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ITALY

Identification of training needs for integrating AI chatbots in VET

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1. INTRODUCTION

The field research has been conducted in Italy throughout June 2023. The interviews involved VET students from certificated Fashion institutes, Architects, Computer Scientists and VET teachers/educators from the same field. The research collected a total of 16 interviews: 10 teachers/educators and 6 students.

All of the respondents are involved in the fashion design educational community, and all of them demonstrated a high degree of digital literacy, general knowledge, and comprehension of the usage and potential of Artificial Intelligence (AI) technology.
In order to comprehend the positive and negative aspects of such a tool, this research was carried out with the intention of evaluating the current applications of AI technology, particularly Chatbots, in the educational field of fashion design.

Most respondents are aware of the capacity of AI to make the educational VET system in the fashion sector more efficient, centralizing information management thus speeding up processes, reducing the margin of error, and enabling more efficient and effective product handling and inventory management. Some of them are already adapting their internal processes to integrate new digital tools based on AI technology.

Fashion and artificial intelligence are becoming increasingly interconnected, also in Italy. As the first desk research revealed, the introduction of this cutting-edge technology into the fashion industry offers new opportunities for design, production, distribution, and customer experience.

It can be used to generate creative ideas supporting the design process and improve efficiency in the creation of new clothes; it can optimize manufacturing processes, improve product accuracy and quality, and reduce material waste. Computer vision technology can be used to identify imperfections in fabrics, ensuring better quality of the finished product. Finally, on the retail side, AI can be applied to improve efficiency in inventory management, price planning and personalizing the online shopping experience.

In Italy, there are several companies and institutions that are currently taking advantage of artificial intelligence in the field of fashion, or some Italian startups are already focusing on applying it for apparel customization and online shopping experience. But what is of interest in this research is that there are also vocational institutes and universities in Italy that are conducting studies on the integration of artificial intelligence in fashion, trying to discover new ways to improve the industry through the use of digital technologies and, above all, ensure their students the acquisition of “marketable” and expendable skills.

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.

A pre-set form through Google Forms was used to record respondents' answers. 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 10 VET teachers/educators interviewed had different years of pedagogical experience, from 4 to 40, that's why our research aimed to collect different points of view and insights reflecting the educational and academic reality of fashion design.
All respondents come from a big region (over 100 000 inhabitants), which in itself reflects not only the nationwide distribution of Italian industrial system, which has already emerged in the previous research, but also that of professional institutes in the same sector, which are distributed in the areas with a wider availability of financial resources that in turn generate a wider academic offering.

The 6 VET students interviewed belong to the same field of study (Fashion System Course) at different VET institutions allocated throughout the country. Respondents are not all in the same academic/scholastic year (third to fifth year) but have different years of training experience and a consolidated knowledge of the topic that this research aims to analyze. The general purpose was to collect different points of view and insights

among VET fashion students reflecting the educational and academic reality of the fashion industry.

4. SCHOOL AND TECHNOLOGICAL CONTEXT

4.1. Use of Digital Technologies

On a general average, all the teachers interviewed had experienced the use of digital technologies in their field of intervention. Some have improved their knowledge through specialized training, while others have integrated digital topics into their subjects like computer science and modeling.

While many schools possess a good range of digital tools, they are often outdated, and there is a need for updating courses and teaching technologies. This lack of modern tools deters students from adequately developing their skills in the rapidly evolving fashion industry. Although teachers have access to interactive whiteboards, computer classrooms, and digital records, they face limitations in terms of crucial technologies such as CAD, screen printing, knitting machines, 3D printers, and vector programs for graphics, which are essential for fashion design.

However, when it comes to integrating these technologies into the VET (Vocational Education and Training) curricula, most teachers express doubts about achieving nationwide uniformity. The main reason for this skepticism is the inadequately equipped fashion design laboratories in VET institutes due to insufficient financial support. As a result, private training courses are often preferred over state-funded ones.

To address these issues, 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.

As it appeared for teachers' category, students interviewed come from a region with a significant population, suggesting that fashion institutes are often situated in areas with better financial resources and, consequently, a broader range of academic offerings. Despite this, most respondents are not familiar with the application of digital technologies in their field of study. While some use digital solutions in their daily lives, they do not employ them professionally. Some students have experienced multimedia communication in their studies, but digital technologies are not extensively integrated into fashion design courses.

Regarding technological equipment, the interviewees reported that many VET fashion institutes lack sufficient and up-to-date digital instruments. Despite having PCs, IWs, projectors, digital printers, and software like Illustrator and Photoshop, labs are considered inadequate for the rapidly evolving fashion industry, and they fail to fully support the institutes' educational offerings.

Regarding teachers' preparedness in using digital technologies, only one out of six students stated that teachers are adequately prepared. Some respondents believe that even the prepared teachers lack proper equipment support, while others think only a portion of the teaching staff possesses the necessary digital skills and knowledge. Comments suggest the need for increased funding for technical labs in VET institutions to improve the availability of advanced technology and enhance the educational experience.

4.2. Benefits And Advantages of Using Digital Technologies

Teachers' perspective

All teachers emphasized the importance of introducing digital modeling software and tools to bridge the gap between digital concepts and materialization of designs. They believe that using such tools not only equips students with marketable skills for their future careers but also forces teachers to constantly update and enhance their own proficiency. These digital technologies offer advantages such as improved access to sources, data, and information, as well as quicker execution and communication during work.

Students' perspective

On the other hand, students acknowledge the benefits of using digital technologies in their learning process. They believe that these technologies are essential in acquiring the digital skills needed to succeed in the fashion industry. Digital tools optimize design time, aid learning, and foster the development of skills necessary for the workplace. According to the students, technologies support creative processes and the execution of clothing and accessory designs while growing valuable talents for the future. They consider digital skills to be a mandatory requirement to get a job in the fashion industry.

Overall, most students understand that the fashion sector is seeing an increase in the need for professionals with strong digital abilities, and they believe that VET education is making an effort to meet this demand but could be doing more. The perspectives of the students serve as a powerful reminder of the importance of modifying educational strategies and resources to take advantage of new technology while keeping the fundamental elements of tradition in the fashion industry.

In summary, the interviews highlight the widespread use of digital technologies in fashion design education, but there are challenges related to outdated tools, limited access to essential technologies, and the need for ongoing updates to keep up with the rapidly changing industry. Additionally, funding constraints and doubts about achieving uniformity in adopting these technologies in VET institutions raise further obstacles.

5. INDUSTRY AND AI

5.1. Familiarity with AI Learning Tools

All respondents – both teachers and students - believe that the fashion industry demand is shifting towards increasingly digitized professional figures.

Collected responses highlight the importance of digital skills in the fashion industry and criticize the lag in vocational training. The need for updated training programs and adequate workshops to develop appropriate digital skills is also pointed out. VET educators/teachers' answers emphasized the trend towards digitization of emerging professional figures in the fashion industry, and expressed concern about the issue that technical and vocational education is not adapting to innovation, so the update of laboratories and technological equipment appears as a priority since digitalization is fundamental and transversal to all activities related to fashion design and it guarantees a bridge with the fashion industry.

The students express that collaboration between schools and the fashion industry is crucial for effective professional training. They believe that schools should incorporate new-generation software and innovative technology to meet industry demands. However, there is an acknowledgment of the importance of balancing digital skills with traditional craftsmanship associated with "made in Italy" fashion. Some interviewees feel that maintaining high levels of handicraft is still necessary.

In the field research, 80% of teachers admitted that they were not familiar with AI learning tools, but they expressed a keen interest in learning more about them. However, 20% of the teachers reported using AI learning tools in their daily teaching practices.

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.

.2. AI in Learning Process

The majority of respondents in the research recognize the potential of artificial intelligence (AI) as an additional tool in the learning process.

VET teachers believe AI can enhance education by providing access to various learning materials and information sources, facilitating understanding of complex topics across different fields. However, respondents also acknowledge the importance of addressing potential risks, particularly concerning ethical considerations.

The use of AI in education is seen as a double-edged sword in Italy. On one hand, it can support student learning and promote critical thinking when used under the careful guidance of teachers. On the other hand, there are concerns that AI might disseminate misleading information and act as a limitation to students' independent learning.

Some respondents suggest that AI should be incorporated as an effective learning tool, but with close supervision from teachers to ensure students approach it critically and thoughtfully. Others propose that AI can be beneficial for research, data analysis, and investigating solutions for various environmental issues, such as sustainability in the fashion industry.

Moreover, respondents highlight the potential of digital tools, including AI, in promoting inclusive education for students with learning disabilities. They believe that such tools can create more employment opportunities and widen the horizons for these students.

Interviews revealed that 70% of teachers examined had no familiarity with AI Chatbots. The remaining respondents either had limited knowledge or no experience with AI Chatbots. This indicates that there is a significant gap in understanding and utilizing AI Chatbots in the Italian 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, most respondents recognized the potential usefulness of AI chatbots in design courses, fashion courses, and technological laboratories. They see AI chatbots as valuable tools for enhancing the learning experience in these domains.

Only 10% of the respondents had never collaborated with fashion companies that implemented AI, while 90% of the teachers had some experience with such collaborations. 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, 83.3% stated that they do not use AI tools in their school courses, while the remaining 16.7% 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.

Some respondents expressed the view that the use of AI in education should be restricted to some extent. They argue that it is essential to balance the integration of AI with the promotion of creativity and manual abilities. They believe that AI should not overshadow or replace the importance of developing creative thinking and hands-on skills.

However, other respondents emphasized that once fundamental skills are mastered, AI can be utilized to enhance and expedite work processes. They view AI as a tool that can be beneficial in complementing human skills and improving efficiency.

When asked about their experiences with AI tools like Chatbots, half of the respondents said they had not used them. On the other hand, the other half claimed to have experience with AI Chatbots, such as Chatbot on telegram or ChatGPT, for various activities, such as drafting press releases. All the students interviewed expressed interest and motivation in learning with an AI tool.

Among the respondents, two out of six individuals believed that AI tools could be effectively used in any type of course, irrespective of its content, to improve learning outcomes. However, two other responses specifically referred to using AI tools for design and modeling courses, indicating a specialized application in these areas.

The remaining students were enthusiastic about using AI technology in various courses, such as marketing, chemistry, and materials. They highlighted AI's capacity to process data faster and provide information that might otherwise be challenging to research in these subjects.

In summary, the research highlights a range of opinions regarding the use of AI in education. While many teachers see its potential benefits in enhancing learning and promoting inclusivity, there are also concerns about its ethical implications and the need for proper supervision and training. Moreover, AI chatbots are considered valuable tools in specific educational domains, and teachers have shown interest and involvement in collaborating with fashion companies that implement AI technologies.

.e research also indicates that a significant majority of respondents do not currently use AI tools in their courses. However, those who have experience with AI, particularly ChatGPT, find it useful for research and personal curiosity. Students view AI as a powerful tool, especially in the field of design, and believe it can save time and improve efficiency in various areas of study. While some caution against excessive reliance on AI in education, others see it as a valuable complement to human skills once fundamental abilities are developed. Overall, even students show a keen interest in learning with AI tools and see their potential applications in a wide range of courses and learning contexts.

5.3. Positive Outcomes of AI Use in Fashion Industry

Teachers' perspective

The responses show different views regarding the use of artificial intelligence (AI) to promote environmental sustainability in the fashion industry.

Some teachers believe that AI technology can play a significant role in improving the environmental sustainability of clothing, textiles, and accessories. They see AI as a tool that can transform outdated products, reduce waste, and enable the reuse of resources, thereby contributing to sustainability efforts. However, they also caution that the environmental impact of AI, particularly its energy consumption, must be considered.

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 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.

Conversely, some teachers have not yet explored the topic of environmental sustainability in depth and do not have a definitive stance on the matter.

Students' perspective

On the student side, none of the respondents have fully considered the potential of digital technologies, including AI, in aiding sustainable tasks such as material recycling or accelerating and customizing garment production. Despite vocational education and training (VET) institutions focusing on sustainability, the students' comments suggest that practical knowledge and attention to these sustainability challenges remain limited in practice.

In summary, the responses demonstrate varying opinions among teachers regarding AI's potential for promoting environmental sustainability in the fashion industry. Some acknowledge its positive impact on reducing waste and reusing resources but emphasize the need to address its energy consumption. Many teachers actively incorporate sustainability discussions and activities in their courses. On the other hand, some teachers have not yet explored the topic deeply. Interestingly, the students'

mments indicate a lack of awareness regarding how digital technologies, including AI, can contribute to sustainability efforts in the fashion sector, despite the focus on sustainability in their education.

5.4. Familiarity and Experience with Eco Standards

All respondents, including both teachers and students, implement eco standards in their schools. The majority (70%) have experience with "Recycling for reuse," while 30% have worked on renovating obsolete products into new items.

In the schools selected for the field research, teachers are actively involved in various projects focused on environmental sustainability throughout the academic year. These projects involve collaborations with outside experts and consistently showcase concern for the environment and creative reuse of recycled materials in end-of-year collections. Students commonly design clothes and accessories using recycled materials, also making use of clothes that they no longer wear. Examples of such practices include weaving reused T-shirts, transforming blouses into cover-ups, and repurposing discarded jeans into bags, skirts, and corsets.

Regarding training and internships, 70% of teachers stated that they do not envisage such opportunities with companies that require expertise in the green economy. Instead, they collaborate with universities to gain knowledge on green economy issues. However, 30% of teachers responded positively, indicating that they do indeed organize training and internships with such companies.

In the VET institutions where students were interviewed, sustainability and inventive material reuse are highly valued. These institutions routinely use waste or recycled materials to create sustainable clothing, including leather and fabric scraps offered to the school. Moreover, some institutions collaborate with businesses that donate production waste, which is then utilized to create collections of apparel and accessories. The focus is on environmentally responsible solutions to minimize waste and frequently recycle materials. In this regard, some institutions have partnered with cooperatives that gather and recycle waste from larger businesses, using the supplied materials to create new clothing.

Among the students, 66.7% have not participated in training, internships, or similar programs organized by companies in the field. However, 33.3% of students responded affirmatively, indicating that they have taken part in internships and work activities conducted directly in the school laboratories with the support of external professionals and experts.

In summary, both teachers and students prioritize environmental sustainability in their respective schools. Teachers are actively engaged in projects focusing on sustainability and creative reuse of materials, while students routinely work with recycled and donated materials to create sustainable clothing. While not all teachers organize

aining and internships with companies in the green economy field, some do, and many collaborate with universities to deepen their understanding of sustainability issues.

Similarly, some students participate in internships and work activities within the school laboratories, often with the guidance of external professionals.

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.)	Educators of VET Fashion Institutes, Architects, Computer Scientists.
Q.3 T	Years of teaching experience	from 4 to 40 years of experience

Cluster 2: School and Technological Context

Q and T	Question	Associated Text
Q.4 T	School location (e.g., small, medium, big region)	Big Region (over 100 000 inhabitants)
Q.5 T	Digital technologies you are familiar with (field of expertise)	
Q.6/7 T	Digital solutions your school is equipped with (and how they are being used)	CAD, screen printing, knitting machines, 3D printer, vector programs for graphics
Q.8	Benefits/Advantages of digital technologies use	help students develop distinctive, marketable skills for the future labor market, but also that teachers themselves must constantly update and improve them.
Q.9/10 T	Level of preparation in introducing/using digital technologies	no possibility of a nationwide homogeneous use, since laboratories in VET fashion design institutes do not appear to be adequately equipped due to low funding

Cluster 3: Industry and AI

Q and T	Question	Associated Text
Q.11	To what extent fashion industry requires digitized (VET) professionals	the update of laboratories and technological equipment in vocational schools appears as a priority for them since digitalization is fundamental and transversal to all activities related to fashion design and it guarantees a bridge with the fashion industry
Q.12/13/15/16/18	Familiarity with AI learning tools (i.e., chatbot) and use of them in school courses	no experience with AI tools.
Q.14	Support of AI in learning process (teacher's perspective)	- AI can be an add-on to the learning process, providing access to materials and sources of information, facilitating research and understanding of key issues in different areas; - AI be used as an effective tool for learning with the careful supervision of teachers, in order to encourage a critical approach by students; - AI can be used to conduct research, analyze data, assess environmental impacts in the fashion industry, and investigate solutions for environmental sustainability.
Q.20	Positive outcomes of AI use in fashion industry	artificial intelligence (AI), can significantly improve the environmental sustainability of clothing,

and T	Question	Associated Text
		textiles, and accessories by exploring potential transformations based on outdated products, helping to give them a new life, reducing waste, and reusing resources. However, it is also stressed that the environmental impact of AI in terms of energy consumption needs to be taken into consideration
Q.21/22/23	Familiarity and experience with eco standards	In all the respective institutions selected for the research, various projects focusing on environmental sustainability are conducted
-	Overall opinion on AI use	- AI has the potential to revolutionize education by offering personalized learning experiences, automating administrative tasks, and providing valuable insights into student performance; - AI as a valuable tool that can enhance the learning experience, while others have reservations and express concerns about data privacy, security, and the potential for AI to replace human teachers; - AI is seen as a complementary resource rather than a complete

and T	Question	Associated Text
		replacement for traditional teaching methods; - AI is seen as a complementary resource rather than a complete replacement for traditional teaching methods; - concerned about the potential impact of AI on educational equity, fearing that AI-powered systems could inadvertently reinforce existing disparities.

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 Design Course
Q.3 S	Academic/scholastic year	from third to fifth year

Cluster 2: School and Technological Context

Q and S	Question	Associated Text
Q.4 S	School location (e.g., small, medium, big region)	Big Region (over 100 000 inhabitants)
Q.5 S	Digital technologies you are familiar with (field of study)	digital instruments as Photoshop or Procreate

Q and S	Question	Associated Text
Q.6/7 S	Digital solutions your school is equipped with	PCs, IWs, projectors or digital printers, digital registers or programs such as Illustrator, Photoshop
Q.8 S	Benefits/Advantages of digital technologies use	optimizing design time, promoting learning, and encouraging the development of digital skills; support to creative processes and their execution.
Q.9/10 S	Level of preparation in introducing/using digital technologies	teachers are sufficiently prepared for the use of digital technologies but not supported, however, by proper equipment. Need to increase funding for VET institutions' technical labs.

Cluster 3: Industry and AI

Q and S	Question	Associated Text
Q.11	To what extent fashion industry requires digitized (VET) professionals	Schools should incorporate new generation software and innovative technology to meet the industry's demands. It is important to balance digital skills with the need for tradition in the fashion sector.
Q.12/13/15/16/17/18	Familiarity with AI learning tools (i.e., chatbot) and use of them in school courses	use of Chatbot as ChatGPT for research and personal curiosity.
Q.14	Support of AI in learning process (student's perspective)	great support for design; help save time by summarizing texts and consulting large amounts of data; useful in different areas of study and work processes, such as creating prototypes and producing garments.
Q.20	Positive outcomes of AI use in fashion industry	help in sustainable tasks like material recycling or speeding up and

and S	Question	Associated Text
		customizing the realization of garments
Q.21/22/23	Familiarity and experience with eco standards	experienced renovation of obsolete products into new things; employ waste or recycled materials to create sustainable clothing.
-	Overall opinion on AI use	- AI has the potential to revolutionize education by offering personalized learning experiences, automating administrative tasks, and providing valuable insights into student performance; - AI as a means to adapt education to individual students' needs and preferences, making learning more effective and engaging; - AI-powered applications might be used to simplify administrative tasks and reduce the strain on teachers, allowing them to focus more on student interaction and instruction; - worry about data privacy and security when using AI-powered tools and question the ethical

and S	Question	Associated Text
		implications, fairness, and potential biases of AI algorithms; - appreciate AI's ability to adapt to their individual needs, offering personalized content, exercises, and feedback to improve understanding.

6. CONCLUSIONS - OVERALL OPINION ON AI USE

The overall opinion on AI use in education in Italy is likely to be mixed and similar to what happens in other countries. It has the potential to revolutionize it by offering personalized learning experiences, automating administrative tasks, and providing valuable insights into student performance. However, there are also concerns about its ethical implications, data privacy, and the potential for AI to replace human teachers and decrease the importance of face-to-face interactions in the learning process.

Some educators and institutions in Italy may be embracing AI as a valuable tool to enhance learning and optimize educational processes. They may see AI as a means to adapt education to individual students' needs and preferences, making learning more effective and engaging. Additionally, AI-powered applications might be used to simplify administrative tasks and reduce the strain on teachers, allowing them to focus more on student interaction and instruction.

On the other hand, widespread use of AI in education may be met with skepticism and caution. Concerns may include the accuracy and impartiality of AI algorithms, potential biases in AI-generated content, and the need for human oversight and critical thinking.

rthermore, some educators and stakeholders might be careful of excessive dependence on technology, as it may hinder the development of essential human skills and social interactions among" human individuals".

To create a balanced approach, the adoption of AI in education in Italy is attentive to require careful consideration of ethical guidelines, data privacy regulations, and the integration of AI tools in a way that supports rather than replaces the roles of teachers and educators. Additionally, addressing concerns and providing appropriate training and support for teachers to effectively utilize AI in their classrooms will be essential for successful implementation.

Furthermore, it's important to note that attitudes and opinions regarding AI in education may evolve over time as more research, advancements, and real-world applications come to light.

Teachers' opinions on AI in education vary significantly. Some teachers consider AI as a valuable tool that can enhance the learning experience, while others have expressed concerns about data privacy, security, and the potential for AI to replace humans. For some educators, AI is seen as a complementary resource rather than a complete replacement for traditional teaching methods.

Teachers recognize the potential benefits of AI in education but stress the importance of proper training and professional development to effectively integrate AI tools into the classroom. They also express a desire for ongoing support and guidance in using this cutting-edge technology effectively.

Educators are concerned about the potential impact of AI on educational equity, fearing that AI-powered systems could inadvertently reinforce existing disparities if not designed and implemented with consideration for diverse student populations.

Many teachers believe that AI can enhance certain aspects of education but acknowledge that it cannot replace the essential role of human teachers in fostering creativity, emotional support, and empathy in the learning process.

Overall, teachers' opinions on AI in education are multifaceted, ranging from excitement about its potential to improve learning outcomes to concerns about its ethical implications and impact on the teaching profession. Continuous dialogue and collaboration between educators, policymakers, and technology developers will be essential to address these concerns and maximize the benefits of AI in education as the technology continues to evolve.

Students' opinions on AI in education are diverse and influenced by their experiences, exposure to AI technologies, and individual beliefs.

Many students are excited about using AI in education, finding it innovative and engaging, especially when it enables personalized learning experiences. They appreciate AI's ability to adapt to their individual needs, offering personalized content, exercises, and feedback to improve understanding. However, some students express

ncerns about its impact on the job market, fearing automation of tasks traditionally performed by teachers and professionals. They also worry about data privacy and security when using AI-powered tools and question the ethical implications, fairness, and potential biases of AI algorithms. While some value AI's assistance, others fear excessive reliance may hinder critical thinking and social interaction. Certain students see AI as a potential bridge to provide education for underserved or remote populations. As technology evolves, students' opinions may change, so including their voices in discussions about AI's implementation is essential to address their needs effectively.

Fashion Design and Artificial Intelligence (AI) are evolving together in Italy, offering new opportunities for design, production and customer experience in the fashion industry. Professional institutes in the fashion design field are increasingly integrating digital tools into their educational offerings.

The use of digital tools enables students to gain up-to-date skills and be ready to meet the challenges of the job offer in the fashion industry in the digital age. Professional fashion design institutes are making an effort to keep up with the digital evolution in the fashion industry by offering their students a comprehensive education that includes both traditional design skills and the use of modern digital tools. This prepares students for the challenges and opportunities of the fashion industry in today's digital environment.

The integration of AI in fashion design has both its proponents and critics. Among advantages of AI in fashion design, gathered from the survey, some benefits are:

1. Efficiency: AI can streamline various stages of the design process, from trend analysis and pattern generation to material selection, leading to faster production cycles.
2. Personalization: AI can help fashion brands offer personalized recommendations to customers based on their preferences, body measurements, and previous purchases.
3. Sustainability: AI can aid in optimizing supply chains, reducing waste, and promoting sustainable practices in fashion production.
4. Creativity and Innovation: AI-powered tools can act as a source of inspiration for designers, providing new ideas and pushing the boundaries of traditional design.

Among challenges of AI in fashion design collected through interviews, it is appropriate to mention the following:

1. Human Creativity: AI's ability to generate designs based on existing data might lead to a lack of originality and human touch, potentially making fashion designs feel formulaic or repetitive.
2. Ethical Concerns: The use of AI in fashion, especially in areas like virtual models and photo editing, can raise ethical concerns related to body image, diversity, and authenticity.
3. Data Bias: AI systems learn from historical data, which might perpetuate existing biases in fashion, such as size, race, or style preferences, if not carefully monitored and managed.

4. Job Displacement: The increased automation through AI in fashion design could lead to job displacement for some manual tasks, affecting the livelihood of workers in the industry.

Ultimately, the impact of AI in fashion design will depend on how it's ethically and responsibly integrated into the industry. Striking a balance between human creativity and AI assistance is crucial to ensure that the unique and artistic aspects of fashion design are preserved while benefiting from the efficiency and innovation AI can offer.
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.