should be equipped with appropriate IT equipment and software to allow these students to practice and express their creativity.
2. **Quality materials and equipment**: An essential part of learning involves working with quality materials and equipment. It is important that schools provide access to drawing tools, printers, paper and other materials needed to allow pupils to express their ideas creatively and develop their practical skills.
3. **Mentoring and constructive feedback**: Students need constructive guidance and feedback to improve their skills and develop confidence in their own capabilities. Teachers should provide support and encourage students to explore and develop their creativity.
4. **Practical experiences and relevant projects**: Students need opportunities to work on practical and relevant projects. This may include working with local organizations to create marketing or graphic design materials for school or community events.
5. **Flexibility and adaptability in learning**: Students should be encouraged to be flexible and adaptable in their learning. This may include exploring different techniques, approaches and technologies within their creative process.

In general, it is important that education is oriented towards developing students' practical skills, creativity and critical thinking, giving them opportunities to express their ideas and contribute to innovative and effective problem solving.

Integrating design thinking and graphic design into the school curriculum can bring multiple benefits, helping students develop essential skills for problem solving, creative thinking and innovation.
Integrating graphic design into the school curriculum can be a great way to develop creative, technical and communication skills in students. Here are some specific questions you can consider when planning to integrate graphic design into your curriculum:

1. **Goals and objectives**: What are the specific goals we want to achieve by integrating graphic design into the curriculum? Do we want to develop artistic, technical, communication skills or all of these?
2. **Curriculum structure**: How can we structure the curriculum to integrate graphic design effectively? Which existing subjects or disciplines can be adapted to include graphic design elements?
3. **Content and teaching materials**: What specific content should be covered in graphic design courses? What teaching materials and technological resources are needed to support learning?
4. **Teaching methods and strategies**: What are the most appropriate teaching methods and strategies to promote learning and practice of graphic design? How can we create a stimulating and interactive learning environment for students?
5. **Assessment and feedback**: How can we effectively assess students' progress and outcomes in their graphic design skills? What are the most appropriate assessment criteria and tools to measure these skills?
6. **Real-world connection**: How can we link graphic design activities to real issues and contexts in everyday life or in the professional field? How can we provide opportunities for students to apply their knowledge and skills in practical projects?
7. **Collaboration and interdisciplinarity:** How can we encourage and support collaboration and interdisciplinarity between students and teachers in graphic design activities? How can we promote diversity and inclusion in the design process?
8. **Resources and infrastructure**: What resources and infrastructure are needed to support the integration of graphic design into the curriculum? How can we ensure access to relevant equipment, software and work materials for all students?
9. **Training and professional development**: How can we develop capacities and expertise among teachers to support the integration of graphic design into the curriculum? What are the effective ways of training and professional development in this area?
10. **Sustainability and continuity**: How can we ensure sustainability and continuity of graphic design integration into the curriculum in the long term? How can we adapt and improve the curriculum according to changes in graphic design and student needs?

These questions could guide the process of planning and implementing the integration of graphic design into the school curriculum, ensuring that it is carried out in an effective and beneficial way for student development.