

The Third Culture: Virtual World Visual Culture in Education

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Hsiao Cheng Han
Assistant Professor
University of British Columbia
E-mail: sandrine.han@ubc.ca

Abstract

The visual culture of the virtual world is not an authentically reconstructed real world, but is a space containing a mix of worldwide and ideal cultures from designers' imaginations. The visualized virtual world of Second Life is forming a Third Culture from the combination of all virtual world users' original cultural backgrounds, ideal cultures, and imaginations. The researcher used grounded theory as the foundation of this research. The research methodologies used include observation, survey, and interview. The data for this study was collected entirely in the virtual world of Second Life (SL). The population of this research includes SL instructors, students, and land designers. The research reveals that this third culture system is being developed, shaped, and shared by all virtual world users. Because of the popularity of the animated virtual world and in order to reduce the influence of its hidden curriculum within all fields of education, it is important to promote the teaching of visual culture in education.

Keywords: Virtual World, Visual Culture, the Third Culture

Introduction

Second Life (SL) is a continually developing 3D animated virtual world. In the virtual world of Second Life, academic institutions construct their learning environments as virtual campuses. In a virtual campus, the boundary between classroom, campus, and the rest of the virtual world environment is not obvious. Anywhere imaginable can become a learning environment in the virtual world. Instructors can easily take students off campus for field trips. Students can also travel outside the campus independently. The whole virtual world can be seen as a learning environment.

People in the virtual world of Second Life use avatars to represent themselves, and these avatars can be made to resemble anything from the user's imagination. The gender, age, race, and species of an avatar may be completely different from that of its user in real-life. In other words, when education takes place in the virtual world, who is the instructor and who are the students is not as obvious as in a real-life educational environment.

The main purpose of this research is to understand how people from different cultural backgrounds, when gathered together in the same image-based virtual environment, communicate visually and learn unconsciously from surrounding imagery. People from diverse cultural backgrounds may have different reactions to and perceptions of different formal visual qualities, technical qualities, and atmospheres.

The theoretical background of this article includes cultural theory and visual culture theory. This theoretical background explains how culture is formed and transformed, as well as how visual culture influences other aspects of life and culture. When applying this theoretical foundation to a virtual world, the researcher found the virtual culture of that virtual world to be transformed into a "third culture."

Theoretical framework: Culture and visual culture

Culture

Culture is about who we are and how we live. Culture is diverse, and each person may have different cultural identities at the same time (Wang, 2001). “Cultural identities emerge in everyday discourse and in social practices, as well as by rituals, norms, and myths that are handed down to new members” (p. 516). Biological differences between individuals form different cultures of gender, race, and age. Psychological differences between individuals form different cultures of career, hobby, and religion. Differences in the natural environment influence different lifestyles as well. As McFee and Degge (1977) note, “culture is a pattern of behaviors, ideas, and values shared by a group” (p. 272). “Each culture has its own individuality and has a pattern that binds its parts together” (Dewey, 1934, p. 349). In other words, people in the same culture have a similar way of thinking, feeling, and acting (Wang, 2001).

Some scholars believe that culture is homogenizing, while others believe that cultures shift. While the macrocultural system influences individuals, individuals also bring their own unique subcultures into the community. Culture is not stable (Anyanwu, 1998). Lemke (1993) contends that “autonomous cultural dynamics” (p. 3) are present in human social systems and are interdependent with the system of material processes. Hamelink proposes that due to cultural synchronization, the variety of the world’s cultural contexts is disappearing (as cited in Yaple & Korzenny, 1989). Culture is the “result of complex interactions among images, producers, cultural products, and readers/consumers. The meaning of images emerges through these processes of interpretation, engagement, and negotiation” (p. 69). Cultural ideas and values are maintained by visual images because images can communicate, teach, and transmit the behavior, ideas, and values of culture (McFee & Degge, 1977). As Machin and Leeuwen (2007) state, cultural synchronization-in other words, globalization-is associated with cultural imperialism. Mass media is one of the key instruments through which

cultural imperialism (Yaple & Korzenny, 1989) creates a global culture for its products. As Kellner (2006) points out, individuals are educated by media culture unconsciously.

Visual culture

Visual culture in this research includes not only art and design but also everything people create and see in daily life (Jenks, 2002). Seeing is a “cultural practice” (Evans & Hall, 2005, p. 310). When viewers look at the same image in different locations, times, moods, contexts and situations, and when viewers’ age, class, gender, and geographical regions are different, the meaning of the image changes (Jenks, 2002). Furthermore, “to look is an act of choice” (p. 10). People choose the image they are used to and/or interested in and they try to ignore images that are not familiar to them. Individuals’ cultural backgrounds also influence their choice of viewing, and cultural background alters a great proportion of the meaning of images as well.

To understand images is one of the most important issues in visual culture. For viewers, “to interpret images is to examine the assumptions that we and others bring to them, and to decode the visual language that they [images] ‘speak’” (Sturken & Cartwright, 2004, p. 41). When viewers look at an image, meaning is produced not by the image but by how viewers experience the image and in what context the image is seen (Duncum, 1997). Moreover, “living things negotiate the world’s meaning together” (Semali, 2002, p. 9) when people gather, share experiences, develop values, construct culture, and form their understanding and interpretation of images. Therefore, the same image may carry different meanings in the same culture as time goes on.

Images from the visual culture point of view, as Sturken and Cartwright (2004) explain, “are both encoded and decoded” (p. 56). When creators form an image, they are simultaneously encoding the dominant meaning of their culture into that image. Therefore, when viewers from the same cultural background as the image creators view the image, viewers can easily

understand the dominant meaning. Image creators can also choose the time and place to present images in order to influence the meanings understood from the image. In this way, images have been used to represent imaginary worlds and abstract concepts; make meaning; convey information; express sentiments about nature, society, and culture; afford pleasure and displeasure; influence style; determine consumption; and mediate power relations (Rogoff, 2005).

Mass media has been broadly discussed in the context of visual culture. "As these media become simultaneously technical analogs and social expressions of our identity, we become simultaneously both the subject and object of contemporary media" (Bolter & Grusin, 2000, p. 231). Media not only engages human minds but influences human views of life and even human lives (Garcia-Cardona, 2002). When people come from different cultural backgrounds to look at images through different media, this viewing involves "psychological or emotional realism for viewers which exists at the connotative rather than the denotative level" (Chandler, 2002, p. 63).

With today's advanced technology, many people own digital cameras with which to create their own images. They use a web album as their own gallery. They are not only the viewers of images; they are also the creators. These kinds of creation are mostly representational; however, the action that people take by clicking the shutter button of a camera is not just a random act. This action is shaped by specific cultural contexts determined by the image creator's ideology. As Sturken and Cartwright contend, "the world is not simply reflected back to us through systems of representation, but...we actually construct the meaning of the material world through these systems" (p. 13). Representation is not just true seeing, but it creates "only one of an infinite number of possible representations" (Chandler, 2002, pp. 62-63). Therefore, which images people try to represent and how they interpret the images they see all depend on the different cultural backgrounds they are carrying.

Today "images are not only produced and consumed, they also circulate within cultures and across cultural boundaries" (Sturken, & Cartwright, 2004,

p. 315). When people view images from other cultures, the images may contain “noise” they do not understand. Without a shared cultural understanding, no matter how many images people have seen, the given images might still be unfamiliar to them. When the understanding of images is not achieved, misunderstandings occur. People also may be unconsciously influenced by “noise” in images. Therefore, understanding visual cultures and intercultural interaction between different cultures becomes crucial to successful visual communication (Cooper, 1998).

Research questions

All environments, in the real world and in the virtual world, are filled with didactic images. If educators do not reveal the didactic character of imagery in the virtual world, everyone (teachers, students, and users of the virtual world) may interpret the intention of images differently and may also learn from these misinterpretations. Teaching visual culture will help reveal the hidden curricula of and reduce misunderstandings and unconscious influences from these images.

Given the primary role and potential difficulty of visual communication in the virtual world, the main research question is: What is the didactic character of imagery in the 3D animated virtual world of Second Life?

Sub-question 1: What are the formal and technical qualities that site designers have incorporated in the imagery of SL?

Sub-question 2: How do viewers make site selections and describe their preferences?

Sub-question 3: How do participants describe their process of learning from their visual experience while living in SL?

Sub-question 4: What do participants report they have learned from their visual experience living in SL?

The researcher used observation to answer her first research question: What formal and technical qualities have site designers incorporated in the imagery of SL?

The researcher used a survey accompanied by an interview as her methods for addressing research sub questions two, three, and four. The survey, as well as interview, questions were divided into four sections. Section one covers Participant demographic information. Section two includes Participant site selection and preferences, to answer the research question: How do viewers make site selections and describe their preferences? Section three includes Participant learning from visual experiences and answers the research question: What do participants report they have learned from their visual experience in SL? Section four includes Motivation and process of learning, and answers the research question: How do participants describe their process of learning from their visual experience while living in SL?

Research methodology and participants

The data for this study was collected entirely in the virtual world of Second Life (SL). The population of this research includes SL instructors, students, and land designers. Because users were required by SL to be at least eighteen years old when this study was conducted in 2010, the youngest age of this population was at least eighteen.

The research methodologies used include observation, survey, and interview. The researcher used the mixed method of concurrent triangulation strategy because both qualitative and quantitative data were important to this research. The researcher used these two methods to “confirm, cross-validate, and corroborate findings” within this study (Creswell, 2003, p. 217). This research “integrates the results of the two methods during the interpretation phase” (p. 217). The researcher also used axial coding to code data.

The researcher used “simple random sampling” for collecting the observation location data. Simple random sampling “involves selections at random from the sampling frame of the required number” of locations for the sample (Robson, 2002, p. 261). The researcher made an observation checklist for investigating the general environment, and this observation

checklist also paralleled the survey questions in section one. The researcher took factual field notes as records, and she also took note of her own reflections. The researcher took several snapshots of each place; the number of snapshots taken at each place ranged from 11 to 140, and depended on the size and detail of the place. The researcher also recorded screen videos to capture motion imagery.

The researcher used “stratified random sampling” to collect survey data. Stratified random sampling “involves dividing the population into a number of groups or strata, where members of a group share a particular characteristic or characteristics. There is then random sampling within the strata” (Robson, 2002, p. 262). The sample population of the survey was instructors and students who use Second Life as a learning environment. One hundred survey participants completed the consent form. Of these, 95 began the survey but only 64 finished. Out of the 64 completed surveys, two participants were under age 18, and two others gave answers unrelated to this research. Therefore, the number of authentic surveys in this research is 60.

The researcher used “multistage sampling” for collecting her interview data. Multistage sampling “involves selecting the sample in stages” (Robson, 2002, p. 263). Therefore, the end of the survey included a final section asking survey participants if they would be willing to participate in the follow-up interview and asking those who agreed to indicate the time, place, and communication tool they preferred for the interview. The researcher contacted the survey participants in Second Life after receiving their surveys and Second Life names.

The participants of the semi-structured interview were instructors and students who took the survey and made an appointment with the researcher to do the follow up interview. Fifty participants agreed to do the interview. However, only 25 actually scheduled an interview time and only 20 kept their appointments. Interviews were conducted in synchronized text and voice chat, face to face, and in the virtual world. Depending on the communication methods and the content of the interview, the interview time ranged from one

hour to two hours. Only one participant chose to use voice chat for the interview and nineteen participants chose to use text chat.

The researcher compared and contrasted the similarities and differences from the observation checklist with the data from survey section two: Participant site selection and preferences. To answer the first research question, the researcher generated column and bar charts to illustrate the differences and similarities between observation and survey data sets. The researcher compared and contrasted patterns found through overall observation, survey, and interview data when compiling the final results.

The researcher used grounded theory as the foundation of this research. As Robson (2002) states, “a grounded theory study seeks to generate a theory which relates to the particular situation forming the focus of the study. This theory is ‘grounded’ in data obtained during the study, particularly in the actions, interactions and process of the people involved” (p. 190). The researcher developed her theory of the Third Culture in the virtual world from the research data.

Findings

Some interview participants described instances when they could not, at first, understand the meaning of imagery seen in Second Life. They needed to discuss the imagery with its creator or search for information about the imagery in order to understand it. Images in the virtual world challenge conventional knowledge about images, meaning, and culture. The meaning of images in the visualized virtual world is based on the dominant cultural meaning intended by site designers. The dominant meaning of a culture is the ideology of that culture. Ideology is a pervasive process about which people may not be conscious, but in which all people engage. Ideology is the representational means by which people experience and make sense of reality.

When interviewees viewed the same image provided by the researcher, they gave very different responses. As Adelson and Bergen (1991) state, how people perceive things actually varies because people have different

experiences. Human beings respond to and make sense of what they experience, and they accommodate new experiences to old ones (Dewey, 1934; Taylor, 2000). The relationship between images and virtual-world users is not just direct or transparent (Burnett, 2004, p. xiv). Users in the virtual world learn from the images they see unconsciously, and how they understand the images may not follow the original meaning intended by site designers. However, regardless of what users see in the virtual world and what they think the images mean, these images will influence how users see and think about images in the future.

Because human mental life reflects cultural reality, new technology does not just link computers but also connects all of humanity together, sharing their cultural experiences with the world (Masalela, 2005). In the virtual world, the distance between different cultures is closer than in the real world, and culture is transmitted more rapidly and more easily than in the real world; because of this closeness, virtual world residents not only experience technological and presentational limitations, they also encounter cultural adaptations (Traub, 1994). When people come from different cultural backgrounds to look at the same images in the virtual world, this viewing involves “psychological or emotional realism for viewers which exists at the connotative rather than the denotative level” (Chandler, 2002, p. 63).



Figure 1 Site 1 Insilico
These Trees



Figure 2 Site 2 The Space Between



Figure 3 Site 3 Kamimo Island



Figure 4 Site 4 Avilion: Medieval Fantasy Role Play Community

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According to the interview data, the survey participants' favorite site genres did not follow their previously stated preferences of four sites presented by the researcher (see Figure 1-4). This discrepancy parallels Jamieson's (2007) statement that human visual perception is constantly adjusted, re-patterned, and engaged with social and arbitrary signs; therefore, sometimes how people perceive things is shaped and changed by their previous experiences. In other words, previous experiences can re-form mental frameworks (Eisner, 1997; Groom et al., 1999; Jamieson, 2007). Eisner (1997) states that visual perception becomes increasingly complex and refined as people extend their life experience. "We become familiar with our environment when we begin to recognize certain regularities in our experience" (Efland, 2002, p. 24). When people repeat experiences, their experiences may move from short-term to long-term memory (Barry, 1997; Kellogg, 1995). In other words, people do not need to have direct experience to form long-term memories; visual experience in the virtual world also forms long-term memories.

The interview participant responses parallel the assertion of cognitive Gestalt psychologists Barry (1997) and Kellogg (1995), that synthesizing and integrating visual images and mental images facilitates people's visual experience to future visual perception, and helps people structure knowledge. Home also states, "realities by which we see existence are not really reality but an intellectual creation" (as cited in Anyanwu, 1998);

therefore, virtual worlds are also embedded in different cultural backgrounds (Penny, 1994). Virtual worlds give people experiences of images, perceptions, and thoughts; in this way people can visualize, manipulate and interact with complex data (Aukstakalnis, 1991; Burnett, 2004).

Some interview participants described instances when they needed to discuss imagery with its creator or research imagery in order to understand it. This statement confirms that the meaning of images is not only constructed in each individual's mind, but is also constructed by sociocultural background. Learning is also influenced by sociocultural background. According to Efland (2002) meaning is not passively received but is constructed by the learner. In the virtual world, learning activities allow students to interact with information from a first person perspective (Dickey, 2005). As Lindlif and Shatzer (1998) stated, "meanings are embodied in practice" (p. 1). Because people do not get the same information from the viewing the same image, they need to learn to assign meanings to the symbols they use. The cultural background of the viewer influences how powerfully the imagery of the virtual world may affect them. Therefore, when the cultural backgrounds of image viewers and image producers collide, visual culture begins to transform. As a new culture is forming through the imagery of the virtual world, users will need to learn how to communicate visually in that virtual world.

Educators need to understand this new culture so they can help students learn to communicate visually with other virtual world residents. As Ess and Sudweeks (2006) point out, in the online learning environment, intercultural communication focusing on interactions between students is more important than understanding individual cultures.

Second Life culture

In the virtual world of Second Life, there are hundreds of events and thousands of activities every day. As Wang (2001) states, "cultural identities emerge in everyday discourse and in social practices, as well as by rituals, norms, and myths that are handed down to new members" (p. 516). According to McFee and Degge (1977), "culture is a pattern of behaviors,

ideas, and values shared by a group” (p. 272). “Each culture has its own individuality and has a pattern that binds its parts together” (Dewey, 1934, p. 349). In other words, people in the same environment, such as Second Life, are forming their own culture and eventually the ways of thinking, feeling, and acting will follow similar patterns.

Most research participants are not only viewers in Second Life but also builders in Second Life. Second Life turns viewers into active users and thereby changes the concept of images (Manovich, 2001). As Evans and Hall (2005) state, seeing is a “cultural practice” (p. 310). The meaning of images in the virtual world exists in a simultaneous circulation between viewers and designers (Appadurai, 2005). According to Freedman (2003), “An expressive object, regardless of the meaning of the production for the artist, does not have inherent meaning; the experience of an audience with visual culture makes it meaningful” (p. 69). McPhail (2002) also states, many Internet users around the world have more in common with others in the online community than in their real-world communities, and the culture they form in the virtual world is not only a subculture but a mainstream hyperculture shared by all online users.

As the data show, in the virtual world of Second Life, culture comes from around the world with different backgrounds and levels. Second Life becomes a ritualized place where users have to be initiated into one kind of its shrines or another. As Taylor (2000) states, “Everything that we create somehow affects everything around us. Therefore, everything we do, read, and create plays a part in our experience” (p. 380). The culture in Second Life is blending to create a unique Third Culture.

Discussion: Virtual world visual culture

The survey and interview data of this research show that most of the reconstructed cultures in the virtual world are not authentic, but have instead been simplified, mixed, and twisted from authentic real world cultures. In the virtual world of Second Life, Chinese sites may be reconstructed by Japanese designers, and Japanese sites may be reconstructed by

Americans. When reconstructing a culture in the visualized world without having been an authentic part of that original cultural environment, the creator is not reconstructing the original culture, but is instead creating an interpretation—a new culture. Every culture’s stability depends on how residents understand the meanings of the experiences circulated in that culture. Meanings can be “submitted to disassembly, reassembly, investment and exchange” within the same culture (Harasim, 2006, p. 109). Foucault (1980) also notes that technologies of production permit people to produce, transform and manipulate things. Site designers produce, transform, and manipulate different cultures in the virtual world visually; site designers are forming a new culture.

Second Life culture

As many interviewees declared, it is important to realize that Second Life is not a game, but a big world similar to the world of real-life. People react, reflect, and participate in this online environment. Second Life is different from other visualized virtual worlds because it is a virtual world in which all content is created by users. All of the users in this virtual world can create 3D objects to form or change the look of this world. As Lindlif and Shatzer (1998) state, “human beings act on the basis of collective understandings that are continually negotiated through linguistic and other symbolic practices. These cultural understandings are neither mentalistic entities nor a correspondence of physical reality” (p.1). Culture does not originate from culture but from the integration of all human beings who are situated in the same environment.

As the survey data indicate, even though users describe themselves as explorers, they only explored those places they were interested in. It is a psychological necessity for all human beings to belong to a culture. Culture is the “result of complex interactions among images, producers, cultural products, and readers/consumers” (Sturken, & Cartwright, 2004, p. 69; see also Jamieson, 2007). Cultural ideas and values are maintained by visual

images because images can communicate, teach, and transmit the behavior, ideas, and values of culture (McFee & Degge, 1977).

In human culture, people create sign systems to visually represent, record, and make sense of the world geographically and historically (Bolter, 2003; Jamieson, 2007; Semali, 2002; Smith-Shank, 2007). Culture is an arbitrary sign system; it is not stable but is a process. The meaning of culture is always changing and may be modified by images from different cultures; cultural meaning is the result of interactions between images, culture, products, creators and viewers (Jenks, 2002). As Sturken and Cartwright (2004) state, "Images are not only produced and consumed, they also circulate within cultures and across cultural boundaries" (p. 315). McFee and Degge (1977) note that signs and ideas are fundamentally inseparable in each culture because culture is the process of human behaviors, ideas, and values that are shared by the same group. In other words, when people create signs, these signs are arbitrary and culturally bound because the sign systems are based on a shared cultural background (Dewey, 1934; Denis, 1989). Images form cultural identities and serve a particular meaning within one culture; the fundamental value of an image is the meaning the image carries (Burnett, 2004; Duncum, 1997). Viewers and images are "codependent" (Hayles, 1999, p. 20) because the meaning of an image changes with culture over time. When images are seen at different times or in different places, they may tell viewers a different story (Pettersson, 1993; Smith-Shank, 2007). In other words, images reflect who the viewer is by how the viewer understands and interprets the meaning in images (McFee & Degge; Mitchell, 2005).

Culture is about who we are and how we live our lives. The First Culture the researcher defines is the Heritage Culture (Efland, Freedman, Stuhr, 1996), also known as Macroculture (Wang, 2001). This is the dominant culture that people live in and this influences the majority of the people who live within it. The Second Culture is the Interest Groups (Efland, Freedman, Stuhr, 1996), also known as the Subcultures (Wang, 2001). According to Mercer (1958), subcultures are subgroups in a society; each of the groups

has its own characteristics and ways of thinking and acting (as cited in Yinger, 1960). The Third Culture is an intercultural, worldwide mix of cultures. It exists in virtual worlds that are created by users who speak different textual languages. Because the Third Culture cannot be language dependent, users learn primarily about each other's culture through visual imagery, whether the information learned is culturally authentic or not.

Immersed in the Third Culture, users learn and relearn multiple meanings and contradictions of imagery. In the Third Culture, the meanings of images, built by users, are negotiated by Third Culture residents to create the culture.

Conclusion

The visual culture of the virtual world is not an authentically reconstructed real world, but is a space containing worldwide mixed and ideal cultures from designers' imaginations. The visualized virtual world of Second Life is forming a Third Culture from the combination of all virtual world users' original cultural backgrounds, ideal cultures, and imaginations. This third culture system is being developed, shaped, and shared by all virtual world users. So that they may understand this new culture, it is imperative for all virtual world users to be able to interpret the visual culture they encounter.

Because of the popularity of the animated virtual world and to reduce the influence of its hidden curriculum within all fields of education, it is important to promote the teaching of visual culture in art education. According to Gair and Mullins (2001), "the hidden curriculum is not something we must look behind or around in order to detect; in most cases it is plainly in sight and functions effortlessly" (p. 23), and visual culture impacts how people communicate with others through visual images (Miller & Burton, 1994). As Myles (2004) states, the "visual system may enhance the ability of children and youth with social-cognitive challenges to understand their environment, including the hidden curriculum" (p. 19).

Images in virtual worlds unconsciously influence people's feelings about learning (Barry, 2006).

McFee and Degge (1977) state that the mental lives of people become more complex when their visual experiences grow. Human beings learn and relearn the meaning of images until they become part of the visualized virtual environment, and they move from understanding the denotation of images to the connotation of images (Semali, 2002). No images in the virtual environment are presented accidentally; all images in virtual worlds deliberately appear (Zhai, 1998). It is important to reveal the hidden curriculum of images in the visualized virtual learning environment by teaching visual culture in art education; as Anderson (2002) states "once revealed, the hidden curriculum becomes negotiable advisable to all participants" (p. 117).

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第三文化：教育中的虛擬世界視覺文化

第三文化：教育
中的虛擬世界視
覺文化

韓孝承
助理教授
英屬哥倫比亞大學
E-mail: sandrine.han@ubc.ca

摘要

虛擬世界中的視覺文化是集結了來自世界各地、不同文化背景成長下的設計者們的想像力，而非重建真實世界的一種體現。第二人生視覺化的虛擬世界結合了所有虛擬世界使用者的原始文化背景、想像中的文化以及創造力，而建立一個第三文化。研究者以扎根理論作為本研究的基礎，研究方法包括了觀察、問卷調查以及訪談，研究對象包括第二人生的教師、學生以及景觀設計者。從研究中顯示—第三文化系統正持續發展、塑形並受到所有虛擬世界使用者的影響。有鑒於虛擬世界中的人口數量，以及爲了要降低在各教育領域中隱藏的課題，在教育中推廣視覺文化已成為不可或缺的一環。

關鍵詞：虛擬世界、視覺文化、第三文化

前言

第二人生(SL)係一個持續發展的3D虛擬世界。在這個虛擬世界中，學術機構也建立了虛擬校園的學習環境。虛擬校園裡，並未明確地界定教室、校園、以及其他虛擬世界環境中的界線。換言之，虛擬世界中的任何一角都能是學習環境。老師們可以輕鬆地帶領學生離開校園，進行戶外教學。學生們同時也可以獨自在校園外遊覽。整個虛擬世界就是一個學習環境。

在第二人生虛擬世界裡的人物，使用者透過分身來代表自己，而這些分身則來自於使用者們無窮的想像力。分身的性別、年齡、種族以及種類，也許與使用者在真實生活中大不相同。我們也可以說，在虛擬世界中，老師和學生的身分並不如真實世界中來得明顯。

本研究的主要目的係爲了要瞭解不同文化背景中的人聚在以影像爲主的虛擬環境中時，他們透過何種視覺方式互相溝通，同時如何透過周遭的意象不自覺地達到學習的效果。來自不同文化背景的人對於不同的正規視覺特性、技術特性以及氣氛也可能會產生不同的反應和感受。

本研究中的理論背景包括文化理論以及視覺文化理論。在理論背景中說明文化的形成和轉變方式，以及視覺文化如何影響到其他人生和文化的觀點。在虛擬世界中運用理論基礎時，學者發現虛擬世界中的虛擬文化轉變爲「第三文化」。

理論架構：文化與視覺文化

文化

文化係指關於人類以及人類生活的方式。文化是多元的，一個人在同一個時間點也可能會有不同的文化認同(Wang, 2001)。「文化認同係透過日積月累的語言、社會經歷以及儀式、規範和神話傳承給新成員的所形成(p. 516)」。每個人在生理方面上的差異形成了他們在性別、種族以及年齡上不同的文化。而每個人在心理上的差異則形成了事業、嗜好、以及宗教上不同的文化。自然環境中的差異也會影響不同的生活方式。McFee 和 Degg(1977)曾提出：「文化是群體行爲、想法以及價值觀的一種模式(p. 272)」。「每個文化都有其獨特性，同時也透過一種模式將各個部分緊黏在一起 (Dewey, 1934, p. 349)」。

換句話說，在同一個文化中的人通常都會有類似的思考模式、感受以及行為模式(Wang, 2001)。

某些學者認為文化是一種同質性的產物，但也有學者認為文化會轉變。當主文化系統對個體產生影響時，個體同時也將自己獨特的子文化帶入了共同社會中。文化並非一個穩定的形態而存在(Anyanwu, 1998)。Lemke (1993)提出：「自治文化動力學」(p. 3)展現於人類社會系統中，同時與系統的物質過程相互依賴。Hamelink提出—透過文化同步性，世界文化背景的多樣化正逐漸地消失(Yaple & Korzenny, 1989)。文化係「透過影像、生產者、文化產品以及讀者/消費者複雜互動中的產物。而這些影像的意義，則會透過這些解讀、參與以及協商的過程而產生」。文化想法與價值則是透過視覺影像而加以維持，因為透過影像可以進行溝通、指導並傳達行為、想法以及文化價值(McFee & Degge, 1977)。如同 Machin 和 Leeuwen (2007) 提出—文化同步性，亦或是換句話說—全球化和文化帝國主義息息相關。而媒體則是在文化帝國主義中(Yaple & Korzenny, 1989)，建立全球文化的關鍵媒介。Kellner (2006)也指出一個體在不自覺的情形下，會受到媒體文化的影響。

視覺文化

在本文中的視覺文化除了藝術與設計以外，也包括了所有人類所創造以及在日常生活中所見之物(Jenks, 2002)。眼睛所見係一種「文化歷練」(Evans & Hall, 2005, p. 310)。當觀賞者們在不同的地點、時間、心情、環境以及情境下看著相同的影像，以及當觀賞者們的年齡、階級、性別以及地區性宗教不同時，影像的意義也會有所改變(Jenks, 2002)。此外，「觀看也是一種選擇性的行為(p. 10)」。人們會選擇自己習慣/或感興趣的影響，並忽略他們不熟悉的影像。個體的文化背景同時也會影響到他們在觀賞時的選擇，文化背景同時也會對影像的意義有著極大的改變。

在視覺文化中，瞭解影像是其中一個最關鍵的議題。對於觀賞者而言，「對影像的解讀便是要檢視我們本身以及他人對這些影像的預設立場，而對視覺語言的解譯則需要透過它們“影像”本身所傳達出來的意義(Sturken & Cartwright, 2004, p. 41)」。當觀賞者們在看一個影像，影像的意義並非透過影像本身所產生，而是取決於觀賞者們對於影像的體驗，以及影像所存在的環境(Duncum, 1997)。此外，有生命的物體也會協調出他們在世界中所代表的意義(Semali, 2002, p. 9)—當人們聚集在一起時，他們會分享經驗、發展出價值

觀、建立文化、並且形成他們對影像本身的瞭解與解讀。因此，同樣的影像在同樣的文化中，也有可能因為時間點的不同，而有著不同的含意。

Sturken和Cartwright (2004)認為在視覺文化中的影像—「是透過編碼和解碼所產生(p. 56)」。創造者在建立一個影像的同時，會依據自己本身文化對於該影像所代表的意義，進行編碼。因此，具有相同文化背景的觀賞者在觀賞影像時，很快地就可以瞭解其中主要的含意。影像創造者也可以選擇呈現影像的時間和地點，來影響對該影像意義的解讀。透過此種方式，影像成為代表想像世界，以及抽象概念、意義塑造、資訊傳達、表達對於自然、社會及文化的情感、提供滿足或不滿、影響風格、決定消費以及調停權力的媒介。

媒體也是視覺文化環境中的焦點，「這些媒體是為人類身分的科技以及社會呈現的方式，我們同時也成為了當代媒體中的主題和對象(Bolter & Grusin, 2000, p. 231)」。媒體不僅深入人類的心智，同時也影響著人類對於人生甚至生命的看法(Garcia-Cardona, 2002)。當來自不同文化背景的人透過不同的媒體檢視影像時，這個過程則包括了「觀賞者本身具有的內涵性而非外延性的心理與情緒態度(Chandler, 2002, p. 63)」。

在科技發達的今日，許多人都擁有自己的數位相機，透過這些科技的產物即能建立自己的影像。人們透過網路相簿的方式建立自己的藝廊，他們不只是影像的觀賞者，同時也是創造者。這些創造通常具有其表述意義。然而，人們按下相機快門的動作並非只是一個單純的行為，這樣一個簡單的動作中包含了影像創造者本身特定的文化背景。Sturken和Cartwright曾提及—「這些表述系統所反映的並不僅僅是世界本身，而是對物質世界所代表意義的建立(p. 13)」。而表述並非全然的真實呈現，但表述建立了「無限可能中的一種表述(Chandler, 2002, pp. 62-63)」。因此，人們想要呈現的影像，以及他們呈現的方式全取決於他們自身不同的文化背景。

時至今日「影像除了被創造和消耗以外，同時也是一種不同文化的循環情形(Sturken, & Cartwright, 2004, p. 315)」。當不同文化的人在觀賞影像時，影像本身可能帶著觀賞者無法瞭解的「噪音」。這是因為在沒有共同文化瞭解下，無論看了多少的影像，這些影像對於觀賞者本身是陌生的，也因此，在無法瞭解影像的情形下，就會產生誤解。觀賞者本身可能會不自覺地受到影像中的「噪音」所影響。因此，瞭解視覺文化以及文化與文化之間的互動，是成功進行視覺溝通的一大關鍵(Cooper, 1998)。

研究問題

在真實世界以及虛擬世界中的所有環境，都充斥著充滿教義的影像。假如教育者在虛擬世界中沒有揭示出影像中的教義特色，所有人(包括老師、學生、以及虛擬世界中的使用者)都可能用不同的方式解讀這些影像，而因此產生錯誤的解讀。透過視覺文化的教授，有助於呈現出潛藏的教義，同時降低對於這些影像的誤解。

基於視覺溝通在虛擬世界中及潛在的難度，本文主要的研究問題為：在第二人生3D動畫虛擬世界中，影像所呈現的教義特色為何？

子問題1：環境設計者在第二人生中，結合了哪些影像中形式上和技術性的特色？

子問題2：研究對象如何進行對環境的選擇以及表達其喜好？

子問題3：研究對象如何透過他們在第二人生的視覺體驗，描述自己的學習過程？

子問題4：研究對象從在第二人生的視覺體驗中，學到了什麼？

研究者透過觀察的方式回答了第一個問題—環境設計者在第二人生中，結合了哪些影像中形式上和技術性的特色？

研究者透過以問卷進行訪談的方式，執行研究子問題2、3和4。在問卷以及訪談中，將問題分為4個部分。第一部分包括了研究對象的人口統計基本資料；第二部分則關於研究對象的環境選擇與喜好，並且說明對於環境的選擇以及表現喜好的原因？第三部分則包括了研究對象從視覺經驗中所學到的東西，並回答參與者如何透過他們在第二人生的視覺體驗，描述自己的學習過程？至於第四部分則包含了動機以及學習的過程，以用來回答—研究對象在第二人生的視覺體驗中，學到了什麼？

研究方法與研究對象

本研究所有資料皆來自於第二人生的虛擬世界。本研究的對象包括—第二人生的老師、學生以及環境設計者。由於第二人生的使用者必須年滿18歲，所以在本研究於2010年執行期間，最年輕的研究對象也至少有18歲。

研究方法包括透過觀察、問卷和訪談的方式進行。基於質性與量化資料對本研究皆具有一定的重要性，因此研究者使用的是混合性的多重檢驗方式。研

研究者使用了二種方法以「確認、交叉驗證並證實研究的相關發現(Creswell, 2003, p. 217)」。這個研究「在解讀階段中結合了二種方法所產生的結果(p.217)」。研究者同時也使用主軸編碼以將資料進行編碼。

研究者透過「簡易隨機取樣」的方式蒐集相關的觀察資料。簡易隨機取樣「包括從取樣數目中隨機挑選(Robson, 2002, p. 261)」。研究者製作了一份觀察檢視表以對環境進行研究，此份觀察檢視表和第一部分的問卷問題類似。研究者根據事實做為記錄，同時也根據自己所觀察的加以記錄。研究者對於不同的地點進行快照，每個地方的快照數量自11張至140張不等，張數的多寡取決於地點的大小和細節。研究者同時也以錄影裝置捕捉動態影像。

研究者使用「分層隨機抽樣」的方式蒐集問卷資料。分層隨機抽樣中「包含將研究對象分配到一定數量的小組或階層當中，這些小組中的成員都具有特定的特質。接著再各層當中進行隨機取樣(Robson, 2002, p. 262)」。在問卷中的取樣對象為使用第二人生做為學習環境的老師與學生。填寫問卷的100位研究對象都有簽署同意書。在100份問卷中，有95人填寫，但只有64位完成。而在64位填寫問卷的人當中，其中有2位年齡在18歲以下，另外也有2位回答了和研究本身無相關的答案。因此，本份問卷中，共計有60份為有效問卷。

研究者使用「多步驟取樣」的方式蒐集訪談資料。多步驟取樣中「包括了在不同階段中進行樣本的挑選(Robson, 2002, p. 263)」。因此，在問卷的最後有一個部分是詢問問卷研究對象是否願意參與後續的訪談，並要求同意進行後續的對象必須列出可進行的確切時間、地點以及他們偏好的溝通工具。研究者在收到研究對象的問卷以及在第二人生中的名字後，進行後續的連絡。

在半結構性訪問中的研究對象為填寫問卷的老師與學生，他們也是同意進行後續訪談的人。然而，只有25位研究對象確實地約定了訪談的時間，而其中也只有20位有依約進行。訪談是在虛擬世界中，以面對面的方式透過同步文字或語音溝通進行。根據溝通方式以及訪談的內容，訪談的時間為1至2個小時不等。其中僅有一位研究對象選擇使用語音溝通，其他的19位則選擇用文字溝通的方式。

研究者將觀察檢視表以及從問卷第二部分（研究對象的環境挑選以及喜好）所蒐集到的資料進行比較。為了要回答第一個研究問題，研究者透過直行圖以及長條圖來說明在觀察以及問卷資料中的相同與相異之處。研究者透過整體的觀察、問卷以及談訪資料加以比較當中所呈現的模式。

研究者使用扎根理論做為本研究的基礎。Robson(2002)提過「扎根理論的研究係要蒐集一個與特定研究重點相關的理論。這個理論必須針對研究當中所取得的資料，尤其是所牽涉到的研究對象行為、互動以及過程作為基礎(p.190)」。研究者從研究資料中，發展自己對於虛擬世界中第三文化的理論。

發現

某些研究對象在訪談中描述他們一開始無法瞭解在第二人生裡看到的影像所傳達的意義。他們必須透過與影像創造者進行討論，才有辦法瞭解影像的意涵。在虛擬世界中的影像對於研究對象而言，是一種對過去已知影像、意義以及文化上的挑戰。在視覺化的虛擬世界中所出現的影像，都帶有設計者本身具有的文化背景。這種文化所傳達的意義，通常是該文化的思想意識，是一種人類不自覺參與的普遍過程。思想意識代表著人們對於真實世界的體驗與意識。

受訪者在觀看由研究者所提供的相同影像時，提出了許多不同的回覆。Adelson 和 Bergen (1991)認為一人們對於事物的感受會因其不同的經驗而有所差異。人類會針對他們的體驗做出回應，再將新的經驗和舊的經驗加以結合(Dewey, 1934; Taylor, 2000)。影像和虛擬世界使用者之間的關係並非直接且顯而易見(Burnett, 2004, p. xiv)。虛擬世界中的使用者會不自覺地透過所看到的影像加以學習，而他們對於影像的瞭解也可能與原本環境設計者的本意有所差異。然而，無論使用者在虛擬世界中看到何種影像，以及不管他們認為這些影像所傳達的意義為何，這些影像都會對使用者們在未來看到的影像及想法有所影響。

由於人類的心理生活可反映出文化真實性，新的科技所扮演的角色並不僅僅與電腦連結，更是與人性結合的呈現，從中可與世界分享其文化經驗(Masalela, 2005)。在虛擬世界中，不同文化之間的距離遠比在真實世界中來得小，同時文化的傳遞也比真實世界來得更加迅速及容易；由於文化間的距離縮短，虛擬世界的居民不僅會感受到科技以及呈現上的限制，也能面臨文化上的適應(Traub, 1994)。當來自不同文化背景的人在虛擬世界中觀看同一個影像時，觀賞的過程包括了「觀賞者本身具有的內涵性而非外延性的心理與情緒態度(Chandler, 2002, p. 63)」。



圖1 環境1 Insilico



圖2 環境2 樹之間的空間

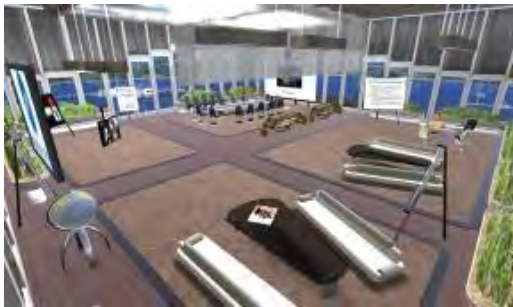


圖3 環境3 Kamimo 島



圖4 環境4 中古幻想角色社區

根據訪談的資料顯示一問卷中研究對象最喜歡的環境類型與先前研究者所列出的4個喜好網站有所差異(參見圖1-4)。這個差異情形符合了Jamieson(2007)的論點—人類的視覺感受會不斷地調整、重新排列,並加入社會與多變的符號;因此,人類有時對事物的感受會因他們先前的經驗所影響。換句話說,先前的經驗會重新形成人類的心理架構(Eisner, 1997; Groom et al., 1999; Jamieson, 2007)。Eisner (1997)提出—視覺感受會因為人類生活經驗的延伸而更加複雜與精鍊。「當我們透過經驗瞭解了某些規則性時,我們也會更熟悉所處的環境(Efland, 2002, p. 24)」。當人類有了重覆的經驗時,這些經驗就會從原本的短期記憶延伸至長期記憶當中(Barry, 1997; Kellogg, 1995)。換句話說,我們的長期記憶是透過經驗的累積而形成,而虛擬世界中的視覺經驗也會形成長期記憶。

研究對象訪談的回應與格式塔心理學家Barry(1997)以及Kellogg(1995)的論點不謀而合,認定視覺影像和心理影像的結合可促進人類對未來視覺感知的視覺經驗,同時有助於人類建立知識。Home同時也提出—「我們所見的現實

並非真的現實世界，而是一種智力的創造產物(Anyanwu, 1998)」。因此，虛擬世界當中包含了許多不同的文化背景(Penny, 1994)。虛擬世界提供人們對於影像、感受以及思想的體驗，透過這個媒介，人類可將複雜的資料加以視覺化，進而加以運用並產生互動(Aukstakalnis, 1991; Burnett, 2004)。

某些研究對象在訪談中提到他們有時必須和影像創造者進行討論，才能進而瞭解影像。這個發現證實影像的含意並非僅僅存在於個體的心裡，同時也會透過社會文化背景而建立，學習的本身也會受到社會文化背景所影響。根據Efland(2002)的說法，影像的意義並非被動的感受過程，而是透過學習者的本身加以建構。在虛擬世界中，學習活動提供了學生們以第一人稱的觀點與所接觸的資訊進行互動(Dickey, 2005)。Lindlif 和Shatzer (1998)提出：「影像的意義係透過表述而體現(p.1)」。由於每個人在觀看同樣的影像時，不一定會接收到相同的資訊，他們必須透過所使用的符號來界定影像的意義。因此，觀賞者的文化背景就影響著虛擬世界中影像對他們所產生的影響。也正因如此，影像觀賞者與影像創造者的文化背景相衝擊的情形下，就會形成視覺文化。虛擬世界中，透過影像會形成新的文化，使用者也必須學習如何在虛擬世界中以視覺的方式進行溝通。

教育者必須認清這個新的文化，才可以協助學生們學習如何和虛擬世界的其他居民進行視覺溝通，誠如Ess以及Sudweeks(2006)指出—在線上學習環境中，學生之中不同文化之間的溝通與互動，比瞭解個別文化來得更為重要。

第二人生文化

在第二人生的虛擬世界中，每天都有數百個活動以及數千個事件在進行。Wang(2001)曾提出：「文化是群體行為、想法以及價值觀的一種模式(p.272)」。「每個文化都有其獨特性，同時也透過一種模式將各個部分緊黏在一起 (Dewey, 1934, p. 349)」。換句話說，在同一個環境中的人，例如—第二人生，他們正在形成自己獨特的文化，而他們的思考方式、感受以及行為也會遵照著類似的模式。

大部分的研究對象除了是第二人生裡的觀賞者以外，也是第二人生的創造者。第二人生將觀賞者們變成活躍的使用者，也因此改變了對影像的概念(Manovich, 2001)。Evans和Hall(2005)提出—觀看就是一種「文化演練(p.310)」。虛擬世界中影像的意義也同時存在於觀賞者與設計者之間的交流(Appadurai, 2005)。根據Freedman(2003)的說法，「一個富有表達性的物件，

無論所代表的意義為何，都不具有內在的意義；它的意義係透過觀賞者的視覺文化所賦予(p.69)」。McPhail(2002)也指出—許多網路和線上社群使用者與真實世界相較下，有著更多的共同點。而他們在虛擬世界中所塑造的文化並非僅是子文化，而是線上使用者們所共享的主流多元文化。

從研究資料顯示—在第二人生的虛擬社會中，文化來自於全球各地不同的背景與階級。因此，第二人生成爲一個使用者們互相交流的文化聖殿。Taylor(2000)指出：「我們所建立的所有事物，在某種程度上會對我們的周遭造成影響。因此，我們所做的每一件事、所閱讀的資料、以及創造的事物都成爲我們經驗的一部分爲 (p.380)」。因此，第二人生創造出了獨特的第三文化。

討論：虛擬世界的視覺文化

由本研究的問卷以及訪談資料顯示—在虛擬世界中重建的大部分文化並非是真實的，而是精簡的、混合的且扭曲真實世界文化的呈現。在第二人生的虛擬世界中，中文環境可能是透過日本設計師重新建立，而日本環境也可能透過美國人重建。當我們在沒有原文化環境的視覺世界中重建文化時，創造者並沒有重建原文化，而是建立了對於原文化新的解讀方式。每個文化的穩定性取決於居民在該文化下，對於經驗意義的瞭解方式。事物的意義在相同的文化之下，可透過「拆解、重組、覆蓋和交換的方式而呈現(Harasim, 2006, p. 109)。」Foucault(1980)同時也指出—科技的技術提供了人們創造、轉換以及運用的能力。環境設計者在虛擬世界中，可透過視覺的方式創造、轉換並運用不同的文化，也因此形成了新的文化。

第二人生文化

許多受訪者表示—瞭解第二人生並非一個遊戲是十分重要的，第二人生是一個與真實世界類似的大型世界。因爲人們在這個線上環境中會進行互動、思考和參與其中。第二人生和其他視覺化的虛擬世界不同，因爲在這個虛擬世界中，所有的內容都是由使用者所創立的。所有在這個虛擬世界的使用者皆可以建立3D物件來豐富或改變這個線上世界。Lindlif 和 Shatzer (1998)指出—「人類透過語言以及其他符號演練持續的協調所蒐集的認知，而進行相關的行爲模式。這些對於文化的領會並非心靈本體，也並非物理現實的相似處(p.1)」。文化並非來自於文化本身，而是透過在同一個環境中的人類整合而成。

問卷資料顯示—雖然使用者自詡為探險家，他們也只針對有興趣的地方進行探究。所有人類都有對其所屬的文化皆有歸屬感的需求。文化是「影像、生產者、文化產品、讀者/消費者複雜互動中的產物(Sturken, & Cartwright, 2004, p. 69; see also Jamieson, 2007)」。文化觀點與價值係透過視覺影像所維持，因為這些影像能溝通、指導並傳達代表文化的行為、觀點以及價值(McFee & Degge, 1977)。

在人類的文化裡，人們建立符號系統，以視覺的方式從地理及歷史的角度進行呈現、記錄並傳達意義(Bolter, 2003; Jamieson, 2007; Semali, 2002; Smith-Shank, 2007)。文化係一種多變的符號系統；不是一種穩定的過程。文化所代表的意義會不斷地改變，同時也會透過不同文化的影像而有所修正，文化意義係指影像、文化、產品、創造者與觀賞者之間的互動結果(Jenks, 2002)。Sturken 和 Cartwright(2004)曾提出：「影像除了被創造和消耗以外，同時也是在同一文化之內或不同文化的之間所循環的狀況(p. 315)」。McFee 和 Degge (1977)則提出每個文化中的符號和想法皆有著緊密結合的關係，這是因為文化是一種過程，在同一群體中人類行為、想法以及價值觀的交流。換句話說，當人類建立符號時，這些符號有著多變的特性，同時具有其文化獨特性，都是因為這個符號系統係建立於一共享的文化背景中(Dewey, 1934; Denis, 1989)。影像可形成文化認同，同時也在一個文化中代表著特定的意義；影像的基本價值即為本身所代表的意義(Burnett, 2004; Duncum, 1997)。觀賞者以及影像「互相依賴」著彼此(Hayles, 1999, p. 20)，這是因為每個影像的意義會隨著時間和文化一同改變。在不同的時間或不同的地點看到的影像，也可能會對觀賞者呈現不同的故事(Pettersson, 1993; Smith-Shank, 2007)。也就是說—影像反映出觀賞者瞭解的角度，以及對其中意義的解讀(McFee & Degge; Mitchell, 2005)。

文化代表著人類本身以及生活方式，研究者所定義的第一文化為一遺產文化(Efland, Freedman, Stuhr, 1996)，也被視為原文化(Wang, 2001)。這是人類生活中的主要文化，同時對大多數的人帶來影響。第二文化是指興趣團體(Efland, Freedman, Stuhr, 1996)，它也是子文化(Wang, 2001)。根據 Mercer (1958)，子文化就是在一個社會裡的子群體；每一個群體都有著自己的特色以及思考與行為方式(Yinger, 1960)。第三文化係一種不同文化之間、全球性的文化融合。它存在於虛擬世界中，在這個世界裡所有的使用者都有著不同的文

字語言，由於第三文化在語言上並無法完整的溝通，因此使用者通常會透過視覺影像的方式，來瞭解彼此的文化。

在第三文化中，使用者學習並重新學習關於影像的多種意義以及矛盾點。在第三文化中，透過使用者所建立的影像意義，係透過第三文化的居民建立文化的產物。

結論

虛擬世界中的視覺文化並非對於真實世界的重建，它是一個透過設計者們的想像力，而充滿著各種全球文化的一個空間。第二人生的視覺化虛擬世界，透過所有虛擬世界使用者們的原始文化背景的結合，形成了第三文化。第三文化是透過虛擬世界的使用者們進行發展、塑形與共享的系統。因此，爲了要能瞭解這個新文化，所有虛擬世界的使用者必須能夠解讀他們所見的視覺文化。

今日動態虛擬世界已蔚爲風潮，再加上要降低在教育各個領域中所隱藏的教義，在藝術教育中推廣視覺文化，成了一門重要的課題。根據 Gair 和 Mullins (2001) —「我們無法透過回溯或左右張望的方式來發現隱藏的教義；在大部分的情形中，我們其實都可以很明顯地看到它(p. 23)」。視覺文化也影響著人們透過視覺影像和彼此溝通的方式(Miller & Burton, 1994)。Myles (2004)指出：「視覺系統也許能提昇孩童及青少年對於社會認知的能力，有助於他們瞭解自己身處的環境，以及環境中潛在的教義(p. 19)」。虛擬世界中的影像通常會不自覺地影響著人類的學習感受(Barry, 2006)。

McFee 和 Degge (1977)指出一當人們視覺經驗增加時，他們的心理生活也會變得更爲複雜。人類在融入視覺化的虛擬環境前，會不斷地對影像進行學習，他們也會在理解了影像的本意後，再進而瞭解其內在含意(Semali, 2002)。在虛擬環境中，所有的影像都是透過設計而加以創造，有其存在的意義(Zhai, 1998)。在視覺化的虛擬學習環境中，必須透過視覺文化的教授，呈現出影像所潛在的教義。如同 Anderson (2002)所提及：「透過呈現，潛在的教義可隨研究對象所採用(p. 117)」。

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