THE USAGE OF VIRTUAL REALITY IN EDUCATION AND ITS POSSIBLE IMPACTS

ASTANA IT UNIVERSITY

ABSTRACT

Research examines the possibility of using virtual reality in education in order to improve teaching and learning processes. In order to collect data from the participants, the study used focus groups and questionnaires to find out about the students' opinions about the benefits of using virtual reality (VR) in education.

Survey indicates that students have a positive outlook towards VR due to its impact on the level of interest (an average of 3.68 on a 5-point scale). A higher percentage (84%) of the participants agreed that VR could enhance learning experiences for students with disabilities. The findings of the study are in line with other research works that look at the possibilities of VR to enhance learning and make it more enjoyable. Thus, VR can remove the physical constraints of a traditional audience and create an environment for a person with a disability.

INTRODUCTION

VR is a technology that has innovative interactive tools to improve learning and student engagement.
The purpose: to investigate the advantages and drawbacks of incorporating virtual reality into a learning environment. The study will examine the problems associated with the use of VR such as cost, software usability issues, and the possibility of motion sickness among users.
The research questions:
1. How can VR help people with disabilities learn?
2. How can Universities establish VR for being widely available?

Significance
- The creation of user-friendly applications to approve students' learning involvement.
- New opportunities for disabled people.

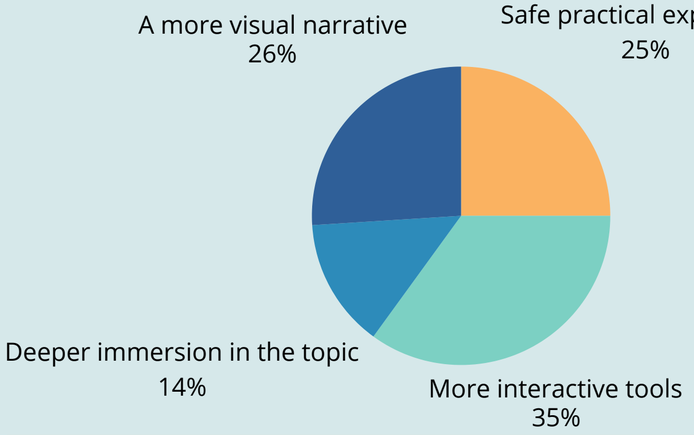
METHODS

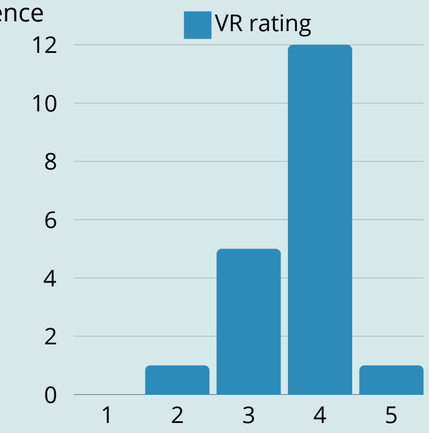
Survey: Distributed via Telegram chats among second-year students of Astana IT University (19 participants)
- Total questions: 15

1. General questions (3)
2. Open-ended questions (3)
3. Close-ended questions (9)

Interview: Conducted in a focus group (3 respondents)
- Total questions: 4

1. General clarifying question (1)
2. Specific questions on the topic (3)





RESULTS

- With an average rating of 3.68 out of 5 stars, students frequently find this to be motivating. The majority of students (63%) gave it a four-star rating, indicating a strong belief in its ability to raise engagement.
- The most highly regarded feature (35% of replies) was interaction, which was followed by safe hands-on experiences (25%) and visual narrative (26%).

Based on focus group findings,
Transformative Potential: VR may transform education by creating engaging learning experiences. They emphasized how VR can provide immersive reenactments that traditional classrooms cannot, such as virtual labs.
Locks in Learning: Virtual reality is viewed as a tool to basically increase student inspiration and engagement. Participants' thoughtful acceptance of VR's stimulating qualities can draw in students.

Discussion

Limitations
- **Cost and Accessibility:** The high cost of VR equipment and ongoing maintenance may prevent widespread implementation, particularly in schools with limited budgets.
- **Teacher Training:** Extensive training is required for educators to effectively use VR technology, and many teachers may lack the time or resources to acquire these skills.
- **Technical Issues:** Potential technical problems, such as equipment malfunction or software glitches, could disrupt the learning experience and reduce the overall effectiveness of VR in education.

While these limitations pose significant challenges, they also highlight areas for further research and development. By addressing these issues, educational institutions can better prepare to integrate VR into the classroom, ultimately enhancing the learning experience for students.
The findings align with work about VR (Brenda L., 2016) and another work (Chris C. 2010). But the research (Jonathan R. A., 2023) revealed potential of VR in healthcare sphere.

REFERENCES

1.Ardiny, H., & Khanmirza, E. (2018). The role of AR and VR technologies in education developments: Opportunities and challenges. 2018 6th RSI International Conference on Robotics and Mechatronics (IcRoM), 482–487. 10.1109/ICRoM.2018.8657615
2.Bryson, S. (2013). Virtual Reality: A Definition, History - A Personal Essay. ResearchGate. https://arxiv.org/abs/1312.4322
3.Christou, C. (2010). Virtual Reality in education. In Affective, Interactive and Cognitive Methods for E-Learning Design (pp. 228–243). IGI Global.10.4018/978-1-60566-940-3.ch012

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