The Application and Innovation of Animation Technology in Multicultural Communication Activities that Involve Malaysia and China

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Abstract. Today's society is a global one and it enters an Information Era. The new generation (Alpha Generation) is tech-savvy. In the past decades, there have been many multicultural communication activities in Malaysia and China, among which Chinese animation technologies have played important roles. Though China has made progress in its animation technologies, it still is facing some challenges in multicultural communication activities in Malaysia and China. This research aims to explore the market potential of Chinese animation in conducting multicultural exchange activities in Malaysia and discuss the strategies for innovating Chinese animation to gain its markets in Malaysia in terms of multicultural exchange activities. This study using qualitative approaches (such as interviews, observation, and desk research based on secondary data) was employed in this research. 15 participants (7 Chinese participants and 9 Malaysian participants) were randomly recruited online and responded to the online survey. The collected data was analyzed with content analysis. The interview of participants from both countries showed that hand-drawn animation, traditional animation, digital animation technology (both 2D and 3D), and VR/AR technology were the animation techniques already applied in the post-2010 multicultural events in Malaysia and China. However, innovative animation techniques were still faced with challenges, such as acceptance of local MarketWatch of professional talents, misunderstandings due to multiculturism, and challenges due to technical level and resource limitations. Efforts should be made to strengthen the training of animation talents and introduce new technologies, such as artificial intelligence and deep learning methods. Globalization and new generation and the new technology had impacted innovative animation technologies in multicultural exchange activities. This research is of great practical significance. It will be helpful to the policymakers and the practitioners, as well as the animation designers.

Keywords: Multicultural communication activities, globalization innovation, animation technology.

1.   Introduction

At the "Belt and Road" (Nanning) Animation and Game Industry Cooperation and Development Forum (CAG+) held in 2017, with the theme of "The Global Future of

China's Animation and game industry", the participants, including Malaysia and China, jointly discussed the cooperation and future development of China and countries along the "Belt and Road" in the field of animation and game industry [14]. Later, on April 29, 2018, the China-ASEAN Expo Animation and Game Exhibition further promoted China-ASEAN Expo animation multicultural exchanges [5]. In recent years, Chinese animation techniques have made great progress. Chinese animation is getting better and better every year and playing an important role in multicultural exchange activities between Malaysia and China. Chinese animation has attracted more and more attention from Malaysians. The quality and production level of Chinese animation has been greatly improved, and more and more Chinese animation has begun to achieve success in the Malaysian market. It is digital technologies that have made Chinese animation on the global stage, competing with Japanese animation and Western animation. Many Chinese propose to integrate traditional Chinese cultural elements into Chinese animation [8]

Multiculturalism can be defined as: "Recognition of the cultural diversity, which is inclusive of race and religion diversities where every stage of this process can be assumed as the life history of society", according to Arlena & [16]. Multiculturalism in Malaysia is influencing the politics of the state and the everyday life of its people. [16] The official policy of Malaysia promotes its Multiculturalism, asserting the multicultural character of its society while upholding the peaceful coexistence of its three largest communities (Malays, Chinese, and Indians) [2]. Malaysia is making efforts to reconstruct a multicultural society through visual culture like Animation. Multiculturalism in Malaysian animation has the notion that different cultures can create a good relationship with the harmony of differences in unity and simplicity [1]. On the other hand, animation in Malaysia is faced with challenges such as animation production challenges, animation viewership challenges, and competition challenges [4].

Thus, there are some obstacles to the multicultural exchange of Chinese animation in Malaysian markets. Firstly, many Chinese animations are adapted from online novels, games, or even Japanese anime, which lack originality. Chinese animation playing roles in multicultural exchange activities in Malaysia needs innovative ideas or Chinese animation needs to innovate the animation techniques as current Chinese animation techniques lag behind the Western and could satisfy the needs of the multicultural exchange activities. Secondly, most of the content of the Chinese animations is based on traditional Chinese mythological stories, which are familiar to Chinese audiences. For Malaysian audiences, due to the influence of cultural differences, it is difficult to deeply understand the plots and themes. Chinese culture is based on high context. Due to the differences between Chinese and Malaysian contextual cultures, Malaysian audiences have different deconstructions of symbolic meanings. The humorous elements in the animation cannot be well understood by Malaysian audiences, which makes it difficult for the animation to arouse the cultural identity of Malaysian audiences. The stereotype of Chinese animation by Malaysian audiences is also one of the factors that make it difficult for Chinese animation to carry out cross-cultural communication smoothly. It is because Chinese animation does not pay attention to constructing pluralistic labels of symbols when carrying out cross-cultural

communication [11]. This research will address the following research questions 1) What are the animation techniques applied in the post-2010 multicultural events in Malaysia and China? 2) What are the advantages and disadvantages of using animation techniques in multicultural exchange activities? and 3) why is it important to innovate the technicality of animation in multicultural exchange activities? This research aims to explore the market potential of Chinese animation in conducting multicultural exchange activities in Malaysia and discuss the strategies for innovating Chinese animation to gain its markets in Malaysia in terms of multicultural exchange activities.

2.   Methods

The research design of this study is using qualitative approaches (such as interviews, observation, and desk research based on secondary data) were employed in this research. The semi-structured interview was used to investigate the views of the respondents regarding the application and innovation of animation technology used in multicultural exchange activities between China and Malaysia. Participant and sampling are the optimal sample size ranges from 20 to 30, as recommended by [10]. The sample size is determined by 1) sample specificity, 2) established theories,3) the research aims and objectives, 3) communication strategies, and 5) analysis strategies [6]. Taking these factors into consideration, the sample size is set to 7-9 participants per group (7 Chinese participants and 9 Malaysian participants), a total of 15 participants. They are randomly sampled from the animation teachers. To take ethical consideration, a number was employed, like CT01 and MT01, instead of their name. Data collection and analysis using a semi-structured interview question list was developed with open-ended questions. These questions are designed based on the research questions, with the purpose of collecting information about the advantages and disadvantages, significance, challenges, direction, and strategies of using innovative animation techniques in multicultural exchange activities in Malaysia and China To facilitate the interview, it is posted on the online survey platform. The targeted participants are asked to respond online. The collected data will be downloaded for further analysis. Since the data was textual. Content analysis was employed to analyze it. It involves scribing, theming, coding, and summarizing.

3.   Findings

3.1.   The animation techniques applied in the post-2010 multicultural events in Malaysia and China.

Since 2010, there have been frequent multicultural exchanges between China and Malaysia. Animation technology is also an important aspect of multicultural exchanges between the two countries. 2D animation and 3D animation are the animation techniques applied in the post-2010 multicultural events in Malaysia and China, according to 4 of 7 of the Chinese participants (namely, CT01, CT03, CT04, and CT07), In addition, Hand-drawn animation, traditional animation, digital animation technology, and VR/AR technology were also the animation techniques applied in the

post-2010 multicultural events in Malaysia and China, according to CT01, CT02 partly agreed with CT01 in VR animation and traditional animation; CT03 partly agreed with CT01 in digital animation; CT04 partly agreed with CT01 in hand-drawn animation and traditional animation; CT05 partly agreed with CT01 in hand-drawn animation and digital animation technology. These technologies provided more forms of expression and creative space and enriched the presentation of the multi-cultural exchange activities. Seen from the 9 Malaysian participants, animation with a multicultural theme show the characteristics and interactions of different ethnic groups, religions, and cultures and they are distributed through channels such as cinemas, television, and online platforms, promoting the multicultural exchange between the two countries (according to MT09). The animation techniques applied in the post-2010 multicultural events in Malaysia and China include flash animation (MT08), VR animation (MT07), 2D animation (MT02), 3D animation (MT02, MT04, MT05, MT06, MT07), and digital animation (MT02). In addition, MT01 argued that animation technology was mainly based on audio and video processing technology, followed by integrating artificial intelligence (AI) and machine learning methods, animation innovation had a multidimensional feeling. China started relatively late in animation technology. The country had made significant progress in 3D animation and VR technology. The application of VR technology in the creation and design of 3D animation had broken through the interactivity of 3D animation, making China's animation technology a new level [3]. The use of deep learning and VR technology in animation can better the experience of an audience [9]. The interview confirmed that China had made progress in animation technologies, facilitating the multicultural exchanges in Malaysia and China.

3.2.   Advantages and disadvantages of using animation techniques in multicultural exchange activities in Malaysia and China.

The animation techniques in multicultural exchange activities in Malaysia and China had a very strong vitality and cohesion, according to CT06. Animation technology could create rich and diverse virtual worlds, showing the unique features of different cultures, and stimulating the creativity and imagination of the audience and it could also present abstract concepts and stories in a visual way, making it easier for audiences to understand and accept multicultural content. VR and AR animation techniques can provide a sense of interactivity and immersion, enabling the audience to participate more deeply in multicultural activities with enhanced sense of participation and experience. More importantly, it could break down language and cultural barriers and promote understanding and exchange between different cultures (according to CT01). It could present complex multi-cultural content in a vivid way, making it easier for the audience to understand and feel the charm of different cultures and promoting respect and tolerance for other cultures (according to CT02). CT04 and CT05 argued that the advantage of these technologies was that they were innovative and could bring a new visual experience to the audience whereas CT07 argued that it was in line with the cultural traditions of their own countries and could arouse the interest of people from cross-culture. However, the application of animation technology required advanced technical equipment and professional technical personnel, which might increase the

threshold in cost and technology, thereby limiting the participation of some regions or organizations with fewer resources (CT01, CT03, and CT04). Additionally, when animation technology expresses multiculturalism, cultural misunderstanding might occur. Subtle differences and sensitive issues between different cultures might not be fully presented, resulting in the audience's biases in understanding and cognition of cross-cultures (CT01 and CT02). Moreover, over-dependence on animation could cause people to lose interest in real multicultural experiences, which subsequently affected their enthusiasm for participating in multicultural activities. As seen by Malaysian participants, the application of animation technology brought unprecedented innovation and imagination to multicultural events, making the animation attract a wider audience and make cultural exchange smoother (MT02). Its combination of artificial intelligence and machine learning methods had also allowed multidimensional animation to flourish (MT01). Animation technology could provide a wealth of creative expression and bring more possibilities for multicultural activities through image, action, sound, and other elements (MT04). Similarly, according to MT09, animation technology allowed creators to have more space for innovation, and using various special effects, angles, lines, etc., they could create rich and diverse animation works, bringing more possibilities to multicultural activities. Moreover, the animation technology provided an interactive approach, allowing the audience to understand and experience the multi-culture more deeply (MT03). It could overcome geographical and time constraints and bring together various multicultural elements (MT08). The advantages of using animation techniques in multicultural exchange activities in Malaysia and China, viewed by the Malaysian participants were like those viewed by their Chinese counterparts. It was the same with the disadvantages. Several Malaysian participants (MT02, MT04) recognized the disadvantages of high cost and dependence on professional talents.

3.3.   Significance of innovative animation technologies in multicultural exchange activities

Innovative animation technology not only could help people better understand and appreciate the stories and values of different cultures, thereby overcoming language and cultural barriers, but also could enhance the expression of stories and values of different cultures through special effects, motion capture, and virtual reality, making them more vivid. Additionally, it could help designers create unique visual styles with aesthetic characteristics of different cultures, thus attracting more audience attention and promoting multicultural communication (CT01). Similarly, according to CT03 and CT04, innovative animation technology broke through the barriers of language and culture to convey information and cultural connotations in a visual way, making audiences feel the charm and uniqueness of different cultures more intuitively. Innovative animation technology catered to the young generation who favor digital technology and could better interact with them and disseminate multi-cultural information among them (CT02). CT06 argued that the multicultural characteristics of innovative animation technology could avoid misunderstandings in the process of communication and cooperation. Malaysian participants presented similar arguments over the significance of Innovative animation technology that could break through the limitations of time and space, enabling multicultural activities to be transmitted in

different places and times and appreciated by audiences with multicultural backgrounds (MT03). Innovative animation technology could present the characteristics and values of multiculturalism to help the audience better understand and appreciate multiculturalism through elements such as visual effects, movements, and sounds (MT04). MT06 argued that innovative animation technology satisfied the need of the globalized and digital era which calls for spreading multicultural characteristics and expressing multicultural thoughts. MT08 argued innovative animation technology enhanced the sense of immersion, participation, and experience. MT02 and MT09 pointed out that innovative animation technology could overcome language and cultural barriers, telling multicultural stories in a more vivid way, so that the audience with cross-culture was not limited by language and cultural differences, and innovative animation technology makes animation easier to understand and audiences with immerse experience.

3.4.   **Challenges of innovative animation in multicultural exchange activities.**

There were differences and misunderstandings between different cultures so that innovative animation needed to find appropriate ways of expression on the premise of respecting and understanding different cultures to avoid cultural conflicts or misunderstandings. The production of innovative animation needed to invest a lot of money and resources, including manpower and technical equipment. The challenges in funds and resources might negatively affect the innovation in animation creation. Animation technologies are constantly updated and evolving, and Animation creators or producers need to constantly learn and adapt to new techniques and tools so as to remain their competitiveness. Thus, the difficulty of technology research and development, communication barriers caused by cultural differences, and market acceptance were considered the key challenges that innovative animation faced in multicultural communication activities (CT01, CT03, CT04). CT06 argued that the lack of professional talents and the lack of innovative thinking or innovation consciousness were the challenges of innovative animation in multicultural exchange activities. Viewed from the Malaysian participants, the challenges come from technological innovation and improvement (MT01), technical level and resource limitation (MT02), culture differences (MT02, MT04), marketing (MT03, MT05), acceptance of the local market (MT02, MT09), lack of professional talents (MT07), lack of feedback or evolution (MT08) and inheritance of the traditional culture (MT06).

3.5.   **Directions of innovative animation in multicultural exchange activities**

The directions of innovative animation in multicultural exchange activities included: technological innovation, such as virtual reality and augmented reality; Style innovation, such as cross-cultural integration of artistic expression; Content innovation, such as integrating various cultural elements into animation works; Localization and cross-cultural cooperation, such as incorporating local cultural elements and different cultures (CT01, CT02, CT03, CT04, CT05). Innovative animation could present multicultural content by creating unique storylines and narratives, exploring the traditional stories of different cultures, myths, and legends, or creating original stories with multicultural elements. Multicultural content could be presented using emerging

technologies and media, such as VR and AR, providing a more immersive experience and sense of engagement, enhancing viewers' understanding and interaction with diverse cultures, as well as exploring the artistic styles, patterns, colors and other elements of different cultures, or combining multiple cultural elements together to create unique artistic effects. Multicultural content could also be created through cross-cultural cooperation and exchange to jointly explore and express multicultural themes and values (CT01), being presented in a modern way, reinterpreting traditional stories and legends, while injecting innovative elements to make the culture more vibrant and easier for the younger generation to understand and accept (CT02, CT06). As for the directions of innovative animation in multicultural exchange activities, Malaysian participants have similar opinions. They proposed to innovate storylines and characters across cultural boundaries, to skillfully integrate traditional culture with modern elements to create novel and interesting storylines (MT02, MT03 MT04). Innovative animation could create different multicultural worlds through unique art styles and visual effects by using different painting colors, lines, and lighting effects, or combining contemporary art and traditional cultural elements to create a unique visual experience, making it easier for viewers to immerse themselves in a multicultural world (MT09). Making use of traditional cultural resources to creatively compile animation scripts was a realistic way for the sustainable development of the animation industry (MT01,) while the international outsourcing of animation production has become the mainstream trend in the era of industrialization (MT05).

3.6.   Strategies for innovating animation techniques in the multicultural exchange activities

Regards to Strategies for innovating animation techniques in multicultural exchange activities, Chinese participants have their own idea. According to CT01, before creating a multicultural animation, it needed to thoroughly research and understand the relevant cultural context, values, and traditions to avoid misunderstandings and conflicts. In addition, multicultural animation designers or producers should collaborate with designers, creators, and artists from different cultural backgrounds to create multicultural animation. Through cooperation and exchange, creativity and views from different cultures could be integrated to enrich the content and expression of animation. Moreover, it needed to explore traditional stories, myths, and legends of different cultures, or create original stories with multicultural elements; explore the artistic styles, patterns, colors, and other elements of different cultures, and integrate various cultural elements together to create unique artistic effects. Furthermore, it needed to use emerging technologies and mediums such as VR, AR, and interactive animation, to deliver more immersive experiences and a sense of engagement (CT01). CT06 summarized it into three steps: exploration, exploration, and innovation. The first step is to explore the traditional culture of different cultures as the story themes and elements of animation scripts; the second step is to explore and learn modern technology, especially advanced animation technology in Western countries, and the third step is to boldly innovate animation style and expression language. CT02 attached more importance to cultural authenticity and accuracy and the audience's acceptance. It needed to seek the advice of a cultural expert to ensure that the content is authenticity and accurate, without biases and misunderstandings. Additionally, needed to conduct

relevant research to understand the needs of audiences as they have different ages, backgrounds, and cultures. CT07 proposed to introduce new technologies, such as artificial intelligence and deep learning methods. Malaysian participants had strategies that had little difference from those of Chinese participants. They suggested to strengthen the training of animation talents and technology research and development to improve the creative level and competitiveness. At the same time, focus on cross-cultural cooperation, and learn from the animation experience of different countries. Governments and cultural institutions can provide training, incentives, and showcase opportunities to stimulate the creativity of young people (MT03). Respect and study the target culture and understand and respect the values, customs, and expressions of the target culture (MT04, MT09). Diversified forms of expression to meet the needs of the market and the audience (MT05) strengthen the creativity and originality of animation scripts, encourage originality (MT06, MT07) introduce market players, social groups, professional third parties to participate in animation production, and achieve cross-border cooperation and cross-cultural exchange (MT08, MT09).

4.   Discussion

4.1   Globalization, new generation, and new technologies

Nowadays globalization is an irreversible trend. As an important medium, animation carries the role of spreading culture and expanding international influence. Chinese animation is being fused into an international environment. Chinese animation is making efforts to utilize different cultural content and targeting regional markets, such as the Malaysian market [13]. Chinese animation plays an important role in the multicultural exchange activities in Malaysia and China.

Malaysia is a multicultural country with different races, religions, and customs. It is affected by globalization, which has enhanced its multiculturalism [7]. When creating animation, great care needs to be taken with cultural symbols and content to avoid offending any group. It needs to respect the culture of any group to ensure that innovative animation can accurately convey the values and characteristics of diverse cultures, taking multiculturalism into consideration.

In addition, the new generation (Alpha Generation), who are tech-savvy, has an impact on innovating animation techniques in multicultural exchange activities. The alpha generation refers to the generation born between 2010 and 2025. They need digital skills as they live in the digital era. They will embrace innovation, progressiveness, and advancement [15]. For audiences with different cultural backgrounds (for example, Malaysian culture differs from Chinese culture), the animation may need to be moderately customized. The cultural habits and aesthetic views of different regions and groups are different, and some adjustments and adaptations, as well as localization, may be needed to make animation better convey cultural information in multicultural settings. Furthermore, animation technologies are constantly updated and evolving, and Animation creators or producers need to constantly learn and adapt to new techniques and tools to remain their competitiveness. Contemporary animation creators should

comprehensively consider the originality of the work and market demand to seek a balance point, they are required to have their own original creativity and expression while making adaptations to the existing animation with multiculturalism.

4.2,   **Limitations**

This research had some limitations. Firstly, this research was a qualitative one. Thus, it had the limitation that qualitative research commonly has. Secondly, the interview was conducted by self-reporting through the online survey platform, other than a face-to-face interview. Several participants might not really understand the intention of the researcher so their responses to some of the questions were not helpful. Thirdly, the data analysis (content) was subject to subjective biases.

5.   **Conclusions**

Malaysia is featured with multiculturalism. Chinese animation plays an important role in multicultural exchange activities in Malaysia and China. Under the context of the information era and cultural globalization, Chinese animation has its opportunities and challenges in multicultural exchange activities in Malaysia and China. The interview of participants from both countries showed that hand-drawn animation, traditional animation, digital animation technology (both 2D and 3D), and VR/AR technology were the animation techniques already applied in the post-2010 multicultural events in Malaysia and China Currently, these animation techniques had its advantages such as bringing a new visual experience, providing a sense of interactivity and immersion and being of strong vitality and cohesion. and disadvantages such as high cost and dependence on professional talents. To satisfy the new demand of the new generation and respond to the new technology, it calls for innovative animation technologies in multicultural exchange activities. It is because they could express multicultural thoughts and they could overcome language and cultural barriers, telling multicultural stories in a more vivid way. On the other hand, they were faced with challenges, such as acceptance of local MarketWatch of professional talents, misunderstandings due to multiculturism, and challenges due to technical level and resource limitations. To mitigate these challenges, directions of innovative animation in multicultural exchange activities included: technological innovation, style innovation, content innovation, localization, and cross-cultural cooperation. Thus, it is suggested to strengthen the training of animation talents and introduce new technologies, such as artificial intelligence and deep learning methods. Therefore, this research is of great practical significance. It will be helpful to the policymakers and the practitioners, as well as the animation designers. It will provide a reference for the policymakers to stipulate the policy that promotes multicultural exchange activities and enhance the training of a professional. In addition, it enables practitioners and animation designers to identify the market potential.

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