DIGITALCRAFT

Co-funded by the European Union

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

- **NEEDS ANALYSUS AND ANALYSIS OF INTERVIEWS APPLIED TO VET TEACHERS AND INDUSTRY PROFESSIONALS IN THE FIELDS OF DESIGN, INNOVATION AND GRAPHIC DESIGN -**

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

1. PROJECT DESCRIPTION DigitalCRAFT: Enhancing Vocational Skills Through Design Thinking and Graphic Design

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 to create 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.

The 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 various industries.

GENERAL OBJECTIVE

- Measurably improve the quality and relevance of vocational 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 students' employability and career prospects VET 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**, who expressed interest in the project activities during the design process, being involved in the needs assessment, as follows:

SLI BACAU:

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

UNLAB:

1. VET College "E. Orfini" (53 teachers and 655 students).
2. VET Training center “FORMA.AZIONE” (36 VET trainers).
3. VET Training center “ECIPA” (24 VET trainers).

2. ANALYSIS AND INTERPRETATION OF VET TEACHERS

2.1. PURPOSE OF THE RESEARCH

Through its objectives, the project aimed to better prepare 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 was foreseen that the two partners **[UnlLAB 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, based on the Interview Guides conducted, interviews with teachers, pupils and professionals from the VET sector and industry in the fields of design, innovation and graphic design.

The interviews were designed with the aim of collecting specific perspectives to inform the needs assessment phase of the **DigitalCraft** project, focusing specifically on the perspectives of VET teachers and industry professionals.

The purpose of the interviews was to gather valuable insights and feedback from VET and vocational education teachers, as well as industry professionals in the fields of design, innovation and graphic design. The interviews aimed to identify current gaps and challenges in the existing VET curriculum, understand evolving industry needs and gather suggestions for incorporating digital tools and methodologies. This information will be instrumental in shaping curriculum development.

The insights gained will help us create a more relevant, comprehensive and forward-looking curriculum that meets the demands of the modern workplace and enhances VET students' skills and competences in these creative areas.

The semi-structured interviews allowed for in-depth exploration of participants' points of view, while covering core topics relevant to the project.

The interviews focused on 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.

2.2. ANALYSIS OF TEACHERS' RESPONSES

General data:

The interviews were conducted with 6 teachers from 3 VET education units in Bacău county, as follows:

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

And 4 trainers in Perugia as follows:

1. VET Training center “FORMA.AZIONE”
2. VET Training center “ECIPA”

The answers provided by VET teachers/trainers will be analysed below to identify the specific trends and needs of their key population.

Question No. 1: How do you integrate design thinking problem-solving exercises into your curriculum?

The answers to this question showed that some teachers apply the principles of design thinking in the curriculum, in teaching-learning activities.

In general, the interviewed professionals stated that they have developed, over time, mixed strategies to stimulate inventiveness, imagination, eccentricity, spontaneity, overcoming the fear of breaking theoretical barriers. They believe that students need different channels of communication to get them actively involved and make connections from multiple fields.

Teachers said that they often try to use interactive exercises, both individual and collective, to conduct debates on certain issues or concepts, to try to use new, innovative solutions.

They also try to capture their attention, motivation, to come up with new topical topics, to create together with students, working in groups, teams, usable products, to create interactions, to link the concepts / notions taught by their lives, interests, concerns, experiences.

One of the interviewed teachers proposed several **methods by which problem-solving exercises related to projective thinking could be integrated** into the curriculum, namely:

1. Create a dedicated module in the curriculum for learning and applying the principles of projective thinking. This module could include theoretical lessons on the principles of Design Thinking and practical exercises for their application.

2. **incorporating the principles of Design Thinking within other disciplines** such as economics, marketing, commerce, by adapting exercises and projects to promote creative thinking and problem solving. For example, creating a product catalog for the exercise firm.

3. **Promoting interdisciplinary projects, which involve the use of projective thinking to solve complex problems**. These projects might involve students from different classes or disciplines collaborating to tackle a real or simulated problem.

4. **Organizing extracurricular activities such as design clubs or innovation competitions where students can apply and develop projective thinking skills in a more relaxed, creative environment**. Currently, there are certain activities, such as fairs of training firms, in which a contest takes place on certain

sections, some of them also involving this part of creation and innovation, such as: the best website, the best advertising spot, the most beautiful creative catalog and others.

5. **Provide additional learning resources and materials for students**, such as books, videos, and online tutorials, to help them understand and practice design thinking concepts and techniques outside of classroom time.

6. **Implement ways to assess projective thinking skills**, such as individual or group projects, presentations and design portfolios of students, followed by constructive feedback for continuous improvement of their performance.

Question No. 2: Can you provide an example of how the current curriculum prepares students to adapt to technological advances in design?

The teachers' answers to this question highlighted the fact that, currently, the curriculum is based on acquired skills, aims to help students develop all the skills they need to become adults, to become grown-ups at a future workplace.

One of the interviewed teachers, a teacher at an art college, exemplified this aspect, mentioning that in vocational high schools, a new discipline was introduced - computerized image processing, deepening this subject developing technical, modern skills of using computers and computer technologies, graphic processing operations. In this subject, students:

- Learn tools, various and complex image manipulation techniques.
- elaborates projects - usable products, for example posters, business cards, promotional materials, advertising materials, flyers, banners - functional, practical and aesthetic products, which develop their creativity, but also the acquisition of a technical, artistic vocabulary, which he can develop later.
- They work in teams, learning to document, understand project-specific tasks, meet deadlines, collaborate with other team members, give and get feedback.

Also, another teacher, a physics teacher at a VET high school, mentioned that students should not limit themselves to machine learning definitions or laws, without understanding phenomena, considering that they must be taught to make connections and understand, to interpret new information they face.

Another teacher provided a number of examples on how the current curriculum could prepare students to adapt to technological advances in design, namely:

- **the use of design software**, in art, technology or even mathematics classes, through which students could learn to use different design software, such as Adobe Photoshop, Adobe Illustrator, Corel Draw or even CAD software, Computer Aided Design, which are commonly used in the design industry. Through these applications, students can learn how to create and manipulate digital images and designs, preparing them for their use in professional practice.

- **carrying out technology-based design projects**, i.e. students could be encouraged to carry out design projects, involving the use of modern technologies such as 3D printers, augmented or virtual reality devices or even construction robots. These design projects could be integrated into exercise firm-related modules in grades 11 and 12, giving students the opportunity to experiment and understand how technology can be used to create innovative solutions in design.

- **collaborating with industry professionals** by organizing collaborations between the school and professionals in the design and technology industry to give students real insight into how technology is used in professional practice. These collaborations could include presentations, lessons, visits to design offices or creative firms, for example, or even internships for students.

- **organizing elective courses or special interest clubs** where students can explore and specialize in specific areas of design and technology, such as graphic design, product design, and others. These additional activities would allow students to develop their skills in a more focused environment and explore current technologies and trends in the industry in more depth.

By integrating these elements into the current curriculum, students will be prepared to adapt to technological advances in design and become competent innovative professionals in their field of work.

Question No. 3: In what ways does the curriculum emphasize the development of visual communication skills?

The answers to this question highlighted the following main points:

- It is necessary for students to acquire a series of theoretical notions - a compositional structure, highlighting a center of interest, methods, color theory, distribution of spaces, balance between visual and textual component, dynamism, the power to direct the viewer to the most important point or information in the image
- The use, in teaching activities, of IT equipment, such as, for example, the interactive whiteboard to present experiments to students, the graphic, visual part being important for understanding the notions taught.

One teacher interviewed provided a number of examples of ways in which the current curriculum could emphasize the development of these visual communication skills, namely:

1. **through visual arts and graphic arts courses**. The curriculum, therefore, can include some courses dedicated to visual arts and graphics in which students learn about the principles of design, composition, color, shape. These courses could help students develop and develop a solid understanding of visual language, but also improve their image communication skills.

2. **through the use of design technology and software**. Students can be taught to use different technologies and software, such as: Adobe Photoshop, Adobe Illustrator or other photo and graphics editing programs, such as Corel Draw, for example. Through these tools, students could learn to create and manipulate images and graphics, in order to communicate ideas and messages in an effective way.

3. **through design projects and visual artifacts**. Students may be involved in projects and tasks that involve the creation of visual artifacts, such as posters, infographics, presentations or even animations. These projects would encourage students to use their creativity and visual communication skills to convey information and create visual impact.

4. **analysis and interpretation of their image**. In literature, history, or even social science courses, students may be encouraged to analyze and interpret images to better understand cultural and historical context and extract messages and ideas.

5. **through presentations and exhibitions**. Students can be encouraged to present their work and projects in front of peers and teachers in presentations and exhibitions. These opportunities would give students the chance to improve their oral communication skills and receive constructive feedback on their work.

By integrating these elements into the curriculum, students have the chance to develop their visual communication skills and become more effective in conveying ideas and messages through images and graphics.

Question 4: How do you encourage students to apply design thinking to different subjects or subjects?

The teachers' answers to this question highlighted the following main aspects:

- It is very important to encourage students to express themselves freely, to share their opinions, to make associations of ideas, to make diverse connections, to make "fusion" between arts or between other disciplines, to remove preconceived ideas, to remove inhibition, to experiment, not to be afraid to make mistakes, not to be afraid to make a fool of themselves.
- Interdisciplinarity helps students to use their knowledge in different fields, helps them discover new things related to certain aspects, certain fields (e.g. biology, chemistry or physics) and helps them to have a global view of what that phenomenon or substance or lesson means.
- Communication between teachers of different disciplines is very important to develop projective design in students.
- Encouraging students to apply this projective thinking to different subjects or disciplines can be achieved by adopting an interdisciplinary approach and fostering an environment in which creativity, exploration and complex problem solving are encouraged. This could be achieved by promoting an open and collaborative environment between teachers and pupils, between pupils and teachers, by encouraging collaboration between pupils, open dialogue and exchange of ideas.

Question No. 5: What methods do you use to learn the importance of user-centered design in your courses??

The interviewed teachers said that they try to adapt their teaching style to the students' level, as there are classes with children with different levels, with more or less notions / knowledge, and the teaching style must adapt to their level.

Some of them mentioned that they try to do practical work, in which students have to work in a team, communicate, carry out the project together, which helps them in their personal development.

The interviewed teachers mentioned that the methods used to learn the importance of projective thinking are those in which the student actively participates in class. They mentioned brainstorming as a method frequently used in classes, in addition to experiments, research and role play. The focus is more on questions centered on thinking, on imagination and less on those that are centered on memory, in order to develop empathy, the ability to know their audience.

Another method frequently used and exemplified by the interviewed teachers was choosing free, personalized themes to motivate them, topics that really interest them.

The interviewed teachers believe that it is very important for the student to be encouraged, to be supported to discover as many things as possible on his own and to realize that he has the

necessary knowledge, that he has the possibility to develop a certain theory, to use his own experiences to explain to himself what is happening, why it happens.

Question 6: How are innovation and creative thinking promoted in your VET sector?

The answers to this question highlighted the following points:

1. Children should be encouraged to use both their intuition and imagination so that they can understand and explain what is around them. Therefore, teachers encourage students to find similarities and differences between the phenomena they encounter every day, so that, practically, starting from a previous experience, they can manage, on their own, to explain other phenomena they encounter, perhaps, for the first time.
2. Innovation and creative thinking are promoted through the diversity and complexity of projects. For example: graphic design competitions, either traditional or digital, photography contests, digital processing competitions or poster section, Olympics, museum activities, museum visits or study trips, documentary trips, in which students deepen what they have learned and make connections with the real, living environment.
3. The use of graphic design by teachers in the realization of the review lessons. For example: making a concept map together with students, PowerPoint presentations

Question No. 7: How competent do you think your students are? with the essential digital tools for modern graphic design?

The interviewed teachers said that students have a number of digital skills which, however, need to be developed.

Looking overall, they consider that the level of competence of students with digital tools is medium to advanced. Although technology is part of everyday life, there are many students who do not yet have digital skills or are not interested.

As a rule, students use the phone very easily, using the Internet and, especially, certain applications that are more related to social media. But even if they have Internet skills, they don't show many skills in terms of using certain programs, especially if it's specialized programs.

At some VET high schools, the discipline "computerized image processing" ensures the acquisition of these skills of using computer and information technologies.

The school lays the groundwork, but the student needs to work, he needs individual study, he needs independent work, interest and motivation.

There are some students, such as those from rural areas, who have not had the opportunity to encounter learning situations regarding graphic design.

The interviewed teachers consider that it would be very useful if, during ICT classes, notions in this field – graphic design – would be introduced into the curriculum.

Question No. 8: What specific skills do you focus on to give your students? A competitive advantage on the labour market?

The interviewed teachers' responses highlighted the following:

1. The interviewed teachers consider that it is very important for students to develop the habit of working in a team, understanding the distribution of tasks and collaborating.
2. Teachers appreciate that it is very important that, in high school, besides theoretical knowledge, students also acquire certain technical skills, such as conducting an experiment, learning to use a measuring instrument.
3. In order to have a competitive advantage on the labor market, in the workshop work, the interviewed teachers mentioned that they try to develop students' communication skills, open thinking, teamwork, organization, management, use of an appropriate working technique, which they can exercise in time, quickly, to use their creativity and practical, qualitative rather than quantitative skills.

Question 9: How does the curriculum support entrepreneurial skills using design thinking and graphic design?

Some interviewed teachers from vocational education believe that students learn general notions about entrepreneurship, but not applied to the artistic profile, but rather focus on theoretical skills, practical activities rather than entrepreneurial ones. Therefore, they believe that there should be such a course applied to the artistic profile.

Teachers from vocational education mentioned that, in specialized subjects, in grades 11 and 12, students work in so-called exercise firms, where they can develop the skills of entrepreneurs, but they also consider that this component should be developed more.

Question 10: How is cultural and social context incorporated into the design projects in your courses?

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.

The teachers' responses brought out the following:

- The cultural and social context must be seen in relation to children's own experiences. They come from different backgrounds, they are used or not to working together, they have different attitudes towards school, peers, the environment they came in (high school) and it is very important for them to highlight the specifics of the areas they come from. For example, teachers from specialized departments have the opportunity to use the cultural and social experience of students in organizing activities within exercise firms, where it can be capitalized.
- Collaborative learning is very important, because by learning together, from each other, with each other, the learning outcome can be a thorough one, what students learn will remain etched in their minds and can be used more easily in practice.

2.3. ANALYSIS OF RESPONSES PROVIDED BY INDUSTRY, DESIGN, INNOVATION AND GRAPHIC DESIGN PROFESSIONALS

Interviews were organized with 5 professionals from the VET sector and industry in the fields of design, innovation and graphic design.

Analysis of their responses highlights the following main aspects:

Question No. 1: In your professional work, how do you use design thinking to tackle and solve complex problems?

The responses showed that in the professional activity of those interviewed, design thinking is used to address and solve complex problems in several ways.

The interviewed professionals also provided a series of examples of applying projective thinking in this process, namely:

1. **Understanding user needs:** Web designers use techniques such as user interviews, observing users in action, and analyzing data to gain a detailed understanding of their target audience and the context in which they will interact with the website.
2. **Defining the challenge:** Based on understanding user needs, web designers formulate a clear and concise challenge for their project. This challenge serves as a guide for solution development and guides design efforts in the right direction.
3. **Idea generation:** The design team uses brainstorming techniques and other idea generation methods to explore a wide range of possibilities for solving the challenge. At this stage, the focus is on generating ideas freely and without constraints without evaluating them yet.
4. **Prototyping and testing:** Designers create rapid prototypes and iterations of their ideas to test with end users. Test feedback is then used to iterate and improve prototypes before moving forward with the final implementation.
5. **Implementation and evaluation:** After a prototype is deemed satisfactory by users and the design team, it is deployed and released. However, the design thinking process doesn't end there; Designers continue to monitor and evaluate website performance according to set goals and make adjustments and improvements based on feedback received.

As a conclusion, it resulted that, by applying projective thinking in their web design process, professionals in the field are able to address and solve complex problems, focusing on user needs and developing innovative and effective solutions for these needs.

Question 2: Can you share an example from your career where adaptability to new technologies or methodologies has been crucial to success?

The interviewed professionals gave a number of examples, as follows:

1. **adaptability to new technologies through the transition from traditional to digital production**. The professionals mentioned that they adapted their production strategies to correspond to technological changes and the behavior of the target audience. This involved a transition to digital production, such as creating content for websites, online advertisements and social media campaigns. For this, they had to adapt and learn new technologies and methodologies, including new photo/video design and editing programs, understanding algorithms and online platforms for advertising, and adapting workflows to effectively manage digital production.
2. **transition from static web design to responsive web design.** The professionals noted that a fresh approach had to be taken and integrated responsive web design into their practice, including using technologies such as HTML5 and CSS3 to create websites that can dynamically adapt to different screen sizes

and resolutions. Thus, adaptability to changing technology and evolving design practices has therefore been crucial to success in an ever-changing web environment.

Question 3: How do you leverage graphic design skills to improve visual communication within your organization or with customers?

The answers to this question highlight the fact that the interviewed professionals believe thatgraphic design skills can be harnessed to improve visual communication within an organization or in the relationship with customers in a number of ways. A number of examples have been given in this regard:

1. **Create a coherent visual identity:** Graphic designers can develop and implement a set of design elements, such as logo, color palette, typography, and other graphic elements, that reflect the identity and values of the organization. A cohesive visual identity can strengthen brand recognition and create a strong and memorable impression on customers.

2. **Marketing Material Development:** Graphic designers can create attractive and effective marketing materials, such as posters, brochures, catalogs, flyers, and other promotional materials, that grab customer attention and communicate the organization's key messages in a clear and engaging way.

3. **Web design:** A well-done web design can improve user experience on the organization's website or online platforms and facilitate navigation and interaction with content. Graphic designers can create intuitive and attractive interfaces that provide a pleasant and efficient user experience.

4. **Social media graphics:** In the digital age, social media graphics are essential to grab audience attention and generate engagement. Graphic designers can create attractive and relevant images and videos for social media posts that increase visibility and promote engagement.

5. **Infographics and Data Visualizations:** Graphic designers can turn complex data and information into infographics and data visualizations that are easy to understand and interpret. This can facilitate communication and understanding of information and make the organisation's messages more accessible and attractive to the public.

6. **Collaborating with clients:** Graphic designers can work closely with clients to understand their needs and goals and develop customized and effective design solutions. Clear and effective communication with customers is crucial to ensure the delivery of products and services that satisfactorily meet their needs and expectations.

By leveraging graphic design skills in these ways, organizations can improve their visual communication, strengthen brand recognition, and create a strong and lasting impression on their customers and target audience.

Question No. 4: Could you describe a project where an interdisciplinary approach was essential and how design thinking facilitated this?

The interviewed professionals provided some details on a number of projects they were involved in, in which the interdisciplinary approach was essential:

1. A prime example was a web design project on developing an online educational portal for high school students. This project involved collaboration between graphic designers, web developers, education experts, psychologists and other relevant professionals to create a digital platform that would provide an effective and attractive educational experience.
   The stages in carrying out this project were:

a) **Understanding user needs:** The design team used projective thinking to gain a deep understanding of the needs and expectations of students, teachers, and parents regarding online education. This involved research, interviews and observations to identify key issues and opportunities.

b) **Defining the challenge:** Based on understanding user needs, the team was able to define the clear challenge for their project.

c) Through brainstorming techniques and collaborative workshops, **ideas** could be generated for platform features, educational content, interaction functionalities, etc.

d) **Prototyping and testing:** Designers and developers created rapid prototypes of various elements of the platform and tested them with end users to get feedback. This feedback was used to iterate and improve prototypes prior to final implementation.

e) **Implementation and evaluation:** After the prototypes were validated and improved, the team deployed and launched the platform. The team continued to monitor and evaluate the platform's performance and make adjustments based on user feedback and other relevant factors.

2. Another example was the creation of an integrated advertising campaign for the launch of a new food product. This project involved close collaboration between various departments such as marketing, advertising production, graphic design, product research and development, and even sales and distribution teams. The interviewed professional provided a series of details regarding the stages he went through to achieve the final product, namely:

a. conducting extensive research to understand consumer needs and preferences, market trends and competition. This research was crucial to guide all aspects of the advertising campaign, from the core message to the distribution channels.
b. Participation of teams from different departments in brainstorming sessions to generate creative and innovative ideas for the campaign. Design thinking methods such as mapping customer experiences and creating characters or stories were used to better understand how the product could solve consumer problems or needs.
c. Prototypes of the campaign were created, including advertising materials, advertisements and other visual communication elements. These prototypes were then tested on a group of consumers to get feedback and make adjustments before the official launch.
d. The campaign was implemented across various channels and its performance was constantly monitored and evaluated. Data and feedback were used to make real-time adjustments and ensure the campaign remained relevant and effective.

By applying projective thinking to their web design process, the two firms were able to successfully address the complex and interdisciplinary challenges associated with developing the projects described above, in order to effectively meet user needs and expectations.

Question No. 5: How do you ensure that the end-user experience remains central during the design process in your professional practice?

The professionals interviewed noted that there are several ways to ensure that the end-user experience remains central during the design process.

Thus, in the initial stages of the project, they try to understand as well as possible the needs and objectives of their clients, in order to develop a clear vision for the projects they need to carry out.

Before starting the design process, they dedicate time to conduct market research and understand the target audience, identify end-user needs, preferences and behaviors, with the ultimate goal of developing solutions that effectively meet these requirements.

During the design process, involve end-users or representative persons from the target audience to test prototypes or initial concepts. This gives them real-time feedback on the user experience and allows them to make adjustments to improve the final product.

At each stage of the project, it shall be ensured that accessibility and usability are prioritised. This means that the design must be intuitive, easy to navigate, and provide a pleasant experience for end users, regardless of the platform or device they are using.

The design process does not end once the product is released. They continue to monitor user performance and feedback and make adjustments accordingly to ensure continuous improvement in the user experience.

Through these practices, they manage to keep the end-user experience at the heart of their design process, ensuring that their products meet the needs and expectations of their target audience.

Question No. 6: What strategies do you use to stimulate innovation and creative thinking within your team or projects?

The interviewed professionals said that, from their point of view,there are several strategies they use to stimulate innovation and creative thinking within the team working on their projects, namely:

1. **Regular brainstorming:** organizing regular team brainstorming sessions, where members are encouraged to come up with new and unconventional ideas for web design projects. In this case, the atmosphere is open and non-judgmental, and all ideas are welcome.

2. **Promoting diversity:** the team consists of members with different perspectives and experiences. They believe that diversity within the team can stimulate creativity and bring up new ideas and approaches.

3. **Create an open environment for the exchange of ideas:** free and open communication within the team is encouraged so that members feel comfortable sharing and exploring new ideas without fear of criticism or rejection.

4. **Organization of workshops and training sessions:** organizing workshops and training sessions to explore new technologies, design trends and creative approaches in the field of web design. This can stimulate lateral thinking and inspire team members to approach their projects with a broader perspective.

5. **Creative challenges and games:** running creative games within the team to stimulate innovation and lateral thinking. These activities are fun and challenging, while providing opportunities to explore and experiment with new ideas.

6. **Reward and recognize innovation:** innovative efforts and contributions of team members are recognized and rewarded. This can be in the form of public appreciations, bonuses or career advancement opportunities to encourage and motivate further creative thinking and innovation.

By applying these strategies within the web design team, you can stimulate innovation and creative thinking and develop more innovative and engaging web projects.

Question No. 7: What digital tools and technologies do you consider essential for modern design and innovation and why?

Those interviewed stated that, from their point of view, there are a number of digital tools and technologies essential for modern design and innovation, which facilitate the creative process, enable efficient collaboration and contribute to the development of innovative solutions. Here are some of them:

1. **Graphic design software:** Tools like Adobe Creative Suite (Photoshop, Illustrator, InDesign), Sketch, Figma, or Adobe XD are essential for creating digital graphics, illustrations, layouts, and other visual elements. These programs offer advanced functionality and flexibility in the design process.

2. **Prototyping and interactive design tools:** Platforms such as Sketch, Figma, Adobe XD or InVision allow designers to create interactive prototypes and design user experiences (UI/UX) for websites and mobile apps. These tools make it easy to quickly test and iterate ideas and concepts.

3. **Virtual reality (VR) and augmented reality (AR) technologies:** VR and AR offer innovative possibilities for design and interactive experiences. These technologies enable the simulation and visualization of design concepts in a virtual environment and can create immersive experiences for users.

4. **Collaboration and project management platforms:** Tools like Slack, Microsoft Teams, Trello, or Asana make it easy to collaborate and coordinate efforts within the team. These platforms allow ideas to be shared, task management, and project progress tracking in real-time.

5. **Analytics and artificial intelligence:** The use of data analytics and artificial intelligence can provide valuable insights into user needs and behavior. Tools like Google Analytics, Heatmap.me or sentiment analysis tools can help to understand more deeply the interaction of users with products and services.

6. **3D printing and digital manufacturing:** 3D printing technologies enable rapid prototyping and manufacturing of customized and innovative products. These technologies are essential for prototyping and testing product concepts in an efficient and accessible way.

These digital tools and technologies are essential for modern design and innovation because they facilitate the creative process, improve collaboration between team members and enable the development of innovative solutions that meet user needs and expectations.

By integrating these tools into the design and innovation process, organizations can remain competitive and create successful products and services in the marketplace.

Question No. 8: What do you think gives a design and innovation professional a competitive edge in today's marketplace?

The interviewees appreciated that a design and innovation professional can gain a significant competitive advantage in today's market by possessing key skills and qualities, such as:

1. **Creativity and innovative thinking:** The ability to generate new ideas and approach problems with a fresh and innovative perspective can differentiate a professional in the field of design and innovation. The ability to think outside the box and offer unconventional solutions can bring significant value in a competitive environment.
2. **Technical knowledge and practical skills:** Design professionals must possess solid knowledge in using tools and technologies relevant to their field of work, as well as practical skills in applying this knowledge in practice.
3. **Collaborative ability:** The ability to work effectively in teams and collaborate with members from diverse fields and disciplines can contribute to the success of a design and innovation professional. The ability to communicate effectively, listen and share ideas and perspectives can facilitate the process of developing and implementing innovative solutions.
4. **Understanding user needs:** An effective design and innovation professional must have a deep understanding of end-user needs, preferences, and behavior. The ability to put the user at the centre of the design process and develop solutions that effectively meet these needs can generate significant competitive advantages. The professional who is focused on the needs and end-user experience has an advantage in the market, because he can create products and services that effectively and satisfactorily meet user requirements and expectations.
5. **Adaptability and flexibility:** In an ever-changing environment, the ability to adapt quickly to new technologies, trends and market requirements is crucial to the success of a design and innovation professional. Flexibility in approach and openness to continuous learning can help maintain a competitive advantage in the long term. Flexibility in addressing problems and adopting new technologies and methodologies can lead to innovation and excellence in design.
6. **The ability to stay updated with the latest trends and technologies**: is essential for long-term success in design and innovation.

Through these qualities and skills, a design and innovation professional can distinguish themselves in today's market and provide significant value for both the organization they work for and its customers.

Overall, those interviewed appreciated that possessing these qualities and skills can give a design and innovation professional a strong competitive advantage in today's market, allowing him to create innovative solutions and stand out in a competitive environment.

Question No. 9: How have design thinking and graphic design thinking contributed to the entrepreneurial endeavors you are familiar with?

The interviewees appreciated that design thinking and graphic design had a significant impact on entrepreneurial efforts in the field of web design by facilitating the development of web products and services that effectively meet the needs and expectations of users. Here are some ways in which these two aspects contributed to web design entrepreneurship, in respondents' view:

1. **Deep understanding of users:** Projective thinking places great emphasis on deeply understanding user needs, wants, and experiences. By applying the principles of projective thinking in the process of developing web products and services, entrepreneurs can better identify user requirements and preferences and design solutions that effectively meet these needs.

2. **Iteration and continuous improvement:** Projective thinking promotes an iterative development process, where ideas are quickly tested and user feedback is constantly integrated into the design process. This approach allows entrepreneurs to adjust and improve their web products and services in real time, according to user needs and requirements.

3. **Creating Quality User Experiences:** Graphic design plays a crucial role in creating engaging and functional user experiences. Well-crafted graphic design can improve user navigation, interaction, and understanding within a website, which can help increase user engagement and drive higher conversions for businesses.

4. **Strengthening brand identity:** Graphic design is essential for creating a strong and memorable brand identity for businesses. A coherent and well-thought-out graphic design can help entrepreneurs differentiate their business in the market and create a lasting impression on their users and customers.

5. **Innovation and competitiveness:** By applying projective thinking and graphic design in the development process of web products and services, entrepreneurs can create innovative and competitive solutions that respond to ever-changing market needs and trends. These solutions can help entrepreneurs distinguish themselves and thrive in a competitive environment.

Overall, projective thinking and graphic design are key elements in entrepreneurial web design endeavors, contributing to the development of successful web products and services that provide real value to users and stimulate business growth and innovation.

Question No. 10: How is cultural and social context incorporated into the design projects in your courses?

The interviewees appreciated that, in the creative process, I take cultural and social aspects into account to ensure that they are socially responsible. Thus:

A. Before I start creating my design:
- Before I start creating my design, conduct extensive research to understand your target audience and the cultural and social context they fit into. This includes understanding the cultural values, aesthetic preferences and social sensitivities of the audience.
- encourages diversity and inclusion in their designs, avoiding stereotypes and negative or discriminatory representations of different social groups.
- They incorporate diverse perspectives and experiences into their designs to reflect the multicultural world we live in.
- promotes positive and inspirational messages that bring value and encourage positive change in society.
- Avoid content that could be offensive or contribute to perpetuating negative stereotypes.

B. During the creation of designs:
- take into account the impact on the environment. They choose to use sustainable materials and production techniques, promote messages and initiatives that encourage environmental responsibility and protection in all aspects of advertising campaigns.
- Work with non-profit or social organizations to develop advertising campaigns that support important social causes and provide solutions to problems such as poverty, social injustice or the protection of human rights.

C. After designs: monitor and analyze feedback to understand the impact of designs on audiences and society at large. This allows them to make adjustments and continuously improve practices to be more socially responsible.

By adopting these practices and approaches, they ensure that their designs are socially responsible and contribute positively to society and the world around them.

3. NEEDS ANALYSIS

Based on the conducted interviews and responses, the following key findings were identified:

1. Integration of Design Thinking in Curriculum:
   - Teachers utilize various strategies to integrate design thinking, such as creating dedicated modules, interdisciplinary projects, and extracurricular activities.
   - Example: A teacher from Economic College "Ion Ghica" Bacau proposed creating a dedicated module for design thinking, incorporating it into subjects like economics and marketing, and organizing design clubs and innovation competitions.

2. Adaptation to Technological Advances:
   - The curriculum includes components like computerized image processing to develop technical skills.
   - Example: A teacher at an art college highlighted the introduction of computerized image processing in vocational high schools, where students learn to use graphic design software and create practical projects like posters and business cards.

3. Emphasis on Visual Communication Skills:
   - The current curriculum includes courses on visual arts, use of design software, and projects involving visual artifacts.
   - Example: Teachers emphasized the importance of courses dedicated to visual arts and graphics, where students learn principles of design and use software like Adobe Photoshop and Illustrator.

4. Encouragement of Interdisciplinary Approaches:
   - Teachers encourage students to apply design thinking across different subjects, promoting an interdisciplinary approach.
   - Example: Teachers foster communication between different disciplines and encourage students to make connections between arts and other subjects like biology, chemistry, or physics.

5. User-Centered Design Methods:

- Practical work and personalized themes are used to teach the importance of user-centered design.
- Example: Teachers frequently use brainstorming, experiments, and role-playing to develop students' empathy and ability to understand their audience.

6. Promotion of Innovation and Creative Thinking:
   - Innovation is promoted through diverse projects, competitions, and the use of graphic design in review lessons.
   - Example: Teachers organize graphic design competitions and documentary trips to encourage students to apply their creativity and design skills in various contexts.

7. Development of Digital Competencies:
   - The curriculum includes digital tools and technologies essential for modern design.
   - Example: Students learn to use design software and tools like 3D printers and augmented reality devices, preparing them for the digital age.

8. Focus on Entrepreneurial Skills:
   - Entrepreneurial skills are incorporated into the curriculum through practical activities and exercise firms.
   - Example: Students work in exercise firms in grades 11 and 12, developing entrepreneurial skills relevant to the artistic profile.

9. Incorporation of Cultural and Social Contexts:
   - Projects consider cultural and social contexts to create socially responsible designs.
   - Example: Teachers use collaborative learning and students' cultural backgrounds to organize activities that highlight the specifics of different areas.

Conclusion and Curriculum Development

The needs analysis has provided valuable insights into the current state of VET education in design innovation and graphic design. The findings emphasize the necessity for a curriculum that:

- Integrates design thinking methodologies and graphic design techniques.
- Addresses the identified gaps and aligns with contemporary industry practices.
- Enhances the professional development of VET teachers and trainers.
- Prepares students with the skills and competencies required for the dynamic job market.

By incorporating these insights into curriculum development, the DigitalCRAFT project aims to create a relevant, comprehensive, and forward-looking educational program that meets the demands of the modern workplace and enhances VET students' skills and competencies in these creative areas.