

A 2.4. BULGARIA



Identification of training needs for integrating AI chatbots in VET



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1. INTRODUCTION

The textile and clothing industry (TCI) in Bulgaria accounts for nearly 10% of total exports and creates about 12% of the added value in the industry, which amounts to over 2 billion EURO annually.

TCI in Bulgaria is facing in the last years important challenges due to the changes in the working processes determined by different factors:

- increasing introduction of AI and Information and Communications Technology (ICT);
- technological development lead by new environmental protection and Corporate Social Responsibility requirements;
- evolution within manufacturing techniques with introduction systems, advances in IT and AI supporting product design and manufacture, and growing robotization of tasks;
- innovation in materials with the rise of technical and smart textiles.

The impact of the above mentioned factors on the requirements for skills is enlarging the area of expertise to drive forward the innovation and ensure Textile and Clothing (T&C) products meet the aims of the industry, as well as the ability existing and new equipment and techniques.

The use of breakthrough technologies and AI to drive innovation in TCI requires new knowledge & skills and a clear view on what is required for successful professional realization of the VET students.

The potential of AI in the textile and clothing industry in Bulgaria is only now beginning to be explored and used in real life, as this industry is traditionally quite conservative. Although the topic has been known for the last years, a small number of textile innovative companies are starting to use AI in:

- Assistance in e-commerce and online marketing;
Companies use AI to present their own brand on the web and build better relationships with customers. Many brand owners have had websites and online stores set up for years. Using AI enables them to gain real benefits from these online assets and really boost their sales. By using AI, businesses get an assistant that monitors visitors to their site and helps them if they have any questions.
- Quality control - detection of errors in the quality of fabric, yarn and finished product;
- 3D dresses in the shops for Made to Measure production;
- Supply chain management;
- Forecasting;
- Fast data analysis;
- Digitizing and prototyping clothing production.

This report explores the level of readiness and understanding among VET students and teachers in Bulgaria regarding the use of AI tools, with a special focus on AI chatbots. The study is implemented under the Towards an Intelligent and Green approach in VET Fashion Design (IG-FASHION) project, co-funded from the Erasmus+ Programme (Agreement Number: 2022-1-R001-KA220-VET-000088993). The field research has been conducted in Bulgaria throughout July and September 2023. The purpose of the interview is to collect information about the use of AI technologies within fashion companies. The interviews involved VET students from Vocational Schools of Clothing



and Textiles and teachers and trainers working in Vocational Education and Training institutes/upper secondary schools for textile and fashion design, Vocational Training Centers for garments manufacturing and fashion design. The research collected a total of 30 interviews: 15 teachers/educators and 15 students.

All of the respondents are involved in the fashion design educational community, and all of them demonstrated a general knowledge and comprehension of the usage and potential of Artificial Intelligence (AI) technology. Most respondents are aware of the capacity of AI to make the educational VET system in the fashion sector more efficient. Some of them are already adapting their internal processes to integrate new digital tools based on AI technology.

2. METHODOLOGY

The methodology involves analyzing and comparing the findings from interviews conducted with students and teachers. The interviewees belong to two different target groups, allowing for a comprehensive understanding of the topic from both perspectives.

The questions were elaborated and defined jointly by the project partners, asking to the interviewees to follow the form where the data disclosed below has been gathered.

Interviews Finding Collection:

The table you can find in the last part of this paper presents the collected responses from the interviews, categorized based on the type of question and the role of the interviewee (student or teacher). Each question is accompanied by the associated text, which contains the specific answers or insights provided by the interviewees.

By systematically organizing the interview findings in tables, the aim is to facilitate the analysis and comparison of the responses, enabling a comprehensive exploration of the use of AI in the fashion industry within each country.

The Interview type was Face-to-face with written responses. The structure of the interview contains 23 questions divided into 3 groups/clusters: "Role and Background" (3 questions), "School and Technological Context" (7 questions) and "Industry and AI" (13 questions). The scope of the interviews is to identify how digital technologies and AI are currently being used by fashion design VET schools nowadays.

3. ROLES AND BACKGROUND

The 15 interviewed teachers are working on the field of fashion designs, construction and modeling of clothes and sewing skills. They all are members of the VET in the fashion industry. The VET teachers/educators had different years of pedagogical



experience, from less than 10 to more than 20 of VET expertise, that's why the research aimed to collect different points of view.

The respondents come from the region of Ruse - big region in Bulgaria with over 100 000 inhabitants and also from neighboring smaller towns with less than 100 000 inhabitants. The Ruse apparel and textile industry is among the industries that define the image of Bulgarian Textile and Apparel industry. Clothes of world fashion brands, as well as well known brands on the domestic market start their life here. Traditions, well-trained personnel, modern equipment, flexibility are among the factors that predetermine the choice of foreign contracting companies to work in the region.

The 15 VET students interviewed belong to different Vocational Schools of clothing in North Bulgaria. Respondents are not all in the same academic year (from 8th to 12th grade) and have different years of training experience and knowledge of the topic that this research aims to analyze. All of the interviewed 15 students, being a focus on the green and intelligent approach in VET and AI in the fashion industry have been trained in the field of fashion design, construction and modeling of clothes and sewing. Most of them represent small communities, regarding the economic profile of the region. The aim was to get a general idea of the views of VET fashion students in vocational schools.

4. SCHOOL AND TECHNOLOGICAL CONTEXT

4.1. USE OF DIGITAL TECHNOLOGIES

Teachers' perspective

67% of the interviewed teachers does not feel enough familiar with the application of the digital technologies, but try their best to be informed.

33% pointed out that they include in their teaching the applications of the digital Technologies.

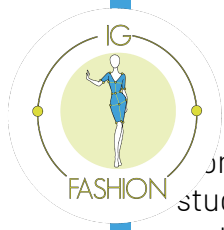
67% find the school well equipped with digital technologies and thinks it is enough for now.

15% stated that it need for digital technologies, especially for the Bulgarian users on different purposes.

19% doesn't have opinion

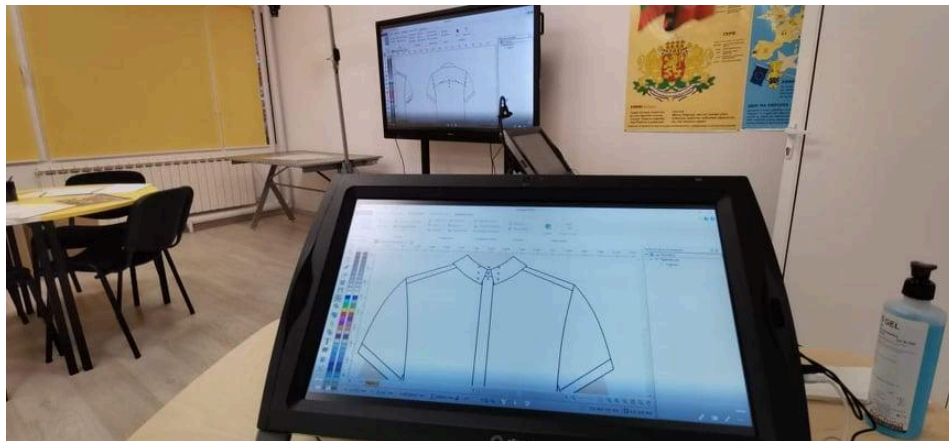
All VAT fashion schools from North Bulgaria are equipped on a technologically high level with STEM-centers. The sewing workshops are modernly renovated in order to prepare students for professions in demand on the labour market. A frontal learning space is created in all classrooms for the use of interactive technology - conducting presentations, simulations and demonstrations with various digital and multimedia resources. The classrooms perform specific functions from a technological and thematic point of view, in view of being linked to the leading trends in the application of technology in vocational training.

A virtual laboratories are equipped with workstations for 3D modelling through stereoscopic projection. The workstations work in conjunction with CAD/CAM



computer-aided design & computer-aided manufacturing) software, which is used by students and teachers at VAT school in developing and prototyping various 3D models and designs. The labs are also equipped with a 3D printers that goes into the final production process of a prototyped product.

The change in the technological learning infrastructure provides an opportunity to work with different learning content, focusing on project-based activities that are not only short-term in nature but also long-term.





53% of the interviewed teachers believe that by implementing such technologies students will be more motivated and willing to participate in the VET process.

33% mentioned that this new technologies won't make humans more creative, but by using these digital technologies the creative and production process will be easy and less complicated.

34% will think, that the use of digital technologies will help the students to find a better working place.

33% of the teachers think, that continuous updates to the tools and training course content are necessary. Despite some flexibility in the teaching approaches, the current training courses may not fully support the development of digital skills.

33% believe that the curricula are flexible in introducing/using cutting-edge technologies and 33% think, that there is no need for curricula to be revised.

66% of the teachers stated that by cooperation with the fashion industries the VET education meets the new market demands.

19% by working on transnational project the new need of market will be fulfilled.

15% answered that exchanging pedagogical expertise will be in use.

Regarding the technology implemented in the schools, some of the teachers mentioned the use of basic digital technologies, with an emphasis on online classes. Others outlined a more comprehensive set of technologies, including different types of sewing machines, design and editing software, CAD/CAM systems for textile manufacturing, and collaboration platforms such as Microsoft Teams, Google Meet and SHKOLO.BG. These mentioned technologies cover a wide spectrum - from basic digital tools to specialized equipment and software tailored to the needs of specific areas of vocational training.

Students' perspective

Students are mostly familiar with the technologies though iOS and Android applications, helping them to create content for school tasks in fashion design and tailoring. Due to the economic profile of the families they can only use free versions of the applications. They are introduced to the highly effective decisions such as CAD/CAM, but being only in use in the classroom.

The schools recently are being highly equipped with laboratories for creativity and 3D printing, and software engineering, but this still is not enough for them, regarding the needs of the fashion companies. They aimed to be introduced to more original software and hardware decisions.

Regarding teachers' preparedness in using digital technologies, only 4 out of 15 students stated that teachers are adequately prepared and only some teaching staff possess the necessary digital skills and knowledge.

The students believe that the benefits of implementing such technologies (mentioned above) will help them on the local and international labor market, especially after the



COVID period, and having seen the social networks' advantages in the creative industry. Most of the interviewed students appreciate the schools' educational and training environment, but find it as not so effective, due to the economic perspectives in Bulgaria - salary and career development.

4.2. Benefits and Advantages of Using Digital Technologies

Teachers' perspective

Vocational education teachers from the VAT schools have improved their qualifications in the last year on the following topics:

1. zSpace: virtual, augmented and mixed reality in the learning process
2. Microsoft 365 for education - working with the platform and its applications
3. Interactive tools in education
4. Qualification of pedagogical specialists in STEM

67% from the teachers are familiar with AI learning tools.

33% from the teachers are curious about AI learning tools and skeptical. 80% pointed that they use CAD/CAM as an AI learning tool.

20% can't name at least one at the moment.

66% of the respondents use AI tools in their courses, such as:

- Vmake Fashion Model Studio,
- Refabric and Resleeve.ai,
- CAD/CAM.

34% are thinking of using AI tools, the reason for this they mentioned the production process when it comes to the sewing.

50% stated that AI could support the learning process, but the learning and creativity are still human activity.

50% are skeptical on the benefits of AI, cross generation specific.

66% of the teachers responded that they have read or try once chatbot being curious about fashion and sewing procedures.

34% of the teachers need information and are skeptical about AI chatbot, especially if it is in Bulgarian language, because of lack of information.

66% of the teachers pointed out that AI chatbot could be use in the fashion design and modeling of clothes courses.

34% are skeptical about implementing such technologies.

50% are cooperating with companies that are implementing AI technologies, 50% - not.

Students' perspective



70 % of the students use only iOS and Android free apps for simple designing
15 % - are interesting and had once try Vmake Fashion Model Studio, Refabric and Resleeve.ai
5% - never use AI tools.

70 % use once AI tools, preparing their projects at home - Resleeve.ai. Interesting point of the answers are defining AI tools such as Microsoft Excel, Photoshop, Instagram.
20 % defines CAD/CAM as a tool in the school activities.
10 % prefer watching videos on the fashion design subjects.

40% believe that the use of AI could support their learning process. Moreover, most of the respondents faced difficulties to explain how - they see it as advantages in career development. One student said it could be helpful for the environment.

100 % of the students are familiar with Chatbots, but still 10 % could find connection with the fashion industry.

70 % said that they are curious about the use of AI as supporting their learning process. The reason is that this could transform the learning process as an easy and funny one. The problem is that in the fashion industry it is more developed in foreign languages and thus make it difficult.

20 % are skeptical, for the same reason as mentioned above.

10 % ask the interview whether this AI will help the green thinking, and what will happen to humans, if they are no longer needed as mentors.

So the respondents are more likely curious, but not more of motivated to learn through AI.

Students see the usage of the Chatbot in the courses of general fashion design (50%), construction of clothes (30%), courses on the creative industry (15%) and 5% of the respondents don't see it as a helpful resource, especially in the sewing industry.

33% of students (who were interviewed) have work-based learning in sewing companies, where they are introduced to basic levels of AI technologies. The companies are "BTB-Bulgaria", "MIK" and "Arev".

5. INDUSTRY AND AI

5.1. Familiarity with AI Learning Tools

In the field research, 33% of teachers admitted that they were curious about AI learning tools and skeptical. Nevertheless they are thinking to use AI tools. However, 67% of the teachers reported to be familiar with AI learning tools and use AI tools in their courses like Vmake Fashion Model Studio, Refabric and Resleeve.ai, CAD/CAM.



Among students, 66.7% stated that they had no familiarity with AI learning tools, while 33.3% indicated that they were familiar with such technology. One of the specific AI tools mentioned in the study was ChatGPT, an AI-powered language model developed by OpenAI. ChatGPT is capable of generating human-like text based on context and previous interactions.

5.2. AI in Learning Process

Although AI tools and technologies are primarily developed for enterprise and industry, there are now a number of AI tools available to teachers, who want to use AI to improve student learning. Bulgarian teachers report for tools that can be used in STEM classrooms like PhotoMath, and Seek by iNaturalist, an app that helps identify species from photos. They have heard about Verse by Verse and Duolingo, which can be used in foreign language classes. Art classes can use Newspaper Navigator, a tool for searching millions of historical newspaper photos, and MuseNet, for learning and creating music. Tools like Socratic and Brainly can be used for all subjects.

The students reports a big interest in AI training, i.e. learning new skills needed to live and work in an AI-influenced world. In order to unlock the potential of AI and tackle the challenges of an AI-influenced world, students need to have computational thinking and problem-solving skills, as well as coding and data literacy skills. Everyone needs to know enough about AI to be able to use it safely and for their benefit, including educators and educational institutions. The students need to understand the principles of what AI is, what it can do, what it cannot do, and why data is important for machine-learning AI. Code Week can provide teachers with a wide variety of teaching and learning resources.

AI can offer opportunities to improve access and inclusion in education. There is a significant potential for AI to provide educational resources for young people with disabilities and special needs.

AI can support the teachers work, enabling them to design learning experiences that empower learners to be creative, to think, to solve real-world problems, to collaborate effectively, and to provide learning experiences that AI systems on their own cannot do.

AI can automate repetitive administrative tasks allowing more teachers time to be dedicated to the learning environment.

According to the study, AI can also have also a negative side. AI systems can't be trusted. Some of the teachers fear that as the use and impact of Artificial Intelligence in education broadens in the future, these systems will diminish their role or even replace them. As AI systems become more powerful, they will increasingly supplement or replace specific tasks performed by people. This could raise ethical and trust issues regarding the ability to make fair decisions using AI, as well as protecting the data collected and used to support those decisions.

66 % of the teachers responded that they have read or try once chatbot being curious about fashion and sewing procedures, that AI should support the learning process and should be incorporated as an effective learning tool. Others 34% are skeptical on the benefits of AI, because of cross generation specification. This indicates that there is a



significant gap in understanding and utilizing AI Chatbots in the Bulgarian education system.

In terms of adopting AI in teaching, the respondents' opinions varied. Some expressed openness to using AI despite limited knowledge or skills, indicating a willingness to explore new educational approaches. Others, who believed that AI could benefit students with learning disabilities, were more willing to incorporate AI into their lessons. Lastly, some respondents were more skeptical and felt the need for more extensive knowledge and training before integrating AI into their teaching practices.

Regarding specific applications of AI, 66% from the respondents recognized the potential usefulness of AI chatbots in fashion design and modeling of clothes courses. They see AI chatbots as valuable tools for enhancing the learning experience in these domains.

34% are skeptical about implementing such technologies.

50% of the respondents had never collaborated with fashion companies that implemented AI, and 50% of the teachers had some experience with such collaborations like "BTB-Bulgaria", "MIK" and "Arev". This suggests that a significant number of teachers have engaged with AI technologies in real-world applications through partnerships with fashion companies.

Among the students, 66% stated that they do not use AI tools in their school courses, while the remaining 33% reported that they use such tools. Among those who used AI, most of them had experience with ChatGPT for research purposes and out of personal curiosity.

According to students' opinions, artificial intelligence (AI) is seen as a valuable support for the field of design, as it can help save time by summarizing texts and accessing and elaborating vast amounts of data. Students believe that AI has potential applications in various areas of study and work processes, including creating prototypes and producing garments.

5.3. Familiarity and Experience with Eco Standards

Teachers' perspective

All the respondents stated that they have considered the positive outcomes of using technologies in the fashion and sewing industry from a sustainable point of view. Thus they do by creating small workshop for reusing of material, fabrics and so on.

100% responded to implement eco standards in their school.

100% of the respondents said that the students are involved in learning and practical activities upon green friendly production. It is not set in stone, it is philosophy of traditional and modern behavior on the hotspot problems.

According to the answers - all the participants mentioned that the school policy is dedicated to develop critical thinking and active citizenship among youngsters. So they could have a positive attitude on the critical problems of the communities.



100% of the respondents said they are organizing internships together with companies from the branch, but the topics are more of general, focusing on the production process and the implementation in it.

Some teachers, 66%, answered that they organize practical visits to the companies. The aim is to inform the students about the production process.

Many teachers emphasize the importance of integrating environmental sustainability into school curricula and have actively incorporated discussions on this topic in their classes. They have organized activities like recycling for reuse, new products are produced from waste, obsolete products are renovated into new things - especially for a charitable cause, fashion shows, where students showcase collections made from sustainable materials. These efforts aim to promote awareness and practical application of sustainable practices in the fashion industry.

Students' perspective

Less than 20 % consider the potential of digital technologies, including AI, in aiding sustainable tasks such as material recycling or accelerating and customizing garment production. The reasons for this thinking of the respondents is developed through social stereotypes and fears about the labour market, and furthermore - the negative attitude to second hand clothes and fast fashion.

90% pointed out that there are eco standards in their school.

10% were not familiar with any eco standards.

The way that the eco standards are reached:

53% by recycling for reuse,

87% by new products produced from waste

and 90% obsolete products are renovated into new things - especially for a charitable case.

53% of the students have been involved during the previous school year in the green economy model by participating in a regional event, organized by The Ruse University as being part of a school club "STEM entrepreneurship".

47% have only heard of such events.

6. CONCLUSIONS - OVERALL OPINION ON AI USE

The survey shows that the potential of AI in Bulgaria is only now beginning to be explored and used in real life. It is evident that AI has the potential to make learners "more engaged and motivated in finding resources to apply to the real world from different perspectives that have never been implemented in the real world".

Many Bulgarian schools already have a new generation of integrated learning environments in place to support educational innovation and STEM approaches. Learning spaces are being created and equipped with a focus on the study of natural



and mathematical sciences. Conducting learning in such an environment increases students' digital literacy and creativity, develops skills to find technological solutions, stimulates the creation and improvement of those in the field of mechanics, programming and artificial intelligence, develops skills to create new technologies and their automation.

STEM (Science - Technology - Engineering - Mathematics), is one approach that can achieve the integration of theory into practice and create an environment in which the student is an active participant.

The overall opinion on AI use in education in Bulgaria is that AI can revolutionize the educational process. AI can offer opportunities to improve access and inclusion in education. There is a significant potential for AI to provide educational resources for young people with disabilities and special needs.

AI can support the teachers work, enabling them to design learning experiences that empower learners to be creative, to think, to solve real-world problems, to collaborate effectively, and to provide learning experiences that AI systems on their own cannot do.

AI can automate repetitive administrative tasks allowing more teachers time to be dedicated to the learning environment.

There are several risks & limitations with the implementation of AI technology in Bulgaria:

- Poor teacher adoption: Some teachers could be resistant to this and will need to be managed through the change accordingly.
- "Fear Factor": As with many industries teachers may feel that AI technology could ultimately replace them and will therefore be reticent to push forward initiatives using the technology.
- Adoption at scale: AI integration requires support from multiple stakeholders – parents, students, teachers, administrators and policymakers. This can be difficult to achieve quickly.
- Subject limitations: AI won't be relevant to all subjects. For example, personalised learning and automated grading is unlikely to work in practical subjects with a strong subjective element to assessment, such as sewing.
- Investment: With schools under more financial pressure than ever before, deployment of AI technology at scale is expensive and not all schools will have easy access to such funds.
- Privacy, data & cybersecurity: This is likely the single biggest risk of AI deployment in education as so much personal data is needed for success.

The interviews conducted made our research successful and provided us with the necessary information and insights to proceed with the elaboration of high-quality project deliverables.

Document for Students (S):

Reporting & Coding Methodology for A2.4 National Reports - Students (S)

Cluster 1: Role and Background



Q and S	Question	Associated Text
1	I am a student	-
S	Field of study (e.g., fashion, technical, commercial, etc.)	fashion, technical
Q.3 S	Academic/scholastic year	8th to 12th grade

Cluster 2: School and Technological Context

Q and S	Question	Associated Text
Q.4 S	School location (e.g., small, medium, big region)	small, medium
Q.5 S	Digital technologies you are familiar with (field of study)	80 % of the students use only iOS and Android free apps for simple designing 15 % - are interesting and had once try Vmake Fashion Model Studio, Refabric and Resleeve.ai 5% - never use
Q.6/7 S	Digital solutions your school is equipped with	CAD/CAM 3D printer and prototyping
Q.8 S	Benefits/Advantages of digital technologies use	80 % of the students use on iOS and Android free apps for simple designing 15 % - are interesting and had once try Vmake Fashion Model Studio, Refabric and Resleeve.ai 5% - never use AI tools. 70 % use once AI tools, preparing their projects at home - Resleeve.ai. Interesting point of the answers are defining AI tools such as Microsoft Excel, Photoshop, Instagram. 20 % defines CAD/CAM as a tool in the school activities. 10 % prefer watching videos on the fashion design subjects. 40% believe that the use of AI could support their learning process. Moreover, most of the respondents faced difficulties to explain how - they see it as advantages in career development. One student said



Q and S	Question	Associated Text
		<p>it could be helpful for the environment.</p> <p>100 % of the students are familiar with Chatbots, but still 10 % could find connection with the fashion industry.</p> <p>70 % said that they are curious about the use of AI as supporting their learning process. The reason is that this could transform the learning process as an easy and fun one. The problem is that in the fashion industry it is more developed in foreign languages and thus make it difficult. 20 % are skeptical, for the same reason as mentioned above. 10 % ask the interview whether this AI will help the green thinking, and what will happen to humans, if they are no longer needed as mentors. So the respondents are more likely curious, but not more motivated to learn through AI.</p>
<p>Q.9/10 S</p>	<p>Level of preparation in introducing/using digital technologies</p>	<p>Students see the usage of the Chatbot in the courses of general fashion design (50%), construction of clothes (30%), courses on the creative industry (15%) and 5% of the respondents don't see it as a helpful resource, especially in the sewing industry.</p> <p>33% of students (who were interviewed) have work-based learning in sewing companies, where they are introduced to basic levels of AI technologies. The companies are "BTB-Bulgaria", "MIK" and "Ar</p>



Cluster 3: Industry and AI

Q and S	Question	Associated Text
Q.11	To what extent fashion industry requires digitized (VET) professionals	Digitized (VET) professionals supports the process of implementation in TCI of - increasing introduction of AI and Information and Communications Technology (ICT); - technological development lead by new environmental protection and Corporate Social Responsibility requirements; - evolution within manufacturing techniques with introduction systems, advance in IT and AI supporting product design and manufacture, and growing robotization of tasks; - innovation in materials with the rise of technical and smart textiles
Q.12/13/15/16/17/18	Familiarity with AI learning tools (i.e., chatbot) and use of them in school courses	66.7% stated that they had no familiarity with AI learning tools while 33.3% indicated that they were familiar with such technology
Q.14	Support of AI in learning process (student's perspective)	66% stated that they do not use AI tools in their school courses, while the remaining 33% reported that they use such tools. Among those who used AI, most of them had experience with ChatGPT for research purposes and out of personal curiosity
Q.20	Positive outcomes of AI use in fashion industry	Less than 20 % consider the potential of digital technologies, including AI, in aiding sustainable tasks such as material recycling or accelerating and customizing garment production.
Q.21/22/23	Familiarity and experience with eco standards	90% pointed out that there are eco standards in their school. 10% were not familiar with any eco standards.



Q and S	Question	Associated Text
-	Overall opinion on AI use	AI can revolutionize the educational process.



Document for Teachers (T):
Reporting & Coding Methodology for A2.4 National Reports - Teachers (T)

Cluster 1: Role and Background

Q and T	Question	Associated Text
1	I am a teacher	-
T	Field of expertise (e.g., fashion, technical, commercial, etc.)	15 interviewed teachers on the field of fashion designs, construction and modeling of clothes and sewing skills. They are members of the VET in the fashion industry.
Q.3 T	Years of teaching experience	70% - more than 20 years of VET expertise 20% - 10 to 20 years of VET expertise 10% - less than 10 years of VET expertise

Cluster 2: School and Technological Context

Q and T	Question	Associated Text
Q.4 T	School location (e.g., small, medium, big region)	81%- Big Region (over 100 000 inhabitants) 19%-less than 100 000
Q.5 T	Digital technologies you are familiar with (field of expertise)	67% does not feel enough familiar with the application of the digital technologies, but try their best to be informed. 33% pointed out that they include in the teaching the applications of the digital technologies.
Q.6/7 T	Digital solutions your school is equipped with (and how they are being used)	CAD/CAM 3D printer and prototyping 67% find the school well equipped with digital technologies and thinks it is enough for now. 15% stated that it need for digital technologies, especially for the Bulgarian users on different purposes. 19% doesn't have opinion
Q.8	Benefits/Advantages of digital technologies use	-by implementing such technologies students will be more motivated and



Q and T	Question	Associated Text
		<p>willing to participate in the VET process</p> <p>-this new technologies won't make humans more creative, by using these digital technologies the creative and production process will be easy and less complicated</p> <p>-will be in use for the nowadays work market</p>
Q.9/10 T	Level of preparation in introducing/using digital technologies	The schools can be better equipped in using digital technologies – problem is the low funding. It is a need the curriculum to be revised.

Cluster 3: Industry and AI

Q and T	Question	Associated Text
Q.11	To what extent fashion industry requires digitized (VET) professionals	<p>66% stated that by cooperation with the fashion industries the VET education meets the new market demands</p> <p>19% by working on transnational project the new need of market will be fulfilled</p> <p>15% answered that exchanging pedagogical expertise will be in use</p>
Q.12/13/15/16/18	Familiarity with AI learning tools (i.e., chatbot) and use of them in school courses	<p>67% familiar with AI learning tools</p> <p>33% curious about AI learning tools and skeptical</p> <p>CAD/CAM</p>
Q.14	Support of AI in learning process (teacher's perspective)	<p>66% of the respondents use AI tools in their courses</p> <p>34% are thinking of using AI tools, the reason for this they mentioned the production process</p> <p>when it comes to the sewing Vmake Fashion Model Studio, Refabric and Resleeve.ai</p> <p>CAD/CAM</p>



Q and T	Question	Associated Text
Q.20	Positive outcomes of AI use in fashion industry	<p>50% stated that AI could support the learning process, but the learning and creativity is still human activity</p> <p>50% are skeptical on the benefit of AI, cross generation specification</p> <p>66% of the teachers responded that they have read or try once chatbot being curious about fashion and sewing procedures</p> <p>34% need information and are skeptical about AI chatbot, especially if it is in Bulgarian language, because of lack of information</p> <p>66% pointed out that AI chatbot could be use in the fashion design and modeling of clothes courses</p> <p>34% are skeptical about implementing such technologies</p> <p>50% are cooperatiing with companies that are implementing AI technologies</p> <p>50% no</p>
Q.21/22/23	Familiarity and experience with eco standards	<p>All the respondents stated that they have considered the possible positive outcomes of using technologies in this fashion and sewing industry from a sustainable point of view. Thus they do by creating small workshop for reusing of material, fabrics and so on.</p> <p>53% Recycling for reuse</p> <p>87% New products are produced from waste</p> <p>90% Obsolete products are renovated into new things - especially for a charitable cause</p> <p>100% of the respondents said that the students are involved in learning and practical</p>



Q and T	Question	Associated Text
		<p>activities upon green friendly production.</p> <p>All the participants mentioned that the school policy is dedicated to develop critical thinking and active citizenship among youngsters. So they could have a positive attitude on the critical problems of the communities. 100% of the respondents said they are organizing internships together with companies from the branch, but the topics are more of general, focusing on the production process and the implementation in it.</p> <p>Some teachers, 66%, answered that they organize practical visits to the companies. The aim is to inform the students about the production process.</p>
-	Overall opinion on AI use	<p>-AI can offer opportunities to improve access and inclusion in education.</p> <p>-There is a significant potential for AI to provide educational resources for young people with disabilities and special needs.</p> <p>-AI can support the teachers work, enabling them to design learning experiences that empower learners to be creative, to think, to solve real-world problems, to collaborate effectively, and to provide learning experiences that AI systems on their own cannot do.</p> <p>-AI can automate repetitive administrative tasks allowing more teachers time to be dedicated to the learning environment.</p>