Co-Construction of Knowledge: Impacts on Identity and Knowledge of New Generations

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Abstract

The concept of embodiment is becoming a prominent topic, useful in understanding the use of avatars not as prosthetics of themselves, but as "alter egos" with their own "personality" and "biography." So, it is interesting to analyze them not only of human relationships, but also in learning and the impact on identity mediated by the digital medium. This exploratory research aims to make a first contribution to understanding the relationship between embodiment, emotion, learning and empathy in the virtual world with a new sociological perspective. Netnography with direct observation of players of GTA 5 and Wo Long Fallen Dynasty was used in this pilot study. Specifically, the live gameplays of three streamers were observed. In fact, in the virtual world, the "digital alter ego," which impersonates the user's will and ability to act, is the pivotal element; in addition, a fundamental element, namely the co-construction of knowledge, also intervenes. The avatar, therefore, allows for expression according to the identity characteristics that the individual believes he or she has and enables the exploration of roles inaccessible in real life, as well as the development of new knowledge together with other avatars, who belong to the set of experiences that are lived in the virtual world. Avatars enable individuals to express social elements in the digital world, directly intervening in culture and generating new culture through co-learning, both direct and indirect.

Keywords: Embodiment, Emotion, Co-Construction of Knowledge, Netnography, Virtual Reality (VR), Game-Based Learning

Introduction

The main purpose of this research is to highlight the factors necessary for an accurate analysis of the process of embodiment and co-construction of knowledge within the virtual world. This is because social media, virtualization of lives and video games have become rapidly growing markets. In recent years, the use of the virtual world has seen a significant increase. Recent research shows that more than 31 percent of the global population (aged 6 to 55) use video games through electronic devices, such as smartphones, tablets, consoles, or PCs, as confirmed by IIDEA (Italian Interactive Digital Entertainment Association) and GWI (Global Web Index). This figure may seem extraordinary, but it is less than the increase in Internet use among people aged 65-74,

among whom the percentage of Internet users reaches 53.4 percent (ISTAT, 2023). Moreover, in 2023, 79.5 percent of the population aged 6 and older used the Internet in the three months prior to the interview, 77.8 percent used it at least once during the week, and 67.5 percent connect daily. Internet use has reached levels close to saturation in much of the population. Socio-relational dynamics are directly affected by this phenomenon, as are the new frontiers of knowledge co-construction and the impacts these have on each person's identities. The glaring example, which has increasingly taken over digital entertainment in recent years, is learning through thematic channels on YouTube by different categories of people. In fact, GWI data indicates that relational computer-person interaction is becoming increasingly common among younger people. Specifically, about 25 percent of the user base is between the ages of 6 and 17, not including the user base between the ages of 1 and 6 that is not included in the official statistics but unofficially may report similar percentages of users involved. It is therefore not surprising that the video game market has become a business with revenues of $184.4 billion (GWI, 2022). Time spent in the virtual world increasingly seems to permeate the educational and social worlds throughout the life course. For this reason, it becomes increasingly important to understand the dynamics of new educational processes that can alter knowledge and well-being of individuals.

Referential Framework

Pisanu's 2018 article highlights how the introduction of revolutionary technologies affects every aspect of life. The author agrees that innovation has a significant impact not only in the scientific field or the application of new technologies, but also on society, which faces new challenges. In this paper, an attempt will be made to highlight the social role of these new technologies, highlighting how the co-creation of self and knowledge is becoming a standardized process. The starting point is the concept of embodiment, that is, identification in an avatar created in the virtual world. On the other hand, the use of these technologies leads to self-directed learning, in some cases superior to traditional learning, as pointed out by De Filippo, Perocco and Voce in 2020.

The process of self-directed learning, which often has a greater impact than standard learning, certainly comes through the Web. On YouTube where youtubers explain and analyze math, physics, history, English, etc. On the one hand, this leads to an abandonment of traditional learning, characterized by study and analysis on texts, replaced by a construction of knowledge and self-assessment and, above all, by a co-construction of languages that are distinctly different from those used in places dedicated to learning (Miller et al., 2021). However, the whole process described starts from the concept of embodiment, that is, the construction of an avatar that will be the only intermediary between the physical world and the virtual world (Auriemma, 2024). Embodiment also

generates a process of structuring the self, which certainly depends on fashions and social constructions, but which becomes a process of recognition in the avatar. This is evident in the quest for an increasingly evolved corporeality in the virtual world; factual and emotional embodiment becomes increasingly crucial, leading to a reconsideration of corporeality. Players of the two video games analyzed in this paper tend to represent themselves with a non-peculiar appearance, with certain characteristics and abilities.

This leads to two reflections: first, who do I want to be and how do I want to appear in that world, and second, how do they learn new knowledge about that world. These questions arise from an ongoing analysis of the virtual world from 2019, the year when the real process of digitization began - forcedly accelerated during pandemic periods. It is interesting to analyze the resurgence of valuing bodies and presence in physical and virtual environments (Auriemma, 2023b).

Methodology

Within this work, priority was given to the study of the interactions that individuals establish through avatar embodiment and knowledge construction, two video games, GTA 5 and Wo Long Fallen Dynasty, were selected. These games, among the most popular in recent years, allow the creation of an avatar. Non-participant netnographic observation was favored, with the aim of examining social interactions in contemporary digital communication contexts (Kozinets 2010). Specifically, videos uploaded by some streamers during their gaming sessions of the two video games were observed. The intention of using this method, based on qualitative research, is to adapt ethnographic techniques to the study of practices and cultures that emerge from computer-mediated communication, linking them to analyses of chat and streaming (Kozinets 2002).

In the context of a netnography, the focus of research is not only on the cultures, experiences, activities, and relationships that develop in various online media contexts (e.g., live streaming sessions), but also on the languages used, the knowledge constructed, the emotions generated, and the modes of interaction, what Kozinets calls the "worlds of meaning" (Kozinets 2015). "Qualitative analysis allows us to abstract concepts that can be replicated and applied to the categories we have selected" (Tirino & Auriemma, 2021, p. 188). Therefore, the video games through which to conduct netnography were initially defined. The choice fell on GTA 5 and Wo Long Fallen Dynasty, video games that have sold 200 million and 3.8 million players, respectively, the latter distinctly younger than the former, managed to make significant numbers within a few months of launch, data updated at the end of 2023. The choice of these two video games concerns both the accessibility to different age groups and platforms and the possibility of creating an avatar. In fact, although both are classified as PEGI 18+,

the presence of involved age groups ranges from 12 years old and up, this is another aspect to investigate.

In addition, the presence of several Twitch streaming channels on these video games allows the audience to watch hours and hours of gameplay, including character creations, motivational choices, and physical characteristics. Moreover, to date, they seem to be the main choices for character customization (hereafter avatar) that players choose to build. Therefore, embodiment is marked in this context (Battista, 2023a). Such content has the characteristic of being shared unfiltered, as it is live; thus, able to respond simply and cheaply (of time, effort, ...) to the injunction of being connected: readily available, without the problematic effort of producing and devising novel content (Boccia Artieri et al., 2017, p.89). To codirect such an analysis, observation of the online sessions of the two video games was preferred, as I believe it is the ideal place to conduct such an analysis, since real subcultures are evident in them. In addition to the possibility of embodying themselves in an avatar, video gamers often identify with the role to such an extent that they modify their expressions and language toward others even in out-of-game interactions.

Therefore, as Kozinets points out, the choice of channels under analysis was inspired by the principles of relevance, activity, interactivity, heterogeneity, and informational richness (Kozinets 2010). So, the analysis consisted of several stages: selection of units of analysis, development of interpretive categories, sampling of content deemed appropriate, verification of coding reliability, and content analysis (Stempel 1989). The analysis focused on the period between January 7, 2024, and March 7, 2024, by observing, via Twitch, their gaming sessions. Within the online segment of the selected games, the live streams of three players were analyzed, namely Moboking, PettySama, and IGN, on Wo Long Fallen Dynasty and GTA 5, respectively. No selection of live streams was made, but the entire broadcast sections were considered. The frequency of interactions was not considered, but all streamed videos and all chat interactions that contained information related to personal embodiment, emotions, and the quality of the relationship experienced among peers (Auriemma & Battista, 2023). This made it possible to select an actual sample of 5 live streams for each of the two channels. This returns approximately 25 total hours of social streaming video recording.

Data Analysis

From observation, it is evident that streamers have the ability to engage their audiences, a key aspect considering the nature of the platform, which provides for audience participation through written comments during live broadcasts. It was fascinating to note the creation of the streamers' avatars, an element that underscores the importance of embodiment in the human experience. In the GTA V game, the character created and controlled by

the player, especially in the online mode, is mute, the only one in the game who does not speak or make noises.

However, if the player has a microphone to communicate with his team members, the online character will only move his mouth. The creation of this character is thus a key step in the game, as it establishes the characteristics and guidelines for taking on a role within the game (Battista, 2024). As Goffman argued, taking on a role is vital for both the individual and others, as the role affects not only the behavior of the individual playing it, but also society as a whole (Goffman, 1956).

This concept is further reinforced by Mead, who introduced the idea of "putting oneself in the other's shoes," which basically means taking on the role of the other through imagination, just as children do when they develop their self-awareness and collective awareness (Mead, 1934). This concept can also be applied to video games, particularly those that analyze actions and consequences. As for GTA 5, character creation begins with a screen reminiscent of mug shots. Players can choose between a male and female character, both shown facing a wall holding a sign. Streamer MoboKing drew inspiration from famous characters from the game to create his own, such as Amanda De Santa, Lamar Davis, Ron Jacowski, and Wade Hebert, replicating their physical and character traits (Auriemma, Battista, Quarta, 2023).

In contrast, PettySama designed a character from scratch, detailing the kinship link to another character in the game and carefully setting up each characteristic, until generating the character shown in the image below. Just like GTA 5, which has third-person graphics and allows you to observe the avatar as it performs its actions as if you were following it, we find a similar third-person situation for Wo Long Fallen Dynasty. Therefore, for both video games the creation of the avatar allows one to present oneself to the other player as if observing from above, creating less involvement than, but allowing for a direct relationship between the two avatars. One IGN user during a live Twitch broadcast chose not to copy any pre-existing characters in the creation of his character, meticulously curating every modifiable aspect, even to the point of adding scars or obvious distinguishing marks. Interestingly, both users chose to create an avatar that does not reflect their real image but represents a character they play. This aspect of embodiment-the act of embodying oneself in a character with different physical and personal characteristics-is crucial. However, these avatars best represent users within a virtual world, where appearance is of great importance.

After defining the sample for analysis, we identified two interpretive categories through a manual inter-coder reliability check (O'Connor and Joffe, 2020). These categories are based on the two of the four types of

embodiments related to specific levels of hypersensitivity:

1. "Social Embodiment": This category includes content related to the creation of a character who must be attractive within the virtual game, receive interactions, and, most importantly, achieve a level of embodiment such that he or she has a significant role within the team of which he or she is a part.

2. "Aesthetic embodiment": This category represents the players' desire to build a character that, aesthetically, represents something that is not in reality. In this way, as happened in the past with Second Life and as happens today in PolkaCity or within one of the available meta-verses, the degree of involvement is high. An example is the creation of an avatar, a process that involves several aspects, from aesthetics to emotionality to appearance. In addition, the concept of role taking, already explored by Mead (Mead, 1934) and Goffman (Goffman, 1956), returns strongly.

Certainly, these two levels alone are not enough, but they can provide a preliminary description of the phenomenon. The goal is to analyze in depth the elements that contribute to the creation of an avatar, with the aim of getting a clear picture of what is happening within the network, as has been done previously with studies on cyberbullying (Auriemma, Iorio, Roberti & Morese, 2020). In this regard, it might also be interesting to explore the relationship between cyberbullying and emotionality within avatar interaction, going to generate deeper interpretive elements than the two highlighted categories. In fact, initial research conducted among young students about to enter the digital workforce noted that "individuals with high sensitivity show abnormal emotional reactivity and sensitivity to external and internal stimuli, which, in turn, may interfere with daily life" (Auriemma 2024; Morellini et al., 2023, p.1).

Discussion

The elements reported so far provide a useful framework for identifying interesting segments of society to examine, such as the process of knowledge co-construction. One of the clearest examples involves YouTube; within this platform there are countless knowledge-centred "universes," among which the education section stands out, in addition to the thematic channel mentioned earlier. These universes are defined not only by emotions and relationships, but also by languages that are completely different from what we are used to and, above all, by an extraordinary ability to construct knowledge together. I specify that the languages are substantially different from channel to channel. What is intriguing is to understand the relationship between YouTube, streaming platforms and new languages, a key element in the process of co-construction and self-assessment. Refer to the languages

that are developed within the platform to facilitate a conversation that usually takes place on two levels: one person speaks with a microphone and webcam on (the streamer) and the audience watches and comments in chat.

The choice to focus on the Italian context is related to a purely practical aspect; in fact, mastering the language made it possible to highlight that several interesting aspects emerge that give rise to a virtual subculture that increasingly tends to use slang, Italianizing American words, for fast, simple, and light communication. As Vittadini points out, "social media are increasingly developing a dynamic nature, focused on the production and consumption of content, and are approaching the editorial platform dimension of real media understood as mediators between users, technologies and content" (Vittadini, 2018, p. 79; Knoll & Van Dick 2013, p. 142). As also reported within a previous article I wrote, these platforms, besides being catalysts of cultural changes, are also engines of linguistic evolutions. This has led many people to investigate the topic, initiating studies such as the one conducted by Paul Nesbitt last year, entitled "2022, Generation Twitch. Driving Cultural Change." The so-called Twitch Generation, which supplanted the previous YouTube Generation that dominated in early 2010, is considered the main driver of cultural innovation. The new generations use different languages to communicate, to which they need to adapt to speak intelligibly to emerging audiences.

However, the way meaning is communicated and understood has changed over time with each new generation. An example is Twitch's study comparing Gen X, Millennials, and Gen Z. At the top is the abbreviated "text speak" used by Gen X but avoided by most Millennials. In the middle is the yellow "crying with laughter" emoji, a non-ironic use of emoji and a clear indicator to Gen Z that the user is a Millennial. At the bottom is the skull, which for Millennials or Gen X means "death" or perhaps "danger," but for GenZ is used ironically to mean that they are "dead" from laughing too much (Twitch Report, 2022, p.8). So, there is a change in language in chat, which is an integral part of the YouTube and Twitch platforms in Italy, in particular, but it also leads to a change in the way people speak. In fact, it is increasingly common for streamers to use slang that derives from the Italianization of American words. A practical example occurred during a live broadcast of Leonas TV, a channel based on the world of Gacha Games, i.e., video games that feature the typical loot box mechanic, which causes players to spend in-game currency to receive random virtual items. During this live broadcast, the host exclaimed "Sono stato scammato" [trad. "I've been scammed!"] the term scamming comes from the English word "scam" and means to be scammed. In addition, the chat responses all occurred without the use of writing, but rather through stickers, which depicted laughing characters, dragons, and the like.

But this is not the only example; in fact, another term that is widely used within the Google-owned platform,

especially for thematic channels dedicated to education, such as the one analyzed in the previous paragraph, is "Lovvini," which has no real meaning, but which starts with the prefix "Love" love and Italian is interpreted as "amorini" referring to students and the public. In addition, in the "News" section of YouTube Italy, there are several channels for comparing opinions, and it is from these that particular terms began to emerge in 2022. Added to this is the new "chat" mode, which is present in many live videos and, especially, during product presentations. Same speech, starting with the 2023/2024 Serie A soccer championship, is present on Dazn in the Live Chat section. In fact, during live broadcasts of league games it is possible to chat with all the subscribers who are following that live broadcast. For example, to say that something is very funny or that a situation is moved by disbelief or exhilaration, the term "I'm flying" is used, whose official meaning is related to flying through the air, but which takes on a whole other meaning, all accompanied by themed stickers.

In addition, within a much larger and more in-depth article of mine that will come out within a sociology textbook in the coming months, I have highlighted an important aspect. It is fascinating to note how the so-called Twitch generation, made up of different age groups, has discovered a way to understand each other through the integration of two worlds: that of Generation X, with the abbreviation of words such as "OMG" which stands for "Oh My God," and that of millennials, with the use of emoji to express thoughts and moods. Finally, there is the world of Generation Z, which relies on stickers. This fusion produces a synthesis of language that embraces three different realities. Moreover, the process that began on Twitch, evolved on YouTube, and arrived on streaming platforms such as Dazn, has also involved the offline world, giving rise to what we might call the construction of knowledge, which undoubtedly passes through the co-construction of identity in digital worlds.

The introduction of technologies capable of making radical changes in the world affects every aspect of life, as a 2018 article by Pisanu states (Auriemma, 2023a). The author points out how innovation has a significant impact not only in the field of science or the application of new technologies, but also on society, which is facing ever greater challenges. One of the analyses of the situation is contained in the Science, Technology and Innovation Outlook of the OECD, the Organization for Economic Cooperation and Development, which focuses on adaptation to technological and social change. Reading the document reveals a picture characterized by complexity and uncertainty among stakeholders (OECD, 2021). The report focuses on the policy changes needed to respond to the "disruptions," as they are called in the text, taking place in the social, technological, economic, and environmental sectors, offering only one of the possible interpretations.

Therefore, in this article, we will try to highlight the social role of these new technologies, emphasizing how

digital social work is as necessary as it is delicate. Thus, a process of digitization, defined in accordance with Lopez & Marcuello-Servos as "the set of relationships, structures and elements involved in the adoption of ICT in any aspect of life" (López, Marcuello-Servós, p.801, 2018), is transforming innovation itself, deconstructing what until now was considered good practice, such as the caution that some used to access the network, and restructuring, in addition to the network itself, scientific practices (Auriemma, 2023a). However, what is only superficially analyzed, and what few authors have taken into account in the analyses conducted so far, is the practical change in the relationships, socializations, interactions and reading of emotions that underlie the processes of digitization, that is, all those that take place thanks to and through the network (ibid.). It tends to adapt old conceptions derived from a physical interpersonal relationship to those that occur today, mediated by a screen (ibid.). Clearly, it is neither useful nor sufficient to implement such a process, as what is lacking are analyses on the mediums used, the modalities and the intensity of the emotion felt (Auriemma, 2023a). In addition, the change of languages within the platforms has also become evident due to the prohibited words, the so-called "Word N," words used as racist slurs and which YouTube punishes with a ban. Therefore, in most cases a real subculture is generated. This term refers to a differentiation referring to a particular social segment that is distinct from a broader culture of which it is a part. In this specific context, we might call it a digital or virtual subculture.

Let us begin with the idea that we can discuss this subculture not so much because of the common languages, but because of the concepts and values shared by most of the people who are part of the Twitch generation. In particular, their remarkable ability to adapt to changes in technology and to feel comfortable in virtual plazas, which may be related to Twitch, social media, or applications such as Roblox that allow access to the metaverse (Battista, 2023b).

The website Be Unsocial, for example, offers a very interesting analysis of the emergence of female subcultures, pointing out that the concept of aesthetics generates three subcultures "what unites all subcultures is makeup, which is also used by boys. From the no-makeup makeup of the VSCO Girls, to the blush on the nose and cheeks of the Soft Girls, often accompanied by little white clouds, to the little hearts of the E-Girls, to the false eyelashes of the Nymphets, and in general to the compositions made with eye shadow on the eyes much like works of art. Makeup is inherently fluid because it represents self-expression and transformation, and today for the first time it is beginning to be genderless, which is why I think it is the symbol of current subcultures" (BeUnsocial, 2023).

To get a clear picture, I try to specify the three subcultures described: (a) VSCO Girls are groups of girls with a clean, minimal, and eco-conscious style; (b) Soft Girls are the girls who embrace a fashion style, popular on social

media, based on an intentionally cute and feminine look, aimed at showing less years than they have; (c) e-Girls is the term we refer to, as well as with e-Boy, a punk-inspired youth subculture related to the anime world and the oriental Jpop and K-pop phenomena. However, there are not only female subcultures, but we also find male subcultures, one of which is that of the e-Boy, characterized by clothing consisting of caps and chains around the neck, they do not disdain makeup, which no longer marks a distinct gender and sees them as video game enthusiasts and experts. In fact, as highlighted by Igers Italia, one finds the Dark Academia, based on a cultural and aesthetic focus drawn from classic literature or movies and TV series. From these derive aesthetic movements such as Cottagecore, Goblincore, and Grandmacore. Thus, thanks to the Net and, especially, the Twitch Generation, we find an infinite number of subcultures with their own rules, their own languages that, as seen, are mostly synthetic and fast, and distinct cultural characteristics (German, 2022). One of the key elements that can be emphasized within this paper is the concept of co-construction of the self. As also emphasized by Beck, the self is constructed within interactions with others; in this case, knowledge is also co-constructed. This cooperation, on par with or much stronger than in the physical world, brings as a direct consequence a restructuring of the self through co-construction. Knowledge is acquired, through the analysis of shared content. New languages can be acquired, as we pointed out earlier, which will become part of our personality.

So, a self that is constructed together with others according to Belk's idea and is strengthened through what is related to that world (Auriemma, Battista & Quarta, 2023). And, as a result, we find a shared self, characterized by similar personalities to each other and, above all, very similar knowledge to each other. However, this entails a consequence, namely the process of self-evaluation. In fact, in an environment based on self-learning, people tend to be less and less self-critical, adapting to generalized learning through the same aspect and being jaded, almost flaneur, towards standard learning processes.

As a result, the lack of critical spirit could lead to a leveling of knowledge, making a process of self-assessment completely misaligned from what is the real connection to knowledge. At this point, with the incessant increase of AI, which absolutely should not be discriminated against, but certainly controlled, it is possible to point out a further problem, the standardization and automation of assessment processes. Former minister Messa, for example, repeatedly pushed for the introduction of an AI system that could automate national science habilitation processes, with high risks and criticalities at an early stage of implementation, on all of them the risk of numerical reductionism of quality. Therefore, such a process already strongly presents in many young people's self-study processes, which less and less turn out to match the assessment that are given by teachers, the risk of a decay of

assessment processes through AIs, uncontrolled, could become evident. Below we will precisely analyze this aspect, namely, the role of AIs within a process of assessment literacy, an element that is completely lacking in the latter's implementation processes.

Conclusion

The perspective of this manuscript opens interesting directions for future theoretical models and studies on the relationship between social dynamics, embodiment and technology, emotional intelligence and the well-being of individuals, both in the play and educational-work environments.

Because virtual games fully immerse players in a dynamic experience, they are an ideal platform for recreating embodied situations. New technologies can play a significant role in relationships, experience and understanding of the environment, self, and others. Not only do high-level affective and interactive dimensions that influence representation in the virtual world come into play, but also bodily perceptions that can be modulated with multisensory representations.

Future research will need to anticipate the opportunities and risks of increasingly social and prolonged embodied experiences. At the same time, research on embodiment in the virtual dimension will need to elucidate the effects on bodily representation, motor repertoire, and the transformation of individuals' perception of emotions.

Acknowledgement

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