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Mixed Reality for Special Education

Tanvi Kapdi[1], Foram Shah[2]
[1](ComputerEngineering Dept, Atharva College of Engineering/ University of Mumbai, India)
[2](Computer Engineering Dept, Atharva College of Engineering/ University of Mumbai, India)

Abstract: *Special able students of our society needs equal opportunity to develop and participate to the society and grow financially. Virtual reality gives students with disabilities the opportunity to practice everyday "real world" skills in a safe environment. One of the biggest benefits to train students in this way is that students can learn from realistic scenarios without the risk of practicing an unfamiliar skill in an uncontrolled real-life situation. Students are even able to take virtual field trips, visiting places in their communities which they would not normally be able to experience. Based on the current research study and understanding it was found that MR systems would provide better applicability in their treatments.*

I. Introduction

The utilization of virtual situations for extraordinary requirements is as various as the field of Special Education itself and the people it serves. People with extraordinary needs frequently face difficulties with consideration, language, spatial capacities, memory, higher thinking and information procurement. Research in the utilization of Virtual Learning Environments (VLE) targets both discernment and conduct. Virtual situations empower intuitive learning and give an assortment of chances to the student to have command over the learning procedure (Pantelidis, 1993). Computer generated reality (VR) advances are energizing instruments that include a sheltered and strong condition to exchange information among virtual and genuine universes. Through such innovation, individuals with uncommon necessities can take a gander at their own qualities, capacities, and learning inclinations in contrast with the required learning task and expected pick up in result. A methodical hunt of the writing uncovers that ebb and flow look into typically comprised of an examination of the adequacy of a particular VLE to execute a particular range of abilities finished by people with a particular handicap.

II. Background Study

As indicated by Alfassi and Hefziba (2009), the adapting master access is the equivalent for the two individuals without handicap and individuals with scholarly incapacity [6]. The conventional didactic methodologies and exercises, for example, perusing and composing assignments in course readings, motion pictures, powerpoints introductions, oral and gestural exposition, acetic acid derivations, among others, are the basic techniques utilized inside the learning procedure [7]. These strategies have been utilized consistently and in light of the nonstop routine with regards to these techniques, understudies in schools have progressively indicated debilitation [8]. Normally, just two faculties are in reality animated: sound and visual. In any case, with regards to compelling learning, it's critical to invigorate others [9]. The goal of multi-tangible substance is to make clients feel their very own quality, stimulating every one of their faculties with various purposes [10]. Along these lines, we have five detects: taste, sound, visual, smell and contact. These upgrades produce diverse responses in every individual, and this is on the grounds that several factors impact these equivalent responses. In the gathering of individuals with scholarly handicap, the cognitive aptitudes are influenced and responses acquired before embeddings upgrade become significantly progressively expanded [11]. In instruction, there have been endeavors to consolidate the multi-tactile substance in narrating. Narrating can be an approach to pass on information, excitement and gives a social domain. In the United Kingdom, for instance, narrating started to be utilized, in schools, to create social connection of youngsters [12]. Youthful et al. (2011) exhibited an examination that comprised of a multisensory book, in which each page had an expression. Each expression had a tangible boost. The items related to the boosts were connected to A3 sheets. Eight people with significant scholarly inabilities (five men and three ladies) with ages somewhere in the range of four and nineteen years of age took part in this examination. They had constrained and non-verbal communication. Stories were told by moms or instructors and one was told by the word related advisor. So as to reach determinations from the experience, the sessions were taped and meets were led by storytellers. Accordingly, six members invested the vast majority of the energy taking a gander at the pages, one was seen contacting the page s, and the other individual had no response. The experience enabled six members to all the more likely arrangement with the subjects created in the accounts. At the point when upgrades were expanded, members did not give much consideration to the storyteller. Rather, they gave more consideration to the book (where the improvements are exhibited).

III. Pilot Case Study

The main goal of this pilot study is to try to understand if people with intellectual disability can take advantage of such didactic approach consisting of multisensory storytelling contents in their learning activities. We want to determine how they react to multisensory storytelling and how this motivates them to learn.

3.1. Methods

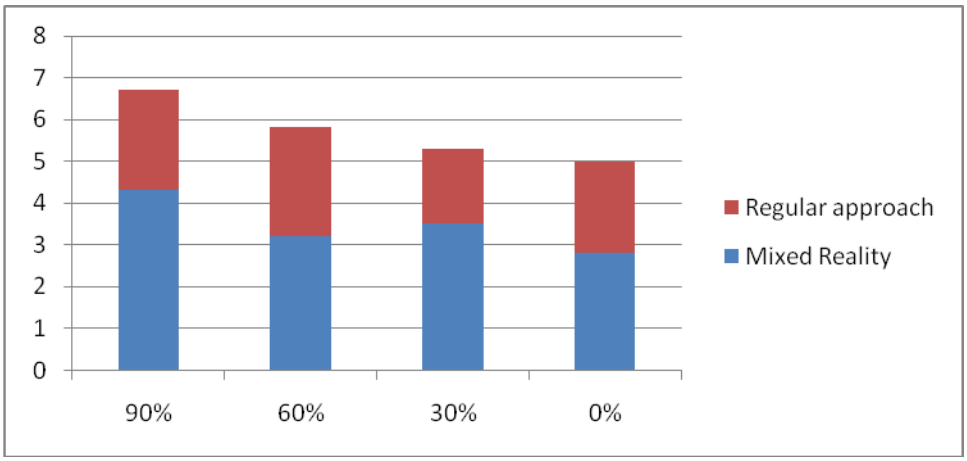
In this examination, the contextual analysis is related to ethnography to beat the troubles in correspondence as found in the gathering with scholarly handicap. The strategies for information gathering utilized are legitimately identified with the examination techniques embraced: logbooks (basic in case contemplates), archive investigation, interviews, direct perception and video (utilized for the situation study and ethnography)

3.2. Experimental design

To begin with, we arranged the story (called "natural products story") whose reason for existing was showing the gathering organic products. They chose story's substance (natural products) is a thing likewise tended to in the school program (comparing to the first grade of the principal cycle fundamental school). At that point, it was picked the improvements to be displayed. The organic products exhibited were: green apple, orange and peach. Likewise, we introduced the foods grown from the ground the clients the highlights of each alluded natural product, (for example, shading, taste, other comparative leafy foods). The story began with a green apple introducing its companions (orange and peach), and after that each natural product displayed their highlights. At last, the story prescribes its per users to eat a few organic products consistently on the grounds that it is solid. The PowerPoint introduction was planned by the subject of stories and the improvements we needed to present to the gathering of people.

IV. Discussion

All inclusive, the members' communication was certain. Amid the multi-tactile experience, the majority of the members gave hints that they knew about the smell stimulus and gave positive input. Just a single member from the multisensory experience made a remark when he detected the smell. Given their response, it is conceivable to affirm that most of members recognized the smell however did not make any comment. Be that as it may, we don't know whether different members that didn't give any suggestions that they had recognized the smell did in reality feel it or not. We trust that its area may have affected the outcomes. The material boost ready consideration and communication, particularly when there were distinctive surfaces, similarly as with the peaches. Amid the broad media experience, the consideration of people expanded when sound and visual boosts were introduced and these sorts of improvements have delivered a greater response (they giggled or discussed the issue). Following 24 hours, being the action officially finished, we did the examination of the meetings. Through the meetings it was conceivable to check the measure of detail th at clients reviewed from the story. Each meeting was investigated and grouped. In table 1, we can see the outcomes as acquired by the members.



V. Conclusion

The fundamental target of this examination was to watch and analyze how this specific group of onlookers responded when given a multi-tangible condition as views as explicit learning purposes. The primer outcomes demonstrate that multi-tactile content may accomplish better outcomes (both in analyses and in direct perception). Members made more remarks and their cooperation with the analysts was higher. One can say that

in this story the multi-tactile substance contributed all the more decidedly to the maintenance of learning substance, comprising on the point of natural products, than the other condition. As the outcomes appear to be encouraging we aim to run a fu ll think about on how multi-tactile narrating can help this gathering of individuals in their learning exercises. Another conceivable and further examination might be the trial of every specific improvement. Along these lines we can see in more detail the responses to a given upgrade. Likewise, we think it is vital to try diverse stories with various unpredictability to see to what extent multisensory works.

References

[1]. O. M. d. Saúde. Classificação Internacional de Funcionalidade, Incapacidade e Saúde (CIF), Lisboa: Direcção-Geral da Saúde, 2004.

[2]. Rocha T. Acessibilidade e Usabilidade na Internet para Pessoas com Deficiência Intelectual , Universidade de Trás os Montes e Alto Douro, Vila Real, 2008.

[3]. INR, "O que é a CIF," [Online]. Available: http://www. inr.pt/content/1/55/que-cif. [Accessed 15 October 2014].

[4]. Beyer HO. Tecnologias, desenvolvimento de projetos e inclusão de pessoas com deficiência , Revista da Educação Especial, vol. 1, 2006; p. 46-51.

[5]. Santos DCO. Potenciais dificuldades e facilidades na educação de alunos com deficiência intelectual , vol. 38, 2012.

[6]. Alfassi M, Weiss I, Hefziba L. The efficacy of reciprocal teaching in fostering the reading literacy of students with intellectual disabilities , European Journal of Special Needs Education, vol. 24, 2009; p. 291-305.

[7]. Lencastre JA, Araújo MJ, Impacto das tecnologias em contexto educativo formal , Revista Galego-Portuguesa de Psicoloxía e Educación, 2007.

[8]. Baines L. A Teacher's Guide to Multisensory Learning: Improving Literacy by Engaging the Senses , USA: Association for Supervision and Curriculum Development, 2008.

[9]. Farias MEM. O acesso de pessoas com deficiência às classes e escolas comuns de rede regular de ensino , Brasil: Procuradoria Federal dos Direitos do Cidadão, 2003.

[10]. Gallace A, Ngo M, Sulaitis J, Spence C. Multisensory Presence in Virtual Reality: Possibilities & Limitations , Multiple Sensorial Media Advances and Applications: New Developments is MulseMedia, 2012; p. 1-38.

[11]. Maria SCF. Estimulação sensorial tátil e visual e deficiência intelectual: fundamentos para o favorecimento do funcionamento intelectual com ênfase em atividades de educação artística no âmbito escolar , 2013.

[12]. Young H, Fenwick M, Lambe L, Hogg J. Multi-sensory storytelling as an aid to assisti ng people with profound intellectual disabilities to cope with sensitive issues: a multiple research methods analysis of engagement and outcomes , European Journal of Special Needs Education, vol. 26:2, 2011; p. 127-142.

[13]. Brug A, Putten A, Penne A, Maes B, Vlaskamp C. Multi-sensory Storytelling for Persons with Profound Intellectual and Multiple Disabilities: An Analysis of the Development,Content and Application in Practice , Journal of Applied Research in Intellectual Disabilities, vol. 25, 2012; p. 350-359