


Article

Exploring Hong Kong Youth Culture via a Virtual Reality Tour

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Abstract: The advantages of employing virtual reality tours in teaching are attributed to the virtual reality experience it provides to the students. In the case of teaching popular culture, benefits from the potential of VR tour are amplified by the empirical significance that would lead to the students' imagination and reflection. In addition, an online VR tour suggests a flexibility that allows students to learn anytime anywhere, satisfying the need for blended learning and distance learning, which is a very critical mode of teaching and learning during the COVID-19 pandemic. This article discusses the advantages and challenges of blending "virtual reality" into the teaching of popular culture, and, furthermore, the implications of VR in tertiary education are discussed by examining the research that is conducted through the application of a VR tour in the course: Hong Kong Popular Culture. Sixty-eight students participated in the course. After implementing the VR tour, a questionnaire survey and interviews were conducted. In addition, students wrote essays to reflect on the youth culture of contemporary Hong Kong after the explanation of the tour, and these were also examined. We observed the positive responses from the students and the way in which the VR tour could enhance the learning qualities in the course on cultural studies.



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Keywords: virtual reality tour; tertiary education; cultural studies; Hong Kong youth culture

1. Introduction

Learning in the context of society is essential for studying a course on cultural studies, especially a course on local cultural studies. Being a lecturer teaching a course on Hong Kong popular culture, the first author of this article struggled to find an approach that could help students to establish the connection between knowledge production and society, while familiarizing them with the history and changes of the city of Hong Kong. One of the concerns was to get students immersed in the culture of the past in order to help them to reflect on the local culture of the current time.

Given such a circumstance, it seemed likely that virtual reality (VR) technology would be helpful for the course. The advantages of employing VR tours in teaching are attributed to the virtual reality experience it provides to the students. In the case of teaching popular culture, benefiting from the potential of VR tour is amplified by the empirical significance that would lead to the students' imagination and reflection. In addition, the online VR tour provides a flexibility that allows students to learn anytime anywhere, satisfying the need for blended learning and distance learning, which has become a crucial advantage during the COVID-19 pandemic. Therefore, under the support of a university-funded blended-learning project, a VR tour package was developed. The topic "Hong Kong Youth Culture" was selected for the VR tour, which would serve as a set of self-studying material for students.

In this article, the advantages and challenges of blending "virtual reality" into the teaching of popular culture are discussed. This research aimed at investigating whether the VR tour serves as an interesting and helpful learning resource for students. The following research questions were investigated: (1) What are students' perceptions of their learning

experience during the exploration of the VR tour? and (2) What is the appropriate approach of implementing VR in a tertiary-level course on cultural studies? These questions were investigated by examining the outcomes of implementing the VR tour in the course: “Hong Kong Popular Culture”.

2. Literature Review

Nowadays, scholars and educators are motivated to explore the potential of virtual reality (VR), a learning aid of the 21st century [1], as a learning environment for various disciplines of education with its swelling popularity. Chang et al. [2] (p. 917) define VR as “a virtual world in a three-dimensional space that can provide users with visual simulations, and simulations of the other senses such as touch, smell, sound, and taste”; thus, learners can experience their own learning without the limitations of time and space [2,3]. Parmaxi [4] (p. 1) points out that the integration of VR into the instructions “provides researchers with endless opportunities in terms of access to experiences that would be otherwise inaccessible”. Shin [5] suggests that VR provides learners with experiences and interactions with real-time learning phenomena that might not be accessed in the real world. With the simulation of a three-dimensional image or environment provided by VR, learners can interact with people wearing specially designed glasses or headsets, allowing them to feel immersed in the virtual world [6]. VR is favorable to many educational fields, for example, engineering education, medical education, space technology and mathematics, general education, and special needs education [7]. Being a learning resource, VR provides various learning activities: visits to art museums, the study of engineering principles, and role-playing through particular settings to perform different roles according to the teacher’s instructions; additionally, virtual tours to attractive cities or to global monuments are arranged to encourage desirable instinctive conversational scenarios among the learners or among the learners and the native speakers found in the virtual world, and there are maze games where learners have to find the way out of the labyrinth by answering quiz questions and by cooperating with several objects; etc. [8,9]. Through these activities, VR offers learners with more opportunities for social interaction and collaborative learning [8,10].

Various VR technologies have been used by researchers, for example, Second Life, OpenSimulator, VR 360 videos, Google Cardboard, Google Expeditions, Google Earth, platforms based on the cloud, hybrid virtual environments that encompass short video clips featuring virtual world avatars, or the Google Street View virtual environment for exploring culture learning, etc. [4,8–13]. To Ma and Zheng [14], VR systems can be categorized into three types: immersive VR, semi-immersive VR, and non-immersive VR (p. 170). Parmaxi [4] (p. 5) then elaborates that “a non-immersive VR system comprises a desktop computer-based 3D graphical system, allowing the user to go through the VE with the use of a keyboard, a mouse and a small computer screen. A semi-immersive system is an advanced system; where a graphical display is projected on a large screen. In a semi-immersive system, there might be some forms of gesture recognition system for natural interactions. Finally, the third type of VR is fully immersive head-mounted system where users’ vision is fully enveloped, creating a sense of full immersion”. In general, VR corresponds to recent developments in second-language acquisition by creating an immersive virtual learning environment [8,9,15]. VR includes “an increased focus on listening and speaking characterised by the emphasis on the development of oral skills, authenticity in communication, the use of real-life settings, the development of interactive skills via social practices (web 2.0), the use of multimodality to facilitate language learning and the development of informal learning practices as a complement to language learning” [8] (p. 261).

The research of Wang et al. [16], which focused on the effects of VR on language learners, found that most learners achieved linguistic gains and affective gains by using VR technologies. VR might be more effective for foreign-language learners as it could allow learners, especially those with little or no likelihood to travel abroad, to “acquire

the target language through authentic and immersive environments to have opportunities to experience language and cultural immersion through ‘real-world’ environments” [17] (p. 161). Parmaxi [4] systematically reviewed research articles published from 2015 to 2018 of seventeen high-impact journals and conferences. He suggests that VR technologies “can boost students’ learning and reform the learning and teaching experience” (p. 6). In addition, Gadelha [18] suggests that “by blocking out visual and auditory distractions in the classroom, VR has the potential to help students deeply connect with the material” (p. 40). This shows that one of the most advantageous features of VR in teaching and learning is its ability to reduce distractions when students are rightly immersed into the subject they are investigating [9,19]. However, Akçayır and Akçayır [20] found that distraction of students’ attention together with increased cognitive load and increased technology expenses and technical problems are some of the challenges faced when using VR.

Bonner and Reinders [19] point out that the use of VR is still in its infancy in language-education research. In addition, Lin and Lan [21] state that VR is still one of the least-published research subjects in the technology-based learning field even though the use of VR technologies in second-language acquisition has obtained popularity [22] and has seized the growing attention of educational researchers [23]. The meta-analysis of Parmaxi [4] shows that 21st-century skills, such as collaboration and cultural learning, are also under the microscope of researchers (p. 6). Vernier et al. [24] (p. 268) count culture as the fifth language skill amongst the four other skills: listening, speaking, reading, and writing. Ghafor [25] believes that language learners, with their cultural awareness, can use language to accept differences and be flexible and tolerant of ways of doing things that are different from theirs (p. 72). However, there is limited empirical research in using VR to teach culture-related topics, and the aim of this study was to investigate the effectiveness of using a VR tour to teach Hong Kong popular culture at the tertiary level.

3. Research Methods

A VR tour was specifically designed as the self-study materials for a university undergraduate-level course titled “Hong Kong Popular Culture”. There were sixty-eight students in the class; while sixty-four of them were undergraduate students (49 women and 15 men), four of them (one woman and three men) were mature students who joined the course through the program of the Elder Academy.

A 5-Likert-scale questionnaire survey was conducted among the students to investigate their learning experiences when using the VR tour. The questions were designed to examine if the students found the VR tour interesting and helpful for their study. The questionnaire has been validated as it was adapted for research in Asia [26]. Thirty-one questionnaires (24 women and 7 men) were returned.

Three interviews (two women and one men) were conducted to investigate students’ views towards the use of the VR tour in their learning and their suggestions regarding how the VR tour can be maintained for future cohorts of students.

Students’ performance in their essays was also examined in order to assess the effectiveness of the tour in terms of inspiring students’ reflections. Students were required to discuss the youth culture of contemporary Hong Kong after their exploration of the VR tour. The rationale of such a design was that the teen objects and hobbies introduced in the VR tour would to some extent stimulate students’ association with and reflection on the culture of the current time.

4. Design of a VR Tour of Hong Kong Youth Culture

The rationale behind the design of the VR tour was to provide students an immersive environment to study the history of Hong Kong youth culture and to have a better understanding of the local context for cultural studies; hence, they could reflect on the culture of recent years. To engage the students, the tour used a setting of daily life—the bedrooms of teenagers—and the participants could explore the bedrooms and acquire the information

in accordance with their own preference, starting with which room to visit, how long to stay in each room, etc.

The VR tour consisted of three virtual rooms representing the lives of Hong-Kong youth of different ages, namely, the 1950s–1960s, the 1970s–1980s, and the 1990s–2000s. Students would first arrive at the lobby of the tour, in which the entrances of the three rooms are shown (see Figure 1). Students were free to choose any room to start the tour; however, the rooms were introduced in chronological order in the teacher’s introductions.



Figure 1. The lobby of the VR tour.

4.1. The Room of the 1950s–1960s

Three rooms were decorated as the bedrooms of teenagers in accordance with the characteristics of the respective ages. The first room was a bedroom of the youth of the 1950s–1960s. This room was furnished with old-fashioned furniture. On the side of the wooden bunk bed, students could find the information of the social context for the studies of Hong Kong youth culture (Figure 2). To establish the context, the teacher would first introduce the poster on the wall during the briefing of the tour, as the poster was set as the mark of the old time—before the start of Hong Kong youth culture—as well as the start of the tour. The movie introduced in the poster is a famous classic movie of Hong Kong in the 1950s, and the teen characters are not the focus in the movie. Stemming from this point, students are invited to think about the role of teens/youth in Hong Kong society in the 1950s. To learn more detailed information about the movie, students could click on the icon “magnifier”, and a new window would pop up in which the information would be provided in the forms of text and audio narration.



Figure 2. The wooden bunk bed in the 1950s–1960s room.

Another piece of information—the newspaper on the bed—was provided, which indicates the change of the circumstance. The 1966 riot is introduced in the newspaper; the Hong Kong youth took up a leading role in this event.

On another side of the room, The Beatles concert of 1964 was introduced, as it serves as a critical event to build up a new sensation among the Hong Kong youth (Figure 3). While the introduction of the concert (text and audio narration) could be found by clicking on the “magnifier” icon, the live performance of The Beatles was also provided, which could be played by clicking on the “music note” icon on the stereo. Such a design aimed at offering students a taste of the atmosphere of Hong Kong in the 1960s.

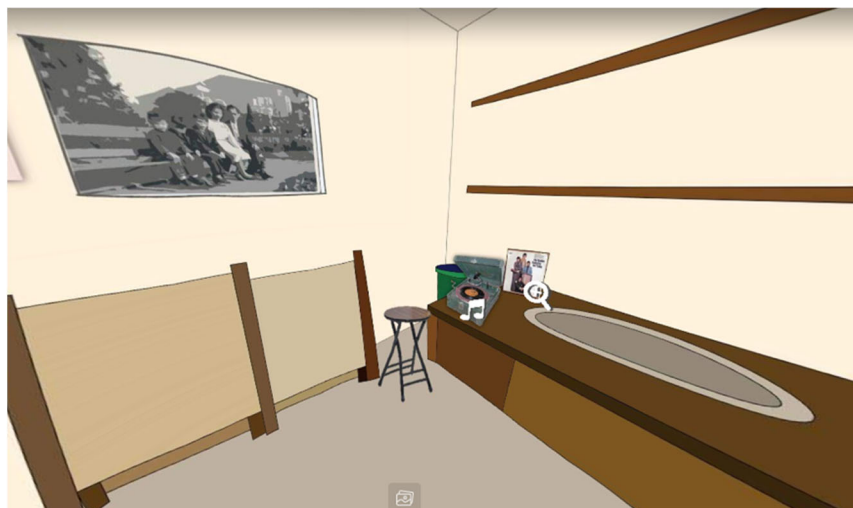


Figure 3. Another side of the 1950s–1960s room. The Beatles album and the stereo could be found at the corner of the room.

4.2. The Room of the 1970s–1980s

The 1970s–1980s room displayed an evident change in terms of the social context as well as the youth culture of Hong Kong. Such change would be firstly introduced by clicking on the window, outside of which was public housing (Figure 4). The picture was employed to indicate the growth of the society, and the information of the new policies for rebuilding Hong Kong society would be revealed in the window.

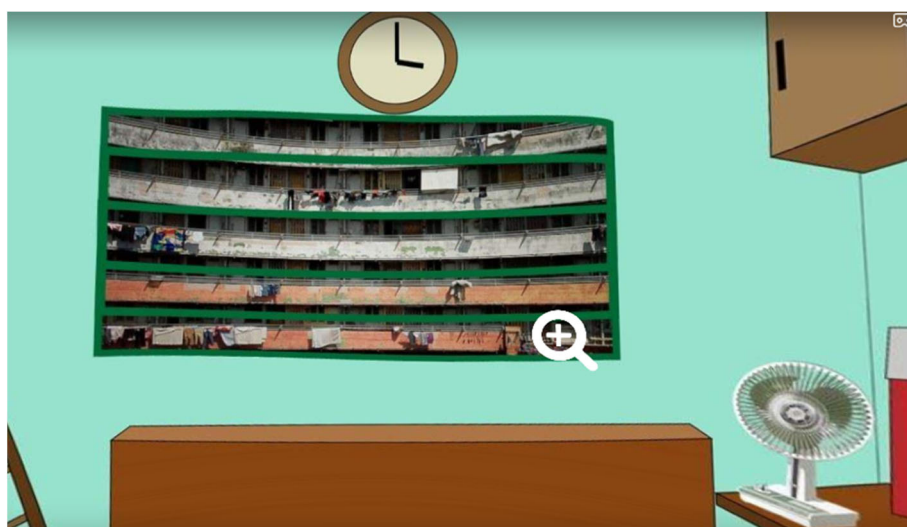


Figure 4. Photo of public housing in the room of the 1970s–1980s.

On the other sides of the room, the growth of the local music industry, the changes in food culture, the consumption culture, and the influence from Western cultures were also shown in the room (Figures 5 and 6). Similar to the room in the 1950s–1960s, other than the information in the forms of text and audio, video was also provided as a reference for students in order to offer a more comprehensive understanding of the culture of the decades.



Figure 5. Various old items in the room of the 1970s–1980s.

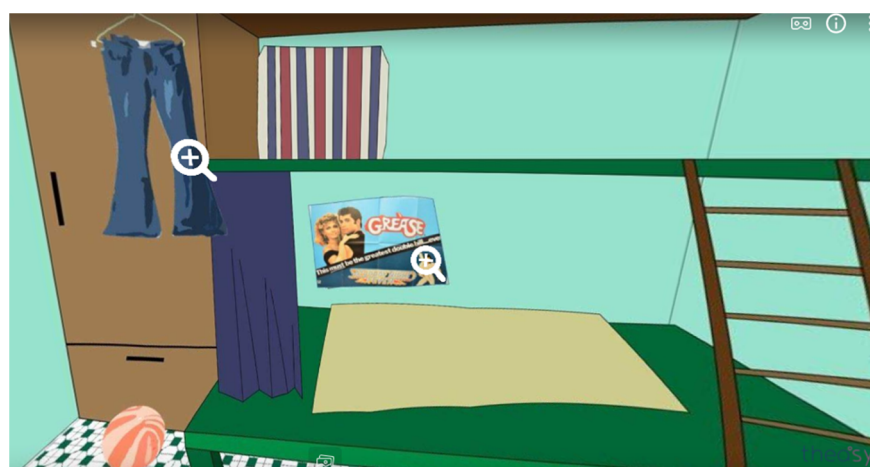


Figure 6. Jeans and movie poster in the room of the 1970s–1980s.

As shown in Figure 5, on the right side, the information of the popular music band “The Wynners” was provided, and the band’s performance could be played by clicking on the “arrow” icon. On the table, there were leaflets of a fast-food restaurant and a packaged drink, which were the mark of the new food culture among the young generation.

The pair of jeans indicates the new culture of consumption, the further explanation of which is introduced by clicking on the “magnifier” icon. The poster of a Hollywood movie serves as the mark of the influence of Western culture.

4.3. The Room of the 1990s–2000s

While the setting of room in the 1990s–2000s was still a teenager’s bedroom, the most evident difference would be the computer on the desk. Social media had become a dominant trend since the mid-1990s among the youth. Therefore, the online forums, which were popular in Hong Kong at the time, were introduced (Figure 7). Apart from the forums, CDs and posters were found everywhere in the room to exhibit the famous stars and music bands of Hong Kong in the 1990s–2000s (Figure 8). In addition to the music industry, the magazine, which has been welcomed by young people for decades, was also shown in the

scene. Similar to the other two rooms, further information of the objects in the room could be provided by clicking on the icons; video was another form of material provided in the room.

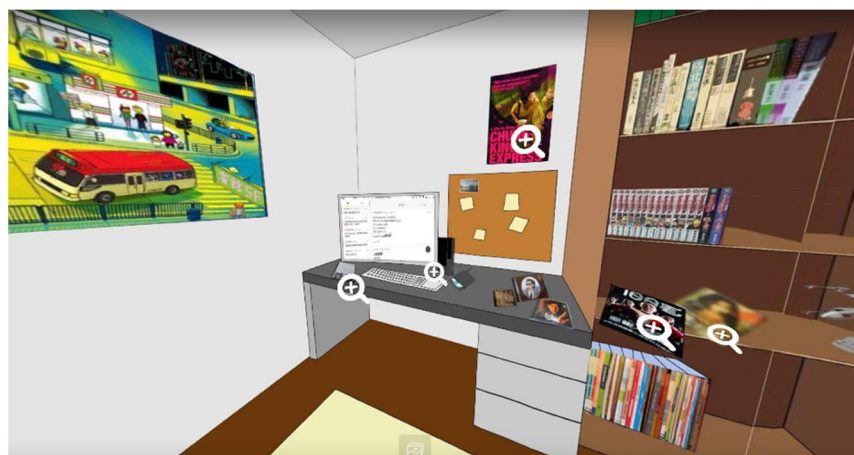


Figure 7. Online forums, pop stars, music bands, and magazines in the room of the 1990s–2000s.

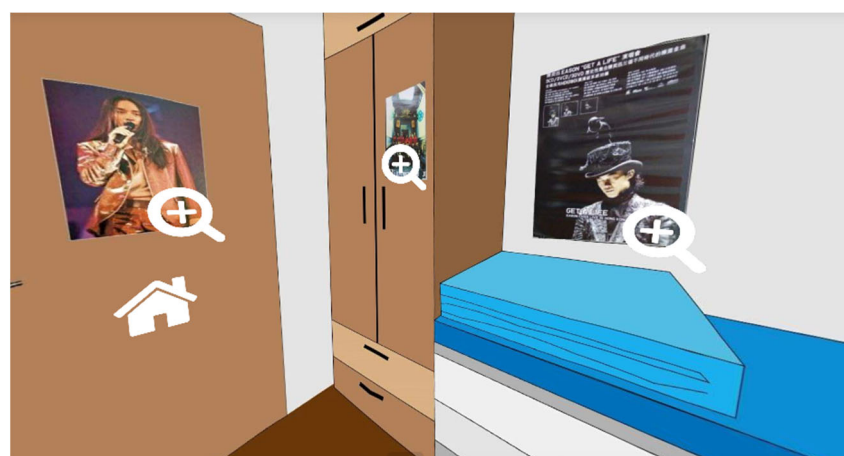


Figure 8. The posters of the popular stars and music bands in the room of the 1990s–2000s.

4.4. The Implementation of the VR Tour and the Challenges

Originally, it was planned that a briefing session about the VR tour would be held in a classroom. Some critical information about the tour would be introduced in the session. Afterwards, students would experience the VR tour in a classroom by wearing a pair of cardboard goggles (Figure 9), so that they would have the 3D experience of the VR tour. The web link to the VR tour would also be provided to the students afterwards for their further study.

However, the pandemic then broke out, and the face-to-face classroom teaching mode was changed to an online mode. As the VR tour could not be organized in a physical classroom, the briefing session was held via a Zoom lesson, and then students were given 45 min to explore the tour via the online mode in the Zoom class.

Such an experience provides insights into implementing the VR tour. Given the circumstance that the class size was large—sixty-eight students in total—it was difficult to find a place that would be spacious enough to accommodate so many people to explore the 3D experience of the VR tour. The criteria for choosing the place were not only the sheer size but also a place without intruding barriers/obstacles for the sake of safety (as students would put on the cardboard goggles). A suitable place on the campus was finally found, which could be utilized for the tour for about an hour. However, the second challenge then appeared, which was the outbreak of the pandemic. It was difficult to distribute the

goggles to the students when they were encouraged to stay at home to avoid the virus. Therefore, the option of organizing a 3D VR tour in a physical room was no longer viable. In order to let students take advantage of the VR tour as much as possible, providing the web link of the tour to the students for their self-study became the only option. The original semi-immersive VR design, using a comparatively high-performance graphics-computing system together with a pair of cardboard goggles, had to be changed to a non-immersive VR system in which the students were placed in a 3D environment using a monitor, a keyboard, and a mouse [4,13]. Fortunately, according to students' responses, they still enjoyed the experience of the VR tour even without the 3D effect. This will be further discussed in the Findings and Discussion section below.



Figure 9. Cardboard goggles.

After studying the development of the Hong Kong youth culture of previous decades, students were required to write a short essay to reflect on the recent youth culture of Hong Kong. They could share their views on (1) the position of Hong Kong youth of contemporary Hong Kong society or (2) the lifestyle of Hong Kong youth today. Students would have a week to work on the essay; meanwhile, they could go to check the VR tour for general information about the culture as well as the experience of the culture of previous decades anytime. Their performance in the essays served as one of the indicators for examining how well they achieved the learning outcomes of the VR tour activity, which is discussed in the next section.

5. Findings and Discussion

5.1. Questionnaire Survey

After completing the VR tour, students were invited to participate in a questionnaire survey, and thirty-one (24 women and seven men) completed the questionnaires that were returned to us. Table 1 below presents the findings of the part of the survey that was related to the VR tour, showing the respondents' experience of the VR tour. The questionnaire survey aimed at finding out students' perceptions on this new approach of learning. No control group was established in this study, and no other learning approach was employed to be compared with the VR-learning approach, as the teacher was expected by her university to teach all the students in the course in the same way.

In general, students' responses were positive. The questions were designed to investigate whether the VR tour would, to a certain extent, enhance students' learning. As seen from Table 1, over 60% of the students agreed or strongly agreed with the statements in all the questionnaire items.

Table 1. Questionnaire survey results.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Q1. I was attentive during the VR tour.	0%	3.2%	29%	58%	9.8%
Q2. I tried to connect what I was learning with what I already knew.	0%	0%	16.1%	77.4%	6.5%
Q3. I tried to relate what I was learning to my own experience.	0%	3.2%	22.6%	64.5%	9.7%
Q4. I consciously tried to make the different ideas fit together and make sense in my mind.	0%	3.2%	32.3%	58%	6.5%
Q5. I felt curious about the topics introduced.	0%	6.5%	29%	51.6%	12.9%
Q6. I felt interested.	0%	0%	25.8%	58.1%	16.1%
Q7. I enjoyed the VR tour as it was new to me.	0%	0%	25.8%	58.1%	16.1%

A significant result (agree and strongly agree: 83.9% in total) could be observed in Q2, which asked to what extent students tried to connect what they were learning with what they already knew. It is believed that such a result is related to the topic of the VR tour as well as the daily-life setting of the virtual rooms. The life of Hong Kong youth, especially those of more recent times, could be observed from everyday life, or even from the personal experience of some respondents.

With the statement of Q4, 74.2% students agreed or strongly agreed. The VR tour provided certain pieces of information that students had no knowledge of (probably the youth culture of earlier decades); however, the organized presentation of the content would help them to connect and organize the ideas. Therefore, classifying the history into different periods and then delivering information about Hong Kong culture through teenagers' bedrooms during those different periods is a suitable design.

In addition, the lively and interesting presentation was significant. Based on the findings of Q6 and Q7—74.2% students agreed or strongly agreed with the statements—we could see that students enjoyed the VR tour and found the learning experience of the VR tour interesting. This is one of the advantages of a VR tour, which could help deliver plain information in a more vivid way.

5.2. Interviews

As mentioned earlier, three interviews were conducted. In the three interviews, all students agreed that the VR tour helped their understanding of Hong Kong youth culture, and they supported the idea that this teaching approach should be maintained for teaching the youth culture of Hong Kong in the future.

Students found the authentic environment created in the VR tour very interesting and helpful for learning, as Student A claimed that “It’s authentic when we can really see the materials and surroundings in the VR tour. Our knowledge could be quickly consolidated”. Similarly, Student B stated, “I really like this experience, as I had never tried it before the lesson of Hong Kong Popular Culture. I find it very interesting. As I do not know how the housing looks like in the 1970s. It provides students with a clear setting while presenting the information to them. It will be more appealing compared to the traditional teaching method as it is more eye-catching and interactive”. Student C further supplemented that “It provides a more complete angle for us to discover the characteristics of youth culture especially in 80s/90s which we are not familiar with”.

From the positive views given by the students in the interviews, we could find some keywords in their responses: “authentic”, “interesting”, “clear”, “appealing”, “eye-catching”, “interactive”, and “complete angle”. The findings indicate that a VR tour, on the one hand, could provide students with an interesting and attractive method to learn, as students could experience cultural immersion through an authentic environment [16]. On the other hand, it provides students with interaction with real-time learning phenomena, which might not be accessed in the real world [5,7,9]. At the same time, as we could observe from their responses, the effectiveness of learning was also their concern. Therefore, the

advantages of the VR tour—letting students see, listen, and experience the “culture”—make the VR tour a suitable teaching resource for courses on cultural studies.

Furthermore, the positive responses from students reflect that the exploration of a VR tour online without the 3D effect is still acceptable for students. We hope that when students are back to the classroom, we can allow them to experience the 3D effect of the VR tour through wearing the cardboard goggles, so that they can be immersed in an even more realistic environment, which would further improve their learning experience.

5.3. *The Essays of the Students*

After exploring the VR tour and visiting the bedrooms of Hong Kong youth of previous decades, students were required to write a 300-word essay to discuss their views on the youth culture of contemporary Hong Kong. As the development of Hong Kong youth culture serves as the concept of the VR tour as well as the threshold of inspiring students' reflection on the topic, the comparison between the past and the current time and the concerned discussion in the students' essays was employed as the perspective to be examined here. The following questions would serve as the direction for investigation in order to identify the effectiveness of the VR tour applied in the teaching: (1) Did the VR experience provide perspective for students for reflection? If so, how did the VR experience help during the process? And (2) What insights have the students gained after the exploration of the VR tour?

In some students' discussion, it was observed that, in the past, the entertaining and foreign elements of the youth culture were highlighted, while, today, local culture, such as Cantopop and local media have been embraced by Hong Kong youth. Some of them even suggested that there has been a trend of nostalgia recently. Young people deliberately find old movies and Cantopop to watch and listen to as a way to know more about the local culture and the history of the city.

On the other hand, some students noticed the old-fashioned mode of entertainment, such as local TV stations, for the youth in the past. They discussed the change that watching streaming videos online is more popular among Hong Kong youth today. Students also related such changes to globalization and the burgeoning development of the Internet. Some of them talked about the news report programs. Students pointed out that the variety of news media was not sufficient to offer Hong Kong youth an adequate angle to observe Hong Kong and international societies. They pointed out that such a shortage was now complemented by the thriving social media, which could provide news reports in a more diversified and immediate manner. Extending the discussion of the usage of the Internet, some students furthered their argument that Hong Kong youth today have a higher competitiveness in the international context because of their connectivity with the world, which could not be found in the youth in the past.

Moreover, the overview of Hong Kong's circumstance was also discussed by the students. They noticed the poverty and hardship shared by the Hong Kong youth in the past. Students expressed their understanding that Hong Kong youth of previous decades could not enjoy adequate resources to develop their interests. Comparing themselves to previous generations, students were aware that the youth of contemporary Hong Kong have a more luxurious lifestyle.

Some students found the similarities between the past and the present, such as the trend of idol-worshipping and pursuing trendy fashion style. However, they further discussed the differences: the pop stars, movies, and Cantopop, as well as the fashion style of Hong Kong, which led the trend of Asia in the previous decades, while Korean style has become more dominant nowadays. To explain this, students suggested that the dominance of Hong Kong popular culture in Asia had ended some time ago, and its position had been replaced by Korea.

Therefore, through analyzing students' essays, we could further answer the research questions. It could be observed that the knowledge and experience of youth culture of previous decades provided by the VR tour served as the resources for students to draw

comparisons. Students found differences and similarities between the past and the present in terms of Hong Kong's youth culture. The history of the culture serves as a suitable perspective for students to reflect on the culture of recent times. In addition, the virtual environment provided by the VR tour allowed students to immerse themselves in the culture of the past, inspiring them to have a more in-depth reflection on the topic. This shows that the VR tour provided students with insights to make real-world connections between the subject matter and their own lives [18]. The unexpected outcome is that the immersive experience would also arouse their sympathy and empathy for the people in the past. Having witnessed the living environment as well as having experienced the entertainment of the youth of previous generations, students had a taste of the lives of the old time, which not only enhanced their understanding of the past culture but also let them feel the hardship that the previous generations had been through.

Although students' feedback towards the VR-learning approach was overwhelmingly positive, and we did not receive any negative feedback, it should be admitted that there are some potential difficulties students might encounter when using VR technology. For instance, they might find themselves distracted by the interesting content and might not find the focus of the learning content; they might feel lost if they have not received adequate instruction for using the VR tour. Therefore, the balance between the attractions and the focus of the learning content of the VR-learning resources must be handled carefully, and assigning a task to students (e.g., writing an essay after exploring the VR tour) as the goal of their exploration of the VR tour would be a useful approach; meanwhile, the teacher must provide clear instructions for students prior to their exploration of the VR tool for self-study.

6. Conclusions

The purpose of this study was to investigate the advantages of applying virtual reality technology into the teaching of popular culture. To answer this question, the responses from the questionnaire survey and interviews as well as the students' performance in the essays were discussed. The results show that the students' responses to the integration of the VR tour into their learning of popular culture were generally positive. Specifically, the daily-life setting for the VR tour was evidently significant for students' effective learning and engagement. Students exhibited a tendency of connecting the content of virtual reality with their real-life experiences. However, the research also showed that students could handle new information imbedded in the tour if the content was delivered in an organized manner. Therefore, the design of mingling new information with the familiar setting for the VR tour would be helpful for students' learning. Students' responses from the survey and the interviews confirmed that the lively and interesting presentation of VR tour is another attraction for students, increasing their motivation and enjoyment for learning.

Students' performance in their essays serves as another medium for assessing the effectiveness of the VR tour in terms of inspiring students' reflections. Students' employment of the knowledge gained from the VR tour (namely, the history of Hong Kong youth culture) in their essays evidences the effectiveness of this approach of blended learning. The youth culture of previous decades was frequently adopted in students' essays and compared with the Hong Kong youth culture of recent years. The immersive experience provided by the VR tour serves as the inspiring tool for students' reflection. Furthermore, the "real" environment allows students to feel the atmosphere of the past, arousing their sympathy and empathy for the previous generations of this city. Such attention to the local society and its history so as to establish a more concrete social context for learning culture is the primary rationale behind the design of the VR tour. In this sense, the purpose of this VR tour was accomplished.

In conclusion, this study demonstrated that VR technology is feasible and effective for teaching courses on cultural studies. The result of this study also provides some insights on VR content delivery that would motivate students and make learning enjoyable. This research offers some suggestions for the design of VR tour and its implementation, and it

is hoped that it will provide some useful references for future studies on applying virtual reality technology in the teaching of courses on cultural studies.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

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