PERCEPTION OF VIRTUAL ENVIRONMENT AS A SPACE FOR EDUCATION

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ABSTRACT

Virtual worlds, like Second Life, are transformative innovations in education. These immersive 3D environments offer teachers and students unique opportunities beyond traditional classrooms. They foster active learning, allowing students to interact, manipulate objects, and engage with diverse content. This multimodal approach accommodates various learning styles. The research method used in this paper is content analysis, examining elements in Second Life, including text, visuals, landmarks, and simulations. Findings are applicable to other virtual environments. Integrating virtual worlds into education presents challenges, including a learning curve, technology requirements, and concerns about data security and distractions. Despite these challenges, virtual worlds offer powerful educational experiences when used wisely. They have the potential to redefine education in the future.

Keywords: *3D virtual classroom, blended learning, interactive learning spaces, second life, virtual learning environment*

INTRODUCTION

In the modern era, we are introduced to virtual environments, often characterized by some as social networks – online platforms predominantly designed for communication. At their core, these online multi-user virtual environments facilitate interaction amongst users in diverse ways. Virtual environments most frequently manifest as social networks. However, other variants, while resembling online multiplayer games in allowing user interactivity, might lack certain gaming elements, making them more aptly termed virtual worlds.

Perceptions of virtual worlds vary: some view them as games, while others argue the opposite. These platforms offer a plethora of opportunities, from education and personal growth to social communication, leading to the formation of interest-based groups or simply serving as experimental spaces. User experiences in these environments are subjective, with the virtual world's impact differing based on the user's emotional and behavioral disposition. Some individuals engage in virtual worlds as a form of vicarious living, seeking experiences unattainable in their real lives. Engaging in virtual worlds often reflects a desire for escapism, providing experiences absent in everyday reality.

VIRTUAL ENVIRONMENT SECOND LIFE AND ITS ASPECTS

Second Life stands out amongst virtual worlds, boasting over 64 million registered users and roughly 1 million active participants. Within Second Life, users can modify terrains, construct intricate 3D objects either natively or using external tools like Blender or ZBrush. Texturing can be performed using software such as Photoshop. These objects can then be infused with functionality using Linden Scripting Language (LSL).[7]

R. Bartle posits that the allure of virtual worlds lies in the entertainment they offer, enticing users to immerse themselves, escape reality, and craft new virtual identities. T. Boellstorff extends this thought, suggesting that active "Second Life" users are not just participants but also creators, shaping the virtual space through content creation, workshops, learning LSL, and fostering education. In line with this, T.A. Mikropoulos and A. Natsis argue that virtual environments offer avenues for skill development, with 3D virtual learning proving effective as it capitalizes on repetition, aiding memory, and knowledge acquisition.[3][8]

In a scientific context, R. Bartle characterizes virtual worlds as environments under the immediate influence of individual users. The environments are dynamic, changing based on user interactions. Bartle suggests that the entertaining nature of virtual worlds leads users to perceive them as computer games, wherein they seek refuge from reality and craft alternate identities.[2] T. Boellstorff extends Bartle's perspective, positing that users of the virtual environment Second Life engage in content creation as a skill enhancement endeavor. He believes that these platforms provide an avenue for those who might not have outlets in the real world to produce content that educates and aids others in navigating the virtual space.[3] T. Boellstorff categorizes virtual interactions into cognitive, communicative, and narrative structures. The cognitive framework emphasizes users' education and skill development, allowing for content creation from programming to animation. The communicative structure underscores user interactions and relationship establishment. The narrative structure, as per T. Boellstorff, revolves around a storyline, whether based on fact or fiction, constructed by the creators, but heavily influenced and modified by the players' actions and choices.[3] R. Freedman views Second Life as an optimal setting for virtual business endeavors with tangible profits. Within this ecosystem, users can fashion virtual items, market them, and subsequently convert sales into real currency, contingent on demand and sales volume.[5]

All three researchers concur that Second Life mirrors various aspects of real life, emphasizing its educational potential. The platform facilitates awareness of global matters, in-depth topic analysis, and networking via built-in search tools or external integrations with platforms like Facebook and Flickr. The allure of Second Life revolves around social engagements and the possibility of forging educational communities. Its cognitive domain concentrates on the accrued

knowledge during one's virtual tenure. The vast expanse of opportunities includes challenges, accomplishments, and diverse entertainment forms. This platform offers holistic growth avenues ranging from computer science intricacies to arts, history, geography, and medical science.

Engaging in these multifaceted activities allows users to assimilate valuable insights from peer experiences and creations. The platform's foundational element is communication, crucial for user engagement.[5] Through community interactions, friendships are fostered, which can culminate in collaborative ventures. By pooling diverse skill sets, communities can achieve what individual users might not. Initially conceptualized as a social platform, Second Life has evolved into an educational hub. Various educational institutions have invested in virtual campuses, facilitating a plethora of activities, from distance learning to historical recreations and cultural events.

The integration of virtual platforms such as Second Life in educational settings is a topic of interest for both educators and instructional technologists. Second Life resonates with the constructionist learning philosophy, an approach asserting that individuals build knowledge through experiences coupled with reflection. Within Second Life, users engage in simulations, providing immersive experiences that can facilitate deeper understanding. As posited by H. Asleitner and C. Wiesner, engaging in the platform's building tasks enhances visual literacy. This is facilitated by the utilization of primary geometric shapes, colloquially termed prims. These foundational volumes, such as cubes, pyramids, and spheres, offer the baseline for construction. Nonetheless, this modality of creation has been supplanted in some instances, with advanced tools like Blender enabling the design of more intricate geometric objects.[1] Once crafted, these objects can be imported into Second Life, where textures can be applied to produce multifaceted assets. The platform promotes social interactions, aligning with the social constructivist view that posits learning as a social endeavor. A salient perspective, perhaps unfamiliar to some, concerns motivation within virtual learning environments.

To conclude, while Second Life offers an array of advantages for innovative educational endeavors, educators must weigh these benefits against potential technical and logistical challenges.

METHODOLOGY

The research in this paper employs a methodological approach centered on the systematic processing of existing secondary sources. The study's primary objective is to conduct a comprehensive analysis of virtual environments, drawing upon illustrative examples extracted from the collected data. The findings derived from this analytical process serve as the foundation for constructing an informative and scientifically rigorous narrative. This narrative provides insights into the perception of specific virtual environments, particularly Second Life, and

establishes a broader context that can be generalized to extend the boundaries of other virtual landscapes within the purview of educational research.

VIRTUAL ENVIRONMENT SECOND LIFE AND ITS ASPECTS

Loyalist College stands as a testament to the innovative use of Second Life in an educational paradigm. In a training module designed to hone the interview techniques of border guards, the college successfully employed a virtual simulation. According to data from Linden Lab, the results were emphatic. Prior to the incorporation of the simulation, student success rates on critical skills tests stood at a mere 56% in 2007. Post-implementation, this figure soared to an impressive 95% by the end of 2008. The resounding success of this initiative spurred engagement from over 650 students and eight faculty members, all venturing into Second Life for diverse educational pursuits. [6]

The allure of the virtual milieu, propelled by digital games and social media, remains irresistible, particularly to the younger demographic. Given this trend, educators are increasingly recognizing the potential of integrating such platforms into pedagogical strategies. As elucidated by A. Thomas in his 2018 TED Talk, conventional educational methods often fail to provide experiential learning. He contrasts the palpable, playful learning in kindergarten with the impersonal lectures of tertiary education. Advocating for the inclusion of games in the academic curriculum, A. Thomas cites examples of games aiding cancer-stricken children, facilitating scientific research, and illuminating historical epochs.

Furthermore, the expansive horizons of virtual platforms offer myriad educational opportunities. These platforms allow for immersive, hands-on experiences unhindered by geographical constraints. Second Life, as highlighted by Professor L. Falconer from the University of the West of England, stands as a paradigmatic example. Here, learners can navigate a vast array of simulated activities, epitomizing the educational potential of cyberspace.[4] A noteworthy illustration of Second Life's educational utility can be observed in the Geographic Information Systems (GIS) course offered by New Mexico State University. In this instructional setting, students collaborate within teams to construct a virtual realm referred to as "Earth Aggie Island." Within this virtual landscape, students engage with their instructor in a digital realm and undertake the task of generating three-dimensional models and various animations. This immersive approach serves as an effective pedagogical strategy to enhance comprehension of GIS principles and software manipulation.[4]

Second Life, in addition to its multifaceted applications, serves as a platform conducive to language instruction, capitalizing on the advantages of spatially unrestricted interaction among students and instructors. Instances of such language-focused applications within Second Life include Second Life English and British Council Isle, both of which offer complimentary English language

instruction accessible to youth worldwide. Notably, English courses have been available within this platform since 2008, and they are also offered in specialized environments tailored to specific linguistic contexts, such as the Czechoslovak region of Second Life.

Moreover, the digital domain affords opportunities for simulating activities that would be either infeasible or excessively resource-intensive within physical spaces. Consider the organization of exhibitions: while logistical constraints in the real world might impede the acquisition of requisite exhibits or props, a virtual representation can faithfully capture the essence of the event and convey substantial information, if not more, while incurring only a fraction of the associated costs.[1]

In recent years, Second Life has undergone a perceptible transformation, evolving into a predominantly social platform primarily oriented towards communication and socialization. The prevalence of traditional universities establishing a presence within the virtual realm has diminished relative to previous years. The underlying reasons for this phenomenon are multifaceted, and it is unlikely that a singular factor can fully elucidate this shift. Plausible explanations encompass the exploration of alternative, emerging platforms as well as the observation that Second Life is now predominantly frequented by individuals with a heightened emphasis on social interaction.

According to educators actively engaged within the Second Life environment, a significant proportion of universities retreated from their virtual ventures when the platform's community began to shift its focus towards fantasy-oriented activities, notably role-playing games characterized by mature and even adult themes that diverge from the academic and instructional orientation, veering more towards recreational entertainment.[9]

In 2019, Linden Lab, the company behind Second Life, initiated a concerted effort to reinvigorate the educational dimension of the platform. This endeavor manifested in the "Made in Second Life" series, which was showcased on their official YouTube channel. One featured project within this series was the Chant Newall Development Group, a collaborative endeavor between the University of Central Florida and Florida State University. This interdisciplinary initiative delved into various scientific domains, notably biology, economics, chemistry, and environmental sciences. Students leveraged Second Life as a pedagogical tool to elucidate complex concepts, such as the intricate structures of human cells and the practical applications of forensic science.[7]

Additionally, the series spotlighted artists employing Second Life as a canvas to exhibit their innovative, millennial-inspired creations, thus affording a distinctive and unconventional perspective on their artistic oeuvre. Furthermore, the series featured artists who designed their own avatars, demonstrating the platform's capacity for creative self-expression. As part of its commitment to

advancing education, Linden Lab has instituted a program wherein schools actively participating in the establishment of virtual regions representing educational institutions receive a substantial 50% reduction in region fees.

In addition to this cost-saving incentive, a subscriber list and dedicated communication channels have been established to facilitate engagement between educators and the broader Second Life community.[7] This resource is open to educators seeking to employ Second Life as an instructional platform, irrespective of whether their respective institutions maintain a virtual presence within the platform.

Several universities have demonstrated enduring commitment to active pedagogical engagement within Second Life, amassing a history of teaching in this virtual domain spanning a decade or more. Notably, Rockcliffe University Consortium is one such institution exemplifying this dedication, with a specialized online entity directed towards exploring technological advancements in education and their practical implementation within the virtual realm. This university occupies a virtual territory replete with comprehensive facilities, including a central university edifice, multiple lecture halls, conference rooms, classrooms, laboratories, lounge areas, outdoor spaces, and libraries.

Distinctively, Rockcliffe University Consortium extends accessibility to its educational offerings to both enrolled students and adult learners keen on acquiring knowledge in the realm of technology. Furthermore, this institution actively fosters a culture of support for educators who may not be affiliated with the university but are interested in delivering instructional content. To this end, Rockcliffe University Consortium has established open access courses accessible to all interested parties, thereby democratizing the dissemination of knowledge.[7] The virtual infrastructure provided by Rockcliffe University Consortium extends to a valuable resource: a free sandbox environment. This sandbox empowers members to experiment with and prototype novel ideas and innovations, thereby cultivating an environment conducive to creative exploration and technological development.

In the year 2009, the University of Western Australia (UWA), undertook a remarkable initiative by recreating its physical campus within the virtual realm of Second Life. This endeavor aimed to extend an immersive experience to residents hailing from diverse geographical locations, allowing them to immerse themselves in the university's distinctive environment.[7] Renowned for its opulent biodiversity, which the university equally prides itself on in the tangible world, the virtual campus faithfully replicates this ecological diversity. Creators of this virtual manifestation have thoughtfully incorporated indigenous flora and fauna that populate the university's actual geographical location. Furthermore, various recreational and contemplative spaces have been thoughtfully integrated into the virtual campus, affording opportunities for relaxation and meditation.

The University of Western Australia, both in the tangible and virtual realms, is celebrated for its vibrant academic pursuits, rigorous research initiatives, dynamic teaching programs, and engaging social activities. These activities are made available to virtual residents on a weekly basis, contributing to a rich and interactive educational environment. The educational focus within Second Life extends to a diverse array of disciplines, encompassing fields such as business, law, art, anatomy, education, and biology.[7] UWA actively conducts lectures for both its student body and the public, with a weekly schedule accessible within the virtual realm. Beyond its primary educational mission, UWA also organizes themed social events featuring live music, which are inclusive and open to all interested individuals. The university's virtual domain encompasses several distinct regions, including the central university building, a conference hall, classrooms, a library, a communal hangout area, and interactive information walls designed to facilitate visitor exploration and engagement.

Another noteworthy exemplar of a vibrant university presence within Second Life is Stanford University, distinguished by its remarkable collection of virtual libraries and archives that faithfully replicate real-world repositories. Second Life serves as the exclusive platform through which the public can access Stanford's extensive collections, including manuscript holdings that are typically restricted to authorized staff members in the tangible world.[7] The Stanford region within Second Life is organized into distinct areas, including museums, libraries, archives, and an outdoor space replete with informational panels. This virtual realm offers scanned reproductions of genuine documents for perusal, and users can navigate the entire region with the assistance of guided tours, facilitated by a virtual train. Notably, the region provides access to materials held within Stanford libraries and archives that remain inaccessible to the global populace outside of Second Life.

CONCLUSION

In summary, Second Life has emerged as a prominent virtual world with millions of users worldwide. It offers a dynamic platform for creativity and learning, where users can construct 3D environments, interact with others, and engage in educational activities. Researchers like R. Bartle and T. Boellstorff have recognized the appeal of virtual worlds, highlighting their potential for entertainment, identity exploration, and education. Second Life has become a hub for active learning, where users can create, collaborate, and develop skills.

The integration of virtual worlds in education has been exemplified by institutions like the University of Western Australia and Stanford University. These universities have recreated their campuses in Second Life, providing immersive educational experiences and fostering communities of learners. Despite its advantages, the use of virtual worlds in education comes with challenges, including a learning curve and technical requirements. However, the

potential for experiential learning, global awareness, and collaborative opportunities makes Second Life a promising platform for innovative education.

In conclusion, Second Life and similar virtual worlds offer a unique and valuable space for education, where users can explore, create, and connect in ways that transcend traditional learning environments. As educators continue to explore these possibilities, the future of education may be shaped by the immersive experiences and collaborative opportunities that virtual worlds provide.

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