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Sigin Ojulu – Strategic Virtual Task Simulations (SVTS) & Learning

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Sigin Ojulu is a former Sudanese refugee, now living in Los Angeles as an academic and filmmaker. After completing her B.A. in Economics and M.A. in Political Science at 24, Ojulu has since moved to the prestigious School of Cinematic Arts at the University of Southern California – alma mater of filmmaker George Lucas, Robert Zemeckis, James Franco and other notable alumni.

Ojulu's current projects include development of interactive virtual reality and new media technologies for future cinema and business implementation.

Learning: The Problem

A few weeks ago, my colleagues and I were driving through California scouting for film locations and testing out our new drones. We had each only recently moved to Los Angeles as young professionals, yet one colleague Ben was oddly oriented and familiar with the terrain. When I asked him how he knew the geography so well, he replied by saying, "I know where I am because I played Grand Theft Auto – it's the same exact topography." The other colleague Alex chimed in saying, "Yeah, I wouldn't have felt as comfortable in Miami if my mom didn't let me play Vice City." Oddly enough, I had never operated a drone before this expedition and I certainly was not a huge gamer before getting into virtual reality (VR), but because my thumbs and technological expectations are wired for hardware to be interactive, the first time that I flew a drone was incredibly simple and felt natural to me.

What does this tell us? It seems to me that a great deal of today's global issues, at a very rudimentary base, come from a lack of understanding – not because we do not possess the information to understand, rather because the way in which we acquire and learn knowledge is highly partial, cumbersome and inefficient. There is a technological paradox; each generation receives more and more information and we have the capabilities to connect with more and more people, yet at the same time, technology makes us more insular and solidifies the beliefs of our milieus in a way that isolates others that are different from us. Many of our current cognitive comprehensions fall into this paradox and beg us to address the always-looming role of technology (as we should). However, on a more fundamental level, I might propose that we begin to question the role and practice of our learning methods, particularly in our educational institutions. Overall, our global educational structures of curriculum are archaic. General learning structures tend to be uni-dimensional and focused on skill-building and particular professional trajectories. Educational institutions are also where we develop a societal collective conscious that solidifies our differentiated identity to the global world. Contextualization falls to the wayside even within multi-disciplinary approaches, and this continuously leads us to insular knowledge regardless of the copious amounts of information which technology affords us daily. Our knowledge is no longer contextualized, rather solidified and this is visibly extrapolated into the increasingly polarized ideologies of our world.

Now, if gaming is powerful enough to elicit in Ben an employable mental map of a place he had never physically been, certainly this is a minute illustration of the power of interactive learning methods; thus urging us in the direction of drastic reconstruction of learning practices. Virtual reality provides a platform in which we can develop our learning (and by extension understanding) amidst the abundance of biased information we receive daily. Educators, scientists, marketers and of course gamers are already imagining internal ecosystems of learning for VR (Hern, 2017), but two core issues remain: Firstly, that the discourse of contextualized learning is still largely confined within the institution of education and secondly, the discourse around IVE's have limited critical consideration of the greater societal implications of these technologies in learning. This technology can be better developed into a generationally transformative tool for learning.

I propose the construction of Strategic Virtual Task Simulations (SVTS) that provoke interaction with real-world issues, and as result might wire societies to be more empathetic through experiential contextualization. SVTS's are an incredible opportunity to build contextualization, which may motivate action through empathy. This type of

learning transcends across institutions and industries and places emphasis on a greater societal transformation.

The Theory

Learning in VR applies a Constructivist theory, which broadly emphasizes the learner's experiences as central to the process of learning, whereas exposure to information alone is insufficient in facilitating learning or encouraging changes in behavior (Ahn et al., 2015). In this way, the individual accommodates "...their understanding of the world to make sense of their experiences when those experiences defy previous understandings" (Savin-Badin et al., 2013). This type of learning is easily facilitated through the process of body transfer and spatial presence, powerful elements of VR, which induce a manipulative cognitive perception of ownership to avatars and the respective physical and psychological activities that sync the body to the virtual experience. The ability to experience spatial presence through body transfer not only analogously hardwires our virtual body to our brains, but the chemical and psychological impacts induce the "real-world" element of proactivity. This has real-world consequences; In a 2004 study which explored human perspective taking (Batson et al., 1997) of animals in virtual environments, Mayer & Frantz conclude the following observation: "If individuals can be encouraged to take the perspective of nature, they are likely to feel closer, empathic, and more immersed with nature, resulting in pro-environmental attitudes and behaviors" (Mayer and Frantz, 2015). Direct experiences then become associated and stored with existing schemas (or memories) and these schemas are later activated and recalled when the individual encounters or thinks about similar stimuli (Ahn et al., 2015). The constructivist learning technique is an appropriate model for employing SVTS, with the intention that simulations evoke meaningful engagement and effective, contextualized learning.

The Proposal & Resource

Given the breadth of industry and application of SVTS, it is best to first provide examples of platforms that currently work on doing such to give us a framework and then to describe the proposed function of the simulations.

Successful platforms that mirror the teaching techniques of SVTS can be found in the MUVE's of RiverCity, QuestAtlantis, EVE Online, Minecraft and Second Life (SL). Each are social and learning spaces in which "... avatars can interact with each other and with objects and environments" and essentially provide a virtual space in which people can "facilitate creative solutions and experiences that would be impossible or difficult to achieve offline" (Ahn et al., 2015). As a general example, the popularity of SL is largely due to its original user-generated content, which subsequently is reflected in its diverse user (or commonly called "resident") population. The ability for residents to create content provides a theoretically more objective space where people can engage as who they want while learning from diverse, user-created content. Dittmer (2010) gives the example of particular geographies and culture: "Students wouldn't visit the "Middle East" region in SL, rather several virtual environments all jarringly adjacent to each other such as: Taste of Arabia (an elaborate environment with mosques and pyramids, Shabab (a desolate desert environment), Arab SL (an environment centered on a camel-shaped lake), etc. Students then explore these environments together and consider multiple agendas that are reflected in these environments (Dittmer, 2010).

Given this framework of teaching and learning in MUVE's, we can then begin to apply SVTS where appropriate. Imagine for a moment a history class entering a historical time-lapse IVE as a particular ethnic group in order to learn about hidden narratives to larger world events. Consider taking the perspective of a bird in an oil spill, in order to understand the daily impacts of environmental change. For businesses and NGOs, imagine for example entering into camps in Syria or South Sudan as a refugee, with strategic intentions to understand nuanced challenges of migration and conflict. On a policy level, perhaps this unfiltered engagement may uncover less obvious but important needs that call for investment. How do people move through these camps? What cultural influences might aid in proactive livelihood for residents that might give them agency? Perhaps through a lived simulation of such a journey, mission workers may be able to understand and mediate the leverage of middlemen transporters to provide alternative solutions for migration.

With SVTS, we bypass the traditional participant observer role and are able to experience task-based simulations, which we may have felt too risk averse to explore beforehand. This type of exposure to information is early exploration, which may spark interest in participants to pursue further particular areas of engagement. These types of strategic exercises should engage a specific task that should theoretically lead to proactivity towards a solution. For clarity, the purpose of SVTS is not solely about providing stereotype-inconsistent information about foreign groups. It is rather about providing low-risk, physical environments for learning development as a strategy to contextualize the understanding of our own realities, and the realities of others that we can garner real-world solutions for.

The Digital Natives

The conceptual idea behind SVTS should be just as important as the physical and psychological. Our initial anecdote should illuminate the inherent wiring of digital natives (Prensky, 2001) and how this is particularly crucial to how we will learn within hyper innovation in the late 21st century. DN's are programmed for learning through technology; when new (or any) technology is introduced, there is an automatic assumption of interactivity (that it is touch screen, 360-degrees, etc.). And if it is not, we automatically begin to imagine how it should be improved. In addition, the entirety of our social lives has already been engaged in the digital world. Our Facebook, Instagram and Snapchat profiles for example are static avatar representations of ourselves which we have used to develop a language, social standards and rules in the digital world that transcend into the real world. Deleting a Facebook friend in this day could mean literally removing someone from your real-world social sphere. This physical, social and psychological encoding makes DN engagement with VR a pretty natural transition. In all industries using SVTS, it is imperative to understand this type of DN encoding as we inevitably depart into VR and real-life immersion, particularly in the construction of curriculum and tasks which will certainly have a radical effect on the way we learn and shape our societies.

The Transformation

This world is divided. The underlying is-

sue of such global divisions is not that we don't already have information in order to engage in solutions, rather that certain conflicts and livelihoods are so far and unreal to us, that even in the literal world, we operate and live in completely different realities. Our educational systems (and other platforms of information dissemination) reflect this difference in physical and psychological livelihoods and in many ways solidify such differences. I think we need to strategically push the psychological and physical resource of VR to reimagine our methods of learning. SVTS is a dynamic problem-solving tool, which use spans from educational institutions to businesses and organizations looking to gauge and understand problems and conflicts – the ultimate result, gaining nuanced understandings and contextualized tools to do something about it. Let's use the resource of VR, in conjunction with the generational resource of young people who are already wired for technological interactivity. As an ultimate outcome, we might encode nuanced, contextualized understandings of our own realities, and the realities of others that we can garner real-world solutions for.

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