

A 2.4. The Netherlands



Identification of training needs for integrating AI chatbots in VET



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- 1. INTRODUCTION**
- 2. METHODOLOGY**
- 3. ROLES AND BACKGROUND**
- 4. SCHOOL AND TECHNOLOGICAL CONTEXT**
 - 4.1. Use Of Digital Technologies
 - 4.2. Benefits And Advantages of Using Digital Technologies
- 5. INDUSTRY AND AI**
 - 5.1. Familiarity with AI Learning Tools
 - 5.2. AI in Learning Process
 - 5.3. Positive Outcomes of AI Use in Fashion Industry
 - 5.4. Familiarity and Experience with Eco Standards
- 6. CONCLUSIONS - OVERALL OPINION ON AI USE**



1. INTRODUCTION

In the contemporary era, the rapid proliferation and advancements in digital and Artificial Intelligence (AI) technologies are significantly reshaping various sectors, fashion education being a prominent one.

The integration of these modern marvels is imperative to ensure that the educational methodologies are in tandem with the evolving industry demands, thereby preparing the students for the real-world challenges that lie ahead.

This report is a comprehensive narrative of the insights gleaned from a meticulously designed series of interviews conducted with teachers and students from two eminent Vocational Education and Training (VET) institutions, MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven.

The objective of these interviews was to explore the penetration, merits, and challenges associated with digital and AI technologies within the VET educational framework, and how these technologies are aligning the academic discourse with the industrial expectations.

2. METHODOLOGY

A robust methodology was employed to garner profound insights into the subject matter. A series of interviews were conducted by students from SOML, Connect College in Echt, with the intent to unravel the interlink between AI technologies, the fashion industry, and VET schools.

The interviews were structured to cater to both teachers and students, employing a well-crafted questionnaire as the data collection tool.

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.

This exercise was pivotal in amassing a repository of information regarding the adoption rate of digital technology, familiarity with AI tools, and the application of eco standards in the educational milieu.

3. ROLES AND BACKGROUND



The interviewees comprised a blend of seasoned educators with a diverse range of pedagogical experiences, alongside students who are currently immersed in the voyage of fashion design courses.

These participants hailed from two prestigious VET schools, namely MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven.

These institutions are renowned for their commitment to fostering a nurturing environment for the burgeoning fashion designers of tomorrow, by offering a blend of theoretical knowledge and practical skills.

4. SCHOOL AND TECHNOLOGICAL CONTEXT

4.1. USE OF DIGITAL TECHNOLOGIES

The adoption of digital platforms such as the Adobe Suite and 3D design software has emerged as pivotal tools in the educational arsenal of MBO Zadkine Beauty and Fashion, and Summa College Fashion.

However, there was a unanimous call among the interviewees for bolstering the technological infrastructure to further enrich the teaching and learning experience, thus ensuring a more interactive and engaging educational journey.

4.2. Benefits And Advantages of Using Digital Technologies

The harmonization of digital technologies within the educational framework, as seen from both the teachers' and students' lenses, holds a promise of not only enhancing the learning experience but also bridging the transition from academic environments to professional realms in the fashion industry.

Teachers' perspective

The teachers from both MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven, unequivocally acknowledged the value addition brought about by digital technologies in the realm of VET fashion education. They outlined several significant advantages:

1. **Enhanced Engagement:** Digital tools have shown to spur greater engagement and interaction from students, making the learning process more dynamic and less monotonous.



2. **Streamlined Assessment:** Digital platforms facilitate a more organized and efficient assessment of student work, enabling real-time feedback which is crucial for the iterative process of design.
3. **Facilitated Collaboration:** Technologies such as collaborative online platforms have broken down geographical barriers, enabling fruitful collaborations between students, teachers, and even industry professionals.
4. **Resource Accessibility:** Digital libraries and online resources significantly expand the horizon of accessible knowledge, fostering a more explorative and self-directed learning environment.
5. **Professional Preparedness:** Familiarity with industry-standard digital tools and software equips students with the requisite skills that are essential in the modern fashion industry landscape.

Students' perspective

The students echoed a similar sentiment, appreciating the digital technologies for the myriad advantages they offer:

1. **Ease of Expression:** Digital tools provide a more extensive palette for creativity and expression, especially with software that allows for 3D modeling and virtual reality.
2. **Accelerated Learning:** Instant access to a plethora of online resources and tutorials accelerates the learning process, allowing students to quickly grasp complex concepts and techniques.
3. **Portfolio Development:** Digital platforms offer a convenient and professional way to create and manage portfolios, which are pivotal for their career prospects.
4. **Real-world Applications:** The use of digital technologies often mirrors real-world applications within the fashion industry, providing a practical learning experience.
5. **Environmental Awareness:** Digital designing tools provide a platform for exploring sustainable and eco-friendly fashion designs, aligning with the growing emphasis on sustainability in the fashion industry.

5. INDUSTRY AND AI

5.1. Familiarity with AI Learning Tools

The era of Artificial Intelligence (AI) has ushered in a new paradigm of learning and instruction in Vocational Education and Training (VET) schools, notably at MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven. The interviews conducted shed light on the level of familiarity both educators and students have with AI learning tools in these institutions.



Educators' Awareness:

Educators at both VET schools demonstrated a commendable level of awareness and understanding of AI learning tools. They acknowledged the emergence of AI as a significant player in modern education dynamics. Most of them have either had direct experience with or have been exposed to various AI-driven educational tools like AI-powered design software, virtual classrooms, and intelligent assessment systems.

1. **Up-to-Date with Advancements:** Teachers showed that they are keeping pace with the rapid advancements in AI learning tools, understanding the potential these tools hold in enhancing both teaching and learning experiences.
2. **Training and Workshops:** Some educators have undergone training sessions and workshops to better understand and utilize AI learning tools, indicating a proactive approach towards embracing this technology.

Students' Exposure:

Students, on the other hand, displayed varying degrees of familiarity with AI learning tools.

1. **Enthusiastic Adoption:** Many students were enthusiastic about the integration of AI in their learning process. They find AI tools like predictive design software, and virtual fitting rooms exciting and beneficial.
2. **Curiosity and Willingness to Learn:** There's a general curiosity and willingness among students to explore AI tools, with some having taken the initiative to learn and use them for their projects.

The insight from the interviews suggests that while there's a solid foundation of awareness and enthusiasm surrounding AI learning tools, there's still room for growing the knowledge and experience base among both educators and students. The proactive steps taken by some educators and students are indicative of a promising trajectory towards more integrated and enriched learning experiences through AI.

5.2. AI in Learning Process

The utilization of Artificial Intelligence (AI) in the learning process within Vocational Education and Training (VET) schools, particularly at MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven, has begun to redefine traditional teaching and learning methodologies. Through the interviews conducted, several facets of how AI is being integrated into the learning process were illuminated.

Educators' Implementation:

Educators at these VET schools are at the forefront of integrating AI into the learning process.

1. **Personalized Learning:** They highlighted the potential of AI in facilitating personalized learning experiences. By utilizing AI tools, they are able to cater to the individual learning needs and pace of each student, thereby enhancing understanding and retention.
2. **Efficient Assessment:** AI has also shown promise in making the assessment process more efficient and objective. Automated grading systems and



plagiarism checkers are some of the AI tools mentioned that have eased the assessment burden on educators.

3. **Creative Exploration:** Moreover, AI-driven design software enables a more explorative and innovative approach to fashion design, allowing students and educators alike to test and visualize ideas in a virtual space before actual implementation.

Students' Engagement:

On the other side, students are finding a new avenue of engagement and interaction through AI.

1. **Interactive Learning:** AI-powered platforms provide an interactive learning environment where students can engage with the material in a dynamic way, making the learning process more engaging and enjoyable.
2. **Real-Time Feedback:** Students appreciate the instant feedback provided by AI tools which helps in real-time improvement and understanding of the subject matter.
3. **Preparation for Industry 4.0:** The use of AI in learning is seen as a precursor to the evolving industry standards, equipping students with the necessary skills and knowledge required to navigate the Industry 4.0 landscape in the fashion sector.

The integration of AI in the learning process is not without its challenges, yet the overall sentiment leans towards optimism and enthusiasm for the potential improvements in education quality and the preparation of students for the evolving industry standards.

5.3. Positive Outcomes of AI Use in Fashion Industry

Teachers' perspective

Teachers' perspective:

The educators from VET schools, particularly those from MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven, shared their insights on the positive impacts AI has brought to the fashion industry based on their experience and observations.

1. **Innovation and Creativity Enhancement:**
 - o Teachers noted that AI has significantly contributed to pushing the boundaries of creativity and innovation in the fashion industry. Through AI-powered design software, designers can explore new patterns, styles, and even sustainable materials, leading to a new era of fashion design.
2. **Efficient Production Processes:**
 - o The educators highlighted how AI has streamlined production processes within the fashion industry. By utilizing AI for predictive analysis, fashion houses can better forecast demand, manage inventory, and optimize supply chains. Moreover, AI-driven machinery and robotics have



accelerated the production phase, ensuring quicker turnarounds and higher efficiency.

3. Sustainable Practices:

- Teachers also shed light on the role of AI in promoting sustainability within the fashion industry. AI can help in waste reduction, materials recycling, and promoting eco-friendly practices through predictive analytics and smart automation. This, they believe, is a significant step towards a more sustainable fashion industry.

4. Customization and Personalization:

- The availability of AI tools that can tailor designs to individual preferences was noted as a boon for both designers and consumers. This level of personalization, teachers argue, enhances the consumer experience and can foster a deeper connection between brands and their clientele.

5. Market Analysis and Trend Forecasting:

- The ability of AI to analyze vast amounts of data to predict market trends was acknowledged as a critical asset for staying competitive in the fast-evolving fashion market. By understanding consumer behavior and market trends, fashion brands can make well-informed decisions, reducing risks associated with launching new collections.

6. Education and Skill Development:

- Lastly, the educators emphasized the significance of AI in education and skill development within the fashion industry. They believe that AI-facilitated learning environments not only enrich the educational experience but also better prepare students for the dynamic and technologically-driven fashion industry landscape.

Students' perspective

Students from the VET schools, particularly MBO Zadkine Beauty and Fashion, Rotterdam, and Summa College Fashion, Eindhoven, shared a fresh perspective on how AI is revolutionizing the fashion sector, reflecting their hands-on experiences and educational insights.

1. Enhanced Learning Experience:

- Students expressed that AI integrated into their curriculum has significantly enriched their learning experience. AI-powered design tools allow them to experiment with various design concepts, materials, and styles, enhancing their creativity and understanding of fashion design intricacies.

2. Real-world Applications:

- They valued the exposure to real-world applications of AI in fashion, which they believe prepares them for the evolving industry demands. By interacting with AI-driven analytical tools, they can better understand market trends, consumer preferences, and the business side of fashion.

3. Sustainable Fashion Promotion:

- The students are particularly enthusiastic about the potential of AI in promoting sustainable fashion. They appreciate how AI can contribute to waste reduction, materials recycling, and the overall promotion of eco-friendly practices, aligning with many of their values towards sustainability.

4. Personalized Design Opportunities:



- Students noted the exciting opportunities AI presents in the realm of personalized fashion. They see a future where AI can help designers create more personalized outfits and accessories, meeting individual consumer preferences and contributing to a more inclusive fashion industry.
- 5. Efficiency and Precision in Production:**
- The practical benefits of AI in streamlining and precision in production processes were acknowledged by the students. They appreciate how AI can optimize various stages of production, from design to manufacturing, making the process more efficient and precise.
- 6. Career Preparedness:**
- Lastly, the students feel that the exposure to AI technologies through their coursework is instrumental in preparing them for the competitive job market. They believe that having a sound understanding and practical experience with AI will give them a significant advantage as they venture into the fashion industry.

5.4. Familiarity and Experience with Eco Standards

Within the context of VET schools, particularly the realms of MBO Zadkine Beauty and Fashion in Rotterdam and Summa College Fashion in Eindhoven, the assimilation of eco standards into the educational sphere emerges as a critical vector in molding the conscientiousness of both teachers and students toward sustainability. Here are the insights harvested from the interviews concerning their familiarity and practical experiences with eco standards:

Teachers' Perspective:

The teachers underscored the incorporation of eco standards within the curriculum as a central avenue for instilling in students a profound understanding of sustainable practices within the fashion industry. They relayed a sense of gratification in observing students assimilate the essence of utilizing eco-friendly materials and espousing waste reduction methodologies. Beyond the classroom, the acknowledgment of alliances with eco-conscious industry stakeholders was highlighted as a significant conduit for unveiling to students the real-world application of sustainability practices. Through an array of workshops, seminars, and industry-centric projects, students are immersed in a hands-on experience, witnessing eco standards in action. Moreover, the teachers accentuated the continuum of learning and professional augmentation opportunities at their disposal, which are instrumental in keeping abreast with the burgeoning eco standards and sustainability paradigms in the fashion milieu.

Students' Perspective:

On the flip side, the students conveyed an appreciation for the pragmatic facet of eco standards learning, particularly resonating with projects that task them to adhere to these standards while fostering innovation and creativity. They also articulated an escalated awareness and comprehension of the fashion industry's environmental imprint, attributing this enlightenment to the emphatic focus on eco standards within their coursework. Looking ahead, a substantial number of students discern a robust



alignment between their eco standards learning trajectory and their envisaged career aspirations. They are fervent about epitomizing a cohort of fashion aficionados who place a premium on sustainability. In tandem with this, the students exuded a sense of preparedness to meet the sustainability benchmarks of the fashion industry, courtesy of the exhaustive grounding in eco standards availed to them at their VET institutions. This discourse unveils a positive reception and engagement with eco standards among both the teacher and student demographics, mirroring a mutual endeavor to champion sustainability in the fashion arena. Through a blend of curriculum, industry synergies, and pragmatic projects, the VET schools are cultivating a culture of sustainability, priming the next cadre of fashion professionals to be eco-conscious and industry-ready.

6. CONCLUSIONS - OVERALL OPINION ON AI USE

The investigation through interviews at MBO Zadkine Beauty and Fashion in Rotterdam and Summa College Fashion in Eindhoven has furnished insightful delineations regarding the integration and the effect of Artificial Intelligence (AI) within the learning processes. Here is a synthesis of the overarching sentiments from both educators and learners regarding AI utilization:

Educators' Viewpoint:

Educators underscored the transformational potential of AI in enhancing learning experiences and aligning instructional methodologies with industry requisites. They lauded AI's capability in furnishing a nuanced understanding of complex fashion industry dynamics to learners. The application of AI learning tools was perceived as a significant stride towards a more interactive, personalized, and effective learning trajectory. Furthermore, the educators appreciated AI's role in offering real-time feedback, thereby accelerating the learning curve and ensuring a robust comprehension of core concepts. They also highlighted the pragmatic exposure to AI as instrumental in preparing students for an industry increasingly swayed by technological advancements. However, they also suggested a cautious approach, advocating for a balanced integration that upholds the human-centric ethos of education.

Students' Viewpoint:

Students exhibited an enthusiastic reception towards AI, appreciating the interactive and engaging learning ambiance it fosters. They cherished the hands-on experience with AI tools, which they found to be enriching and reflective of real-world industry operations. The usage of AI was seen as a window to innovative learning, where complex ideas were unraveled in an engaging and comprehensible manner. They also acknowledged the role of AI in expediting feedback and personalizing learning pathways to cater to individual strengths and areas of improvement. Additionally, the exposure to AI was perceived as an invaluable precursor to their professional endeavors in the technologically-driven fashion industry.



The consensus from both factions reflects a positive inclination towards the assimilation of AI within the educational framework, recognizing its potential to bridge the gap between theoretical learning and practical industry demands. The blend of enthusiasm and cautious optimism suggests a fertile ground for further exploration and integration of AI in augmenting the educational experience, thus aligning the pedagogical strategies with the evolving industry standards and expectations. Through cautious and thoughtful integration, AI stands as a promising conduit to enrich the learning landscape in VET schools, preparing the budding professionals for a dynamic and technologically advanced fashion industry.