

A Research Study On Student Educational Assessment Through Advancements In Virtual Reality Technology

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ABSTRACT

This research aims to fill a gap in the current literature by reviewing studies that have examined the relationship between students' internet use and their academic performance. Finding out what factors affect students' internet usage patterns was the main goal of this study. In addition to gauging the variety of students' internet use, this research aims to ascertain the scope of their online activity. The investigator perused a multitude of scholarly journals. All of the factors that were considered depend on how students use the internet. Although fourteen of the studies looked at how students got online, nine of them looked at how often students utilized the internet. The inclusion requirements were strictly enforced, and only articles directly related to higher education were considered. Students now have access to academic journals and papers online that were previously very difficult, if not impossible, to gain via conventional library resources. The more time students spent online, the better they did in school. Excessive use of social media by kids could divert their attention away from their schoolwork, according to the study. Consequently, a proposal was made for the university administration to establish guidelines to help students cope with online challenges.

Keywords: *Internet, Influence, Students, Virtual Technologies, Academic Outcomes, Positive Factors, Negative Aspects, Networking for Communication and Education, Educational Evaluation.*

1. INTRODUCTION

This study aimed to document the many applications of virtual reality (VR) technology in education (Hutson & Olsen, 2022). By showcasing examples of systems that are either now used in practical applications or still under research and development, it facilitates an understanding of both the state of the art and the present state of practice. This research analyzes the assessments of virtual reality (VR) educational applications by instructors and scholars to determine the potential learnings, the management of significant challenges, and the extent to which the technology is realizing its potential (Aalbers2018). Many scholars and educators see virtual reality (VR) technology as having significant advantages that may enhance education. The primary concern for some was whether virtual reality (VR) can promote constructivist learning methodologies. There was a focus on the possibility for alternate instructional methods that may cater to all sorts of learners, particularly those with a visual learning preference. Many believe that the opportunity for students and teachers to participate in a virtual classroom, unrestricted by geographical constraints, was the most significant advantage. In

conventional classroom environments, assimilation often served as the instructional strategy used for pupils. For example, pupils may acquire knowledge about a topic via auditory instruction from a teacher or instructor. The dominant educational paradigm asserts that when students engage actively in knowledge construction within a hands-on environment, they are more proficient in acquiring, retaining, and applying new information in various contexts. In pedagogy, constructivism represents a school of thought with proponents holding varying perspectives on its use in the classroom. Some assert that it might serve as a beneficial complement to traditional narrative-based instruction, while others contend that pupils must reevaluate the whole curriculum using the method of subtly directed exploratory learning.

2. BACKGROUND OF THE STUDY

Information and communication technology (ICT) users in higher education, such as internet users, face a double-edged sword because of globalization, claims Awakened. A quick Google search may provide students with the information they need to finish their assignments and solve any homework challenges they may be experiencing. Even though they were geographically apart, they were able to converse and exchange ideas and information. Technology allowed this to happen. The fundamental change in the structure of the worldwide information landscape was caused by the Internet and other communication and information technologies. The meteoric rise of the internet has prompted this change. By reflecting on and discussing their own learning experiences within the context of problem-solving strategies, students were able to gain new insights into the issue at hand. The chance to learn about other perspectives is given to the kids in this way. Salutations, Mr. Siraj. Hsieh claims that students' happiness at school improved throughout the course of online education because it served as a moderating factor. The founders of the internet, according to Akin Ademola, had a broad range of social activities in mind when they set out to create it. This was one of the original goals of the web. Since the introduction of the internet and related advances, every facet of people's lives has been drastically altered. Findings from the research conducted by Ngoumandjoka indicate that schools began using the internet to enhance their students' educational experience sometime in the mid-1990s. Many different types of support are required by the many different reasons why individuals use the internet (El-Miedany, 2019).

3. PURPOSE OF THE RESEARCH

The major objective of this study group was to investigate the impact of virtual reality (VR) on the way in which educational institutions assess students' development. Examining the potential of virtual reality (VR) to enhance the accessibility, context-specificity, and validity of student assessments in various classroom types was the primary objective of the research. The purpose of this research was to investigate several potential uses of virtual reality (VR) in assessment methodologies with the aim of determining how they might improve educational productivity, student motivation, and learning results across various classroom settings.

4. LITERATURE REVIEW

Until recently, most classroom VR experiences included students making use of preexisting VR software. By independently exploring a virtual environment, students may learn about various

historical periods or obtain a feel for fundamental ideas with the aid of these applications. By contrast, teachers may let their students demonstrate their understanding of both scientific and non-scientific topics via the creation of their own virtual environments (Duarte et al., 2020). Students may benefit from this when they study, comprehend, and deliver their assignments. It was a fascinating data visualization project to compare and contrast the percentages of pre-developed, student-developed, and multiuser VR. About thirteen to seven to one, there were forty applications in development, twenty-one student-led initiatives, and three multiuser apps. It is not unexpected that most virtual reality apps are already made; this is because they serve as a foundation for educators and students to learn about VR technology and answer some of the most fundamental concerns regarding its potential educational uses. Most of the activities that fall under this category are really connected to research. The fact that students are participating in the creation of virtual worlds in so many endeavors may seem unexpected at first, considering the aforementioned and the level of technical expertise that is required. Surprisingly, most of these sorts of initiatives are really headed by only two companies. The collaboration between these two organizations was responsible for almost two-thirds of the instances. The general immaturity of VR technology is shown by the limited number of uses for multiuser, distributed VR. Investigations exploring the potential integration of virtual reality, networking, and communications technologies were in their infancy. There may only be three works in this category right now, but makers of existing VR apps have hinted that they want to release networked versions with many users in the future. This objective was brought up several times throughout this discussion (Checa & Bustillo, 2020).

5. RESEARCH QUESTIONS

- What is the impact of cultural differences on educational assessment?

6. RESEARCH METHODOLOGY:

6.1 Research design:

The quantitative data analysis was performed using SPSS version 25. The direction and magnitude of the statistical link were assessed using the odds ratio and the 95% confidence interval. Researchers determined a statistically significant criterion at $p < 0.05$. A descriptive analysis was used to ascertain the principal characteristics of the data. Data obtained from surveys, polls, and questionnaires, or by the manipulation of existing statistical data using computational tools, is often evaluated mathematically, numerically, or statistically using quantitative approaches.

6.2 Sampling:

After pilot research with 40 Chinese researchers, 1380 Rao-soft pupils were included in the final researcher. Male and female researchers were picked at random and then given a total of 1,635 surveys to fill out. A total of 1435 questionnaires were used for the calculation after 1500 were received and 65 were rejected due to incompleteness.

6.3 Data and Measurement:

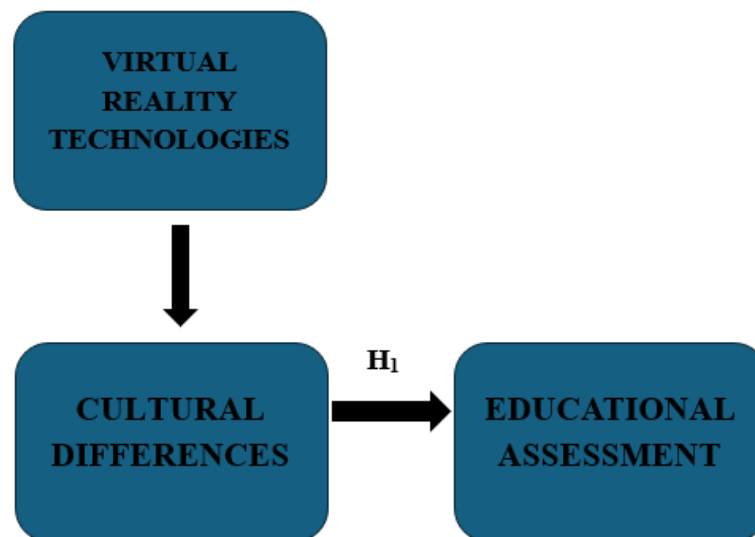
Part A of the survey sought out necessary demographic information, while Part B used a 5-point Likert scale to evaluate different online and offline channel aspects. Secondary data was culled from a variety of sources, with an emphasis on online databases. The questionnaire survey was the primary

instrument for data collection in the study.

6.4 Statistical Software: The statistical analysis was conducted using SPSS 25 and MS-Excel.

6.5 Statistical Tools: To grasp the fundamental character of the data, descriptive analysis was used. The researcher is required to analyze the data using ANOVA.

7. CONCEPTUAL FRAMEWORK



8. RESULT

• Factor Analysis

Finding hidden variables in observable data is a typical application of Factor Analysis (FA). It is common practice to rely on regression coefficients when there are not easily visible visual or diagnostic markers to assign ratings. Achieving success in FA requires models. Among the many goals of modeling are the discovery of mistakes, intrusions, and obvious relationships. The Kaiser-Meyer-Olkin (KMO) Test is a way to assess datasets that have been produced by numerous regression analyses. This proves that the variables in the model and the sample are representative. As can be seen from the figures, there is data duplication. Data is easier to understand when presented in smaller sizes. A number between 0 and 1 is the output of the KMO function. The sample size is considered adequate if the KMO value falls within the range of 0.8 to 1. These are the permissible boundaries, according to Kaiser: Here are the following approval conditions set by Kaiser:

Disappointing 0.450 to 0.059, mediocre 0.600 to 0.69

Grades in the middle often fall between 0.70 to 0.79. Showcasing a quality point score ranging from 0.80 to 0.89. The interval from 0.90 to 1.00 surprises them. Table 1: Examination of Sampling Adequacy using KMO and Bartlett's Test Measurement by Kaiser-Meyer-Olkin: 90 Here are the results of Bartlett's sphericity test: With about 190 degrees of freedom, a chi-square test yields a

significance level of 0.000. This proves that the statements made for sampling were legitimate. To determine whether the correlation matrices were statistically significant, the researchers used Bartlett's Test of Sphericity. The sample is enough if the Kaiser-Meyer-Olkin value is 0.980. Based on Bartlett's sphericity test, the p-value is 0.00. The correlation matrix is not an identity matrix if Bartlett's sphericity test returns a positive result.

Table: KMO and Bartlett's

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.980
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

Using Bartlett's Test of Sphericity further established the general relevance of the correlation matrices. For Kaiser-Meyer-Olkin sampling, an adequate value is 0.980. The researchers obtained a p-value of 0.00 using Bartlett's sphericity test. The correlation matrix was shown to not be a correlation matrix by a significant test result from Bartlett's sphericity test.

- **INDEPENDENT VARIABLE**
- **Virtual Reality Technologies**

Virtual reality (VR) aims to immerse users in computer-generated environments that mimic real-life conditions, allowing them to interact with seemingly real-world sights and objects. To experience this world, one dons Virtual Reality (VR) goggles or headset. When participating in virtual reality (VR), users place themselves in a computer-generated, three-dimensional (3D) environment that is designed to evoke the same sensations as when they are there. The environment is built using computer hardware and software, but users could also need to wear gear like goggles, headphones, or bodysuits to interact with it. People are more prone to accept things at face value, no matter how ridiculous they seem, when they immerse themselves more in a virtual reality (VR) environment and become less aware of their real-world surroundings. Virtual reality still has a way to go before it can deliver on its promise of providing users with a fully immersive environment to really experience a range of emotions. But virtual reality has come a long way in providing realistic sensory experiences, and it has great commercial promise in many fields. The acronym "VR" refers to "virtual reality," a technology that creates an artificial environment that users may walk about in. All directions may be viewed at once for things like medical education and video gaming (Chang et al., 2022).

- **FACTOR**

- **Cultural Difference**

What makes one social group different from another is its culturally distinct set of norms for acceptable behavior, which includes a set of shared and passed-down values, beliefs, and standards of behavior. The article provided a definition of cultural variety that encompasses "the set of distinctive spiritual, material, intellectual, and emotional features of society or a social group," which includes things like beliefs, customs, value systems, and ways of life. The term "cultural perceptions" describes the ways in which people from different cultural backgrounds make sense of the world based on their own set of assumptions, norms, and practices. A person's connection to their external world is influenced by cultural differences. Distinct psychological and behavioral traits emerge because of these categorizations. Individual and group variations in openness to others, confidence in one's own abilities, and readiness to work together are all examples of social competences. As an example, there are cultures that stress the importance of people dominating their surroundings and cultures that advocate for peaceful coexistence. It is possible that cultural differences manifest in worldviews (Cabero-Almenara et al., 2021).

- **DEPENDENT VARIABLE**

- **Educational Assessment**

To draw conclusions about students' learning and development, assessment offers a systematic framework (Sadiq et al., 2023). Teaching students to effectively define, choose, create, gather, analyze, interpret, and use information is what researchers mean when researchers talk about information literacy. Assessment for learning (AFL) aims to support students' learning growth by offering them feedback on their work in a positive way. When students contribute to class discussions and ask questions, they gain confidence in their own learning abilities and the complexity of specific subjects. The word "assessment" is used often in educational contexts to describe any kind of evaluation; one type of assessment is to determine how much pupils have learned. Term papers and exams are examples of assessment tools (Rauf et al., 2023).

- **Relationship between Cultural Difference and Educational Assessment**

As the globe becomes more interconnected, the cultural variety of schools has a major impact on how students interact with one another, what they learn, and how well they do academically. A varied student body is typical of educational institutions, including medical universities. Culture impacts and forms education, while education in turn impacts and shapes culture. This link is reciprocal. The educational system of a civilization is defined by its cultural pattern. Cultural factors have a role in how people positively assimilate their social and natural environments. Everyone in the community has their own unique perspective and set of values that shape how they see the world. Individuals' perspectives on various kinds of communities shift because of educational experiences. Academics and educational theorists have long sought to decipher the nature of the bond between classroom

instruction and real-life contexts. Research on how to incorporate cultural identity into education has proved difficult. Building one's identity is a lengthy and intricate process that takes place in one's social environment throughout time. Since cultural detachment might corrupt learning motivation due to ethnic, racial, linguistic, social, religious, or economic variations, learner cultural origins are crucial. The cultural identity of learners is crucial in the transfer of such values, but changes are inevitable in education. Finding out how education relates to one's sense of cultural identity is the driving force behind this research (Fatima, 2022).

- ***H₀: There is no significant relationship between Cultural differences and educational assessment.***
- ***H₁: There is a Significant relationship between Cultural differences and educational assessment.***

Table 2: H₁ ANOVA Test

ANOVA					
Sum					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	39588.620	512	5655.517	618.883	.000
Within Groups	492.770	922	5.356		
Total	40081.390	1434			

Throughout this investigation, findings will be substantial. The F value is 618.883, achieving significance with a p-value of .000, which is above the .05 alpha level. The hypothesis that "***H₁: There is a significant relationship between Workload and Educational assessment***" is accepted and the null hypothesis is rejected.

9. CONCLUSION:

The researchers set out to compile a comprehensive literature review on the topic of student internet usage and academic achievement. Consequently, both students and instructors need to take responsibility for their own internet usage and work together to address the obstacles that students have while learning online. Access to the internet is associated with better learning outcomes for pupils, according to research. However, kids' learning results could suffer due to a variety of unfavorable consequences. Many now see people and societies as dependent on technology due to its broad availability and ease of use. Considering how ubiquitous online social networks are become, this is particularly the case. Students' capacity to collaborate efficiently and rapidly has been substantially improved by the advent of online networking. There are a few ways in which an organization could benefit from online networking, including an increase in yearly sales and the ease with which goals can be attained. Teens engage with a wide variety of media on a daily basis. Although there are many

beneficial features of social media, there are also numerous harmful ones that might harm users. Companies' bottom lines can take a hit from poorly targeted advertisements, inaccurate information can hurt training efforts, social media companies can abuse their power to violate users' privacy, and young people exposed to irrelevant content can develop an appreciation for violent and other criminal behaviors. For everyone to profit from these new technologies, it was essential to exploit social media's positive aspects while avoiding its negative ones (Fatima & Ali, 2021).

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