

Enhancing Soft Skill Development with ChatGPT and VR: An Exploratory Study

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Abstract-- This research paper explores the significance of soft skills in predicting and enhancing future success. It emphasizes the use of current technologies, particularly virtual reality (VR) training methods, to address the lack of experience in employees and students. VR simulations have proven effective and efficient, surpassing traditional methods. The paper also discusses the emergence of AI, like ChatGPT, for training, but acknowledges the challenges of accuracy, biases, and ethics. To use VR training, one needs to think about factors like the equipment, the expense, and the ability to expand. Organizations can leverage AI and VR training to create impactful solutions by navigating these drawbacks.

Keywords-- *Virtual Reality (VR), Soft-skills, ChatGPT, Students, Employees*

I. INTRODUCTION

This paper presents a case for Virtual reality and ChatGPT's role in helping working professionals and students develop an important set of skills known as 'soft- skills'. Soft skills are the collection of personal or non-technical abilities that improve people's communication with others and help them cope with

different situations at work. Communication, teamwork, problem-solving, creativity, and emotional intelligence are some examples of soft skills. In the 21st century, soft skills are more in demand and crucial to prove one's uniqueness for survival in the workplace.

However, developing soft skills is not an easy task, as it requires practice, feedback, and reflection. Traditional methods of teaching soft skills, such as lectures, workshops, or role-plays, may not be sufficient or engaging enough for today's learners. Therefore, there is a need for innovative and immersive technologies that can enhance the soft skill development process.

This paper explores the potential of two such technologies: virtual reality (VR) and ChatGPT. VR is a digital imitation of a three-dimensional reality that can be explored using special equipment, such as headsets or gloves. ChatGPT is an artificial intelligence system that can generate natural language responses based on user input. Both VR and ChatGPT can create realistic and interactive scenarios that can simulate various soft-skill situations and provide feedback and guidance to learners.

Recent research has highlighted the significant impact of soft skills on future career and life success. With the assistance of current technologies, both in training future professionals and within the workplace, these skills can be predicted and enhanced. Virtual reality (VR) training methods have emerged as a beneficial tool for organizations to tackle the problem of experience in their employees. By utilizing virtual simulations, organizations can provide training without the need for real-world situations to occur. A wide range of simulations has been developed to tackle this challenge, resulting in successful training outcomes for various professionals.

II. LITERATURE SURVEY

In recent years, the integration of artificial intelligence in education revolutionized teaching and learning through personalized experiences, streamlined tasks, and empowering educators. Emmanuel Chinonso Opara [1] revealed the concept of teaching and learning as critical to the life of an individual, the use of artificial intelligence plays a role in enhancing the teaching and learning process with the use of chatbots such as OpenAI's ChatGPT model which offers an immediate and direct response to questions (queries) asked.

In the evolving landscape of engineering, employers recognize that success goes beyond technical proficiency. Effective communication skills are now essential for job performance. Having realized the importance of both critical thinking and problem-solving skills, as well as communication skills to be acquired by engineering students, both lecturers and students this study concurs with the idea that the two skills are the most important skills to be integrated into the teaching of technical courses. Hairuzila Idrus [2]

Mariecke Schipper et al. [3] studied how universities are following this trend, as they acknowledge the importance of soft skills for employability. In the realm of higher education, the integration of soft skills into engineering curricula poses challenges. The university faces low student satisfaction scores in soft skills courses, prompting an examination of the motivation, attitude, and anxiety of computer engineering students toward learning these skills.

In their research, Li Ying et al. [4] delved into VREX, a Virtual Reality (VR) based system. Through their trials, they discovered that VR holds the potential to enhance curriculum effectiveness in education by providing an immersive environment. This enables students to intuitively grasp abstract knowledge that is often challenging for teachers to convey through traditional means of description. VR education can overcome the disadvantages of traditional education like abstraction, isolation, and interactive-less, which makes students learn knowledge in a way with interaction and immersion in a real scenario.

But Ketaki Shriram et al. [5] found that users report intermittent harassment and that users are very aware of harassment in social virtual reality. In the study conducted by Lindsay Blackwell et al. [6], it was discovered that shared norms for appropriate behavior in social virtual reality (VR) are still in the process of emerging. Interestingly, users differentiate between newcomers who unintentionally violate these behavioral expectations and those who purposefully aim to cause harm. Soft skills transcend the boundaries of education and employment, permeating every facet of our lives. They form the foundation for how we interact, communicate, and navigate the intricacies of human relationships. As we embark upon an era dominated by the virtual world and the emergence of the metaverse, the significance of soft skills becomes even more pronounced. VR and ChatGPT offer a transformative boost to soft skills improvement.

III. IMPLEMENTATION OF CHATGPT AND VR

In the realm of the virtual world, where digital avatars traverse virtual landscapes and individuals engage in online interactions, the need for effective soft skills takes center stage. The metaverse represents a convergence of virtual and real-life experiences, blurring the lines between the two. In this landscape, learning soft skills through virtual reality (VR) and ChatGPT emerges as a powerful and transformative approach. Imagine stepping into a virtual environment, where simulations recreate scenarios mirroring real-world challenges. Within this immersive realm, individuals can navigate social interactions, practice active listening, foster empathy, and develop effective communication skills. VR provides a safe and controlled space for trial and error, allowing individuals to learn from their experiences

without fear of real-world consequences. By donning a VR headset, one can engage in simulated job interviews, participate in virtual team-building exercises, or even explore diverse cultural contexts. Refer Fig-1. These experiences enable learners to walk in the shoes of others, honing their emotional intelligence and expanding their perspectives. VR's interactivity fosters a deep sense of presence, fueling an engaging, memorable, and impactful learning experience.

Moreover, the transformative potential of VR extends beyond the virtual realm, particularly when it comes to acquiring and honing soft skills. The competencies developed in these virtual environments seamlessly translate into real-life scenarios. The ability to navigate complex social dynamics, resolve conflicts, and effectively collaborate becomes second nature, empowering individuals to thrive in both the digital realm and their everyday interactions. As the future unfolds, with the metaverse on the horizon, embracing the potential of VR for soft skill development becomes paramount. It offers a unique opportunity to bridge the gap between virtual and real-world experiences, fostering a harmonious integration of skills that transcend boundaries. Embracing this approach ensures that individuals are equipped with the essential tools to navigate the complexities of the future, where the virtual and real-world spheres intertwine.

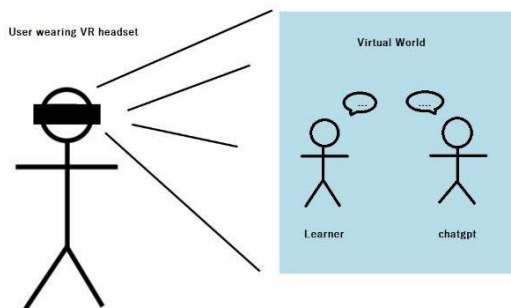


Fig-1: Interaction between VR and User

ChatGPT's ability to pilot chat or 3D avatar simulations with predefined roles, personalities, and motives enables learners to engage in unscripted, ongoing conversations. These simulated conversations can simulate various scenarios, such as tough job interviews, pitch competitions, negotiations,

challenging colleagues, or providing support to loved ones. This approach revolutionizes asynchronous learning by providing learners with opportunities for realistic and personalized practice anytime, anywhere. Refer Fig-2. Learners can benefit from a conversational sandbox, where they can experiment without fear of judgment or negative consequences. Organizations can leverage this technology to offer employees a high level of flexibility and cost- efficiency, akin to providing each individual with their own coach. This advancement in digital learning opens up new possibilities for training and development, bridging the gap between asynchronous tools and synchronous modalities like workshops and coaching sessions.



Fig-2: Representation of Learner and ChatGPT

IV. DATA ANALYSIS AND UTILIZATION OF EXISTING COMPANY STATISTICS

Virtual reality (VR) offers experiential learning and active recall, stimulating users' memory during the learning process. This approach proves more effective than passive recall methods like re-reading or watching videos, ensuring long-term retention. VirtualSpeech[7], a leading company specializing in enhancing soft skills through VR, discovered that employees engage in repeated VR training scenarios over several months. This repetition not only improves knowledge retention but also aids in overcoming the Ebbinghaus Forgetting curve, enabling users to become adept at handling soft-skill scenarios in the workplace. VirtualSpeech's statistics showcase the remarkable impact of their platform: users experience 4x faster learning through hands-on VR experiences, 86% of them gain increased confidence, 95% witness tangible improvements in their soft skills, and a resounding 93% wholeheartedly recommend VirtualSpeech.

Virtual reality (VR) training is a game-changer when it comes to accelerating learning and identifying areas for improvement. It offers real-time feedback to learners, enabling organizations to track return on investment (ROI) with quantitative data. VR soft skills training takes this a step further by providing users with feedback on their virtual performance using AI-powered speech analysis tools. These tools analyze eye contact performance, the pace of speaking, hesitation words used, tone, and more, enabling learners to identify areas where they can improve. Results in quizzes, scenario goals, branched scenario outcomes, and other metrics feed into the Virtual Skills Assessment tool, providing learners with valuable insights to help them correct mistakes and build confidence in their abilities. Ultimately, VR training offers a unique opportunity for individuals and organizations alike to enhance their skills, drive success, and thrive in a rapidly changing world. The efficacy study conducted by PwC [8] sheds light on the remarkable efficiency of virtual reality (VR) in soft skills training. The study [9] reveals that traditional classroom training takes approximately 2 hours, while e-learning methods require around 45 minutes. In stark contrast, VR training significantly reduces the time investment to a mere 29 minutes. Refer Fig-4. This significant time reduction showcases the unique power of VR in delivering impactful and efficient learning experiences, revolutionizing the way individuals acquire essential soft skills in a fast-paced world. The research [10] conducted by PwC highlights the profound emotional connection that employees experience with virtual reality (VR) content.

Comparing the results, V-learners felt 3.75 times more emotionally connected to the VR content than those in traditional classroom settings and 2.3 times more than e-learners when they compared the results. This increased emotional engagement shows the immersive power of VR, which enables learners to form deep connections with the training material and leads to more meaningful and impactful learning experiences. The PwC 2022 US Metaverse Survey revealed that significantly, 51% of companies are actively incorporating virtual reality (VR) into their overall strategies or have already implemented VR into at least one specific area of their business operations. Remarkably, a substantial 34% of respondents mentioned "a more effective way to develop and train our people" as one of the key advantages they currently experience or anticipate in the metaverse. Refer Fig-3.

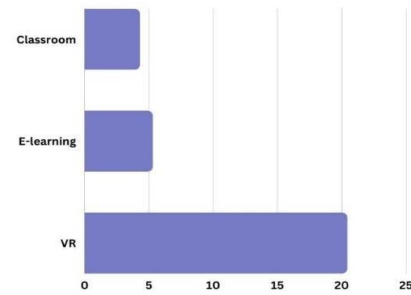


Fig-3: Comparison between VR and E-learning



Fig-4: Training efficiency through learning methods

According to the PwC 2022 US Metaverse Survey, it was revealed that a significant 51% of companies are actively incorporating virtual reality (VR) into their overall strategies or have already implemented VR into at least one specific area of their business operations. Remarkably, a substantial 34% of respondents cited "a more effective way to develop and train our people" as one of the key advantages they currently experience or anticipate in the metaverse. This emphasizes the increasing realization among organizations that leveraging VR technology can enhance workforce cultivation and training, ultimately boosting team efficiency and proficiency. Refer Fig-5.

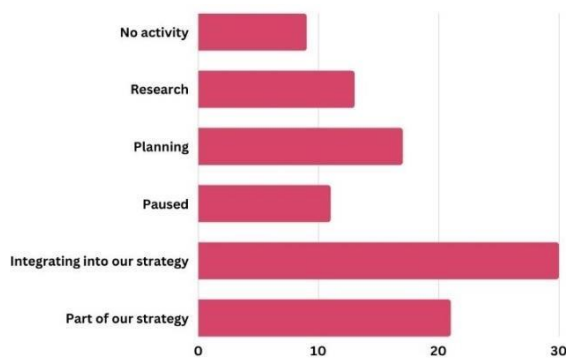


Fig-5: Where businesses stand on implementing VR

V. RESULTS

The implementation of ChatGPT as a 3D avatar within a virtual reality (VR) environment revolutionizes communication between learners and the AI assistant. By embodying ChatGPT as a realistic human avatar, the learner wearing VR equipment can engage in natural and immersive conversations. This novel approach allows ChatGPT to generate responses that closely resemble real-life human interactions, enhancing the learning experience. The integration of VR technology in soft skills training further amplifies its effectiveness. Learners can practice and refine their interpersonal abilities, such as communication, empathy, and problem-solving, within a simulated environment. In addition to providing a secure environment for trial and error, VR offers instantaneous feedback, enabling learners to analyze and enhance their skills in an immersive and compelling manner. VR not only facilitates a safer space for trial and error but also provides immediate feedback, allowing learners to analyze and improve their skills in a more immersive and engaging manner.

VI. DISCUSSION

Virtual reality (VR) technology has opened up new avenues for individuals seeking to develop skills for real-world situations. VR provides a safe and controlled environment for users to practice and improve their soft skills, which are essential for success in many professions. By simulating a range of random actions, VR enables users to react to various scenarios and receive immediate feedback on their performance.

One of the notable advantages of implementing VR for soft skills development is that it can also be used to combat harassment in the workplace as well as in the virtual world. By simulating different scenarios, users can learn how to recognize and respond appropriately to situations that involve harassment.

The combination of ChatGPT and virtual reality offers exciting possibilities in the realm of entertainment, creating more immersive gaming experiences with dynamic conversations between players and AI-driven non-player characters. This not only enhances storytelling but also extends to multiplayer games, where NPCs adapt to player actions, resulting in a realistic and captivating virtual world.

However, the fusion of ChatGPT and virtual reality also brings ethical and privacy concerns. As AI language models advance, there is a risk of misuse and the creation of deep fake content, which can have serious societal implications. Safeguards and regulations need to be in place to address these concerns. Moreover, the collection and storage of user data in virtual reality environments must be handled carefully to ensure privacy and security. Responsible and transparent practices are essential to maintain user trust and protect individuals' rights in the virtual reality landscape.

VII. CONCLUSION

This research paper explores the efficacy of VR and ChatGPT in improving soft skill training methods. Our investigation reveals the following key findings:

- VR, combined with ChatGPT, immerses learners in simulations that enable them to practice and improve their soft skills in a variety of scenarios, facilitating significant growth. Immediate feedback and guidance provided within these simulations enhance learners' performance and confidence.
- These technologies overcome the cost and logistical barriers associated with traditional training methods. They eliminate the need for instructors, venue rentals, and travel expenses.
- VR and ChatGPT provide personalized training experiences, tailoring content and difficulty levels based on learners' profiles, goals, and progress.

- While VR and ChatGPT offer substantial benefits, they also face technical challenges such as hardware and software requirements, occasional glitches, and internet connectivity issues. Ethical concerns include data collection, privacy, security, consent, and ownership.

In summary, the integration of VR and ChatGPT offers boundless potential for enhancing soft skill training through immersive, adaptable, tailored, economical, and captivating learning experiences.

However, it is crucial to utilize these technologies as complementary tools alongside traditional methods rather than as substitutes. Future research should focus on addressing technical, ethical, and human challenges while evaluating their effectiveness and impact on learner outcomes.

In order to further enhance the integration of VR with ChatGPT for soft skills development, several future developments are needed:

- Enhanced Natural Language Processing: The ongoing evolution of natural language processing (NLP) technology holds the utmost significance in elevating the conversational prowess of ChatGPT.
- Real-Time Adaptation: The ability of ChatGPT to dynamically adapt and respond in real-time to user inputs is an important area for development.
- Emotional Intelligence: Integrating emotional intelligence into ChatGPT's capabilities would significantly enhance its effectiveness for soft skills training.
- Multi-User Interactions: Expanding ChatGPT's functionality to support multi-user interactions within virtual reality environments would be valuable.
- Adaptive Learning: Developing AI algorithms that can personalize the VR experience based on individual user needs and learning styles would optimize soft skills development.
- Ethical and Inclusive Design: Ensuring that VR experiences with ChatGPT are designed ethically and inclusively is vital.

With the continual evolution and exploration of the VR industry, the integration of VR training into employee development is poised to become an indispensable

cornerstone, unlocking unprecedented possibilities within the virtual realm. Early adopters of this technology will gain a significant competitive edge over their rivals, as they leverage the immersive and engaging nature of VR to deliver more effective and impactful training experiences.

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