

Research on Gamification Design Method of Cultural and Creative Products of Research and Study Category in the Context of Culture and Tourism Integration

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ABSTRACT

In the context of culture and tourism integration, cultural research travel has developed into an important way to enhance the spiritual quality of young people. Among them, cultural and creative products are an important carrier in the process of learning travel experience, promoting young people to more deeply perceive the charm of traditional culture. However, how to develop cultural and creative products of research and study category that meet the characteristics of youth groups and educational needs is a practical problem that needs to be solved in the cultural research travel. By using the gamification theory, this paper summarizes the elements of game design of cultural and creative products of research and study category, and constructs an innovative model of gamification design methods for cultural and creative products of research and study category. Through this study, it is found that the involvement of gamification design in the design of cultural and creative products of research and study category will help to extend the use cycle and experience time of cultural and creative products, so that young people can constantly feel the cultural connotation released by cultural and creative products in the process of gamification experience.

Keywords: Culture and tourism integration, Cultural and creative products of research and study category, Gamification design.

1. INTRODUCTION

In February 2022, the General Office of the Ministry of Culture and Tourism of the People's Republic of China, the General Office of the Ministry of Education and the Office of the State Administration of Cultural Heritage jointly issued the Notice on Promoting the Spiritual Literacy of Teenagers by Using Cultural and Tourism Resources and Cultural Relics Resources (hereinafter referred to as the "Notice"). The "Notice" clearly states: "there is a must to further integrate cultural and tourism resources and cultural relics resources, use students' spare time to carry out education on advanced socialist culture, revolutionary culture and excellent traditional Chinese culture for young people, cultivate their will quality, enrich their cultural life and improve their spiritual quality." It is explicitly mentioned

that it is necessary to encourage the development and design of cultural and creative products for young people, which combine education with entertainment¹ [1]. In recent years, under the guidance of national policies, the Chinese domestic research tourism market has developed vigorously, and all major research activity bases have actively launched relevant cultural and creative products. However, most of the cultural and creative products of research and study category have superficial exploration of cultural connotation, which makes it

1. Ministry of Culture and Tourism of the People's Republic of China Circular of the General Office of the Ministry of Culture and Tourism, the General Office of the Ministry of Education, the Office of the State Administration of Cultural Heritage on Using Cultural and Tourism Resources and Cultural Relics Resources to Improve the Spiritual Literacy of Teenagers [EB/OL]. (2022-02-21) [2022-08-05]. https://zwgk.mct.gov.cn/zfxxgkml/ggfw/202202/t20220221_931127.html. (in Chinese)

difficult for young people to have empathy and profound understanding of culture. Therefore, this research mainly discusses the internal relationship between the gamification and cultural and creative products of research and study category, summarizes the gamification design elements of cultural and creative products of research and study category, and constructs an innovative model of gamification design methods for cultural and creative products of research and study category centered on youth groups, with a view to bringing certain reference value to the development and research of cultural and creative products of research and study category in the future.

2. CULTURAL AND CREATIVE PRODUCTS OF RESEARCH AND STUDY CATEGORY

According to the literature in the tourism field and relevant government documents, the commonly used definition of research tourism in tourism research is: research tourism is a tourism that aims at inquiry and research learning, and it is a tourism behavior that points out the demand for cultural knowledge²[2]. The relevant documents issued by the Ministry of Education define the research study tourism as: research study tourism is an extracurricular educational activity that is organized and arranged by the school in a planned way for all primary and secondary students, and is carried out through collective travel, centralized accommodation and travel experience³[3]. It can be seen that the main difference in the definition of research tourism is that the group experience of research tourism defined in the tourism field is more extensive, while in the document issued by the Ministry of Education, the object of research tourism is more accurate for students at school. However, it cannot be denied that both of them are tourism activities with the main goal of learning and research. Therefore, the cultural and creative products of research and study category discussed in this paper are aimed at young students in school. At the same time, the cultural and creative products of research and study category in this study refer to

the creative products developed by the cultural research base resources under the research travel system, which can reflect the profound local cultural connotation and play a role in cultural communication and education.

Cultural and creative products of research and study category are important carriers of culture, tourism and educational activities, and are material products combining culture and spirit, with profound connotation. For the youth research group, cultural and creative products of research and study category will help them to enhance their cultural identity and cultural understanding; For schools and teachers, they can use cultural and creative products of research and study category to convey teaching content to students; For the cultural research and learning base, the cultural and creative products of research and study category can not only display the cultural resources of the base, but also bring certain economic benefits. However, at this stage, the cultural and creative products of research and study category still cannot meet the market demand and user demands. The main problems are:

First, the experience of the product is poor. The cultural and creative products developed by most cultural research and learning bases lack the deconstruction of cultural resources. They just copy the cultural elements, which is difficult to highlight the cultural characteristics of the products. The model is simple, which cannot arouse the interest of young people, and it is difficult to bring happy experiences to young people.

Second, the product is not educational enough. Research tourism is an educational activity that takes teaching as its basic feature and combines tourism practice with exploration and learning. Its main role should be educational function⁴[4]. Therefore, education is also an important function in cultural and creative products. However, at present, the development of cultural and creative products of research and study category is blindly pursuing economic benefits, neglecting the particularity of research and learning itself and the educational role of cultural and creative products.

2. Teng Lixia, Tao Youhua, Analysis on the Study Travel [J]. Value Engineering, 2015, 34(35): 251-253. DOI:10.14018/j.cnki.cn13-1085/n.2015.35.107.

3. Ministry of Education of the People's Republic of China. Notice on Doing Well the Work of the National Primary and Secondary School Research Travel Experimental Zone [EB/OL]. (2016-03-18) [2022-08-05] http://www.moe.gov.cn/s78/A06/tongzhi/201603/t20160324_235039.html. (in Chinese)

4. Huang Huafang, Errors and Correction of Function in Travel Studies in Primary and Secondary Schools [J]. Teaching and Administration, 2021(27): 86-89. (in Chinese)

3. THE INTERNAL RELATIONSHIP BETWEEN GAMIFICATION AND CULTURAL AND CREATIVE PRODUCTS OF RESEARCH AND STUDY CATEGORY

3.1 Gamification Design

"Gamification" can be traced back to 1980, when Richard Bartlet first proposed the concept of "gamification", which he defined as "turning something or work that is not a game into a game"⁵[5]. Later, the "gamification" thinking has achieved certain success in the business field, and then different fields also began to widely use the "gamification" thinking. Kevin Werbach, the first person in the world to offer gamification courses, defined gamification in his book "For the Win: How Game Thinking Can Revolutionize Your Business" as: "gamification refers to the use of game elements and game design techniques in non game situations"⁶[6]. Therefore, the "gamification design" in this study is not equivalent to games, but refers to the process of designing, developing and researching cultural and creative products of research and study category, using game elements and game mechanisms to drive users' behavior, so as to deepen users' cognition and experience of culture.

3.2 Analysis of Gamification Design Characteristics of Cultural and Creative Products of Research and Study Category

3.2.1 Changing from Passive Learning to Active Learning

Research tourism is an educational activity in the form of "study tour", which encourages young people to carry out practical learning outside school. However, most of the current research activities mainly focus on traditional browsing visits and passive listening. The form is too simple, and students can only receive knowledge instillation unilaterally, which is not conducive to mobilizing

5. Bartle R A. From MUDs to MMORPGs: The History of Virtual Worlds [J]. International Handbook of Internet Research, by Hunsinger, Jeremy; Klastrup, Lisbeth; Allen, Matthew, ISBN 978-1-4020-9788-1. Springer Science+Business Media B.V. 2010, p. 23, 2009:23-39.

6. (U.S.) Kevin Werbach, Dan Hunter, For the Win: How Game Thinking Can Revolutionize Your Business [M]. Zhou Kui, Wang Xiaodan, trans., Hangzhou: Zhejiang People's Publishing House, 2014. (in Chinese)

students' enthusiasm. The intervention of "gamification" in cultural and creative products of research and study category not only conforms to the psychological characteristics of young people's curiosity and novelty, but also helps stimulate young people's interest and enthusiasm in learning. Under the change from passive learning to active learning, teenagers can focus more on and participate in research activities for a long time.

3.2.2 Changing from Short-term Experience to Long-term Experience

The excellent traditional culture of the Chinese nation has gone through a long time of precipitation and condensed into a unique national spirit. However, in the actual process of research activities, young people often only stay at the level of a cursory glance at the cultural knowledge, and can not fully understand the profound meaning of traditional culture. Teenagers' cognition of traditional culture needs a long experience process. Only in this way can they truly learn the essence of traditional culture and integrate it into their hearts and actions. For example, China's tea ceremony culture has a long history. There are various links in the tea ceremony, such as tea making, tea appreciation, tea smelling, and tea drinking. To understand each link of the tea ceremony culture, people need to calm down and invest time. Only in the immersive experience can people really have a certain understanding and perception of the tea ceremony culture. Therefore, the involvement of gamification design in cultural and creative products of research and study category can better attract young people, extend their stay time for cultural experience, and thus produce more profound perception and recognition of the corresponding cultural content.

3.3 Gamification Design Elements of Cultural and Creative Products of Research and Study Category

In the final analysis, the underlying logic of the gamification concept originates from the characteristics of the game. By setting the game mechanism and using game elements, users can increase their stickiness in non game situations and bring some fun. Game elements are important factors to create fun in the process of gamification. In the book "Reality Is Broken: Why Games Make Us Better and How They Can Change the World", Jane McGonigal pointed out four characteristics of the game, namely, goals, rules, feedback system

and voluntary participation⁷[7]. Under the guidance of behavioral economics theory and in combination with existing game mechanisms, Palmer et al. summarized the game elements into the following four categories: feedback and reward elements that use virtual goods and currency to stimulate players to upgrade, helping players establish relationships through social networks, building social connection elements of competition and cooperation, and letting players experience interesting interface design and user experience elements⁸[8]. Kevin Werbach proposed a DMC model for gamification design (as shown in the "Figure 1"), which divides the game elements into three levels according to the level of abstraction: Dynamics, Mechanics, and Components⁹[6]. It is not difficult to see that there is no clear definition of game elements in the academic circle at present. Therefore, on the basis of DMC model, the research of this paper focuses on the relationship among users, products and culture, and concludes the gamification design elements of cultural and creative products of research and study category into (1) user motivation elements (2) product mechanism elements (3) cultural component elements.

User motivation elements: the word "motivation" comes from Latin *motivus*, which means to promote and cause activities. In Ci Hai, the word "motivation" is interpreted as the force and idea that causes people to engage in certain behaviors.¹⁰ [9] Therefore, the motivation of creating users is the root of the connection between users and cultural and creative products of research and study category. Gamification cultural and creative products of research and study category should take young people as the main body, create motivation that can meet the needs of young people, and then promote young people to learn cultural knowledge independently.

Product mechanism elements: mechanism is the basic process to promote the game process and user

participation.¹¹[6] Every game has a complete set of mechanisms behind it. Users need to complete specific tasks according to the rules set in the game. In the process of following the game mechanism, users will unconsciously immerse themselves in it. Therefore, setting mechanisms in cultural and creative products of research and study category is the key factor to extend the use time of the products. Through the game mechanism, the participation and enthusiasm of young people will be gradually improved, so as to prolong the experience process and promote in-depth learning.

Cultural component elements: In DMC model, component elements are specific forms of dynamic elements and mechanism elements,¹²[6] such as avatars (visualized user images), badges (visualized achievements), leaderboards (visualized game progress and achievements), etc. Furthermore, the component elements of cultural and creative products of research and study category refer to the visualization of cultural content. Therefore, cultural components are the direct source for young people to acquire cultural knowledge. Culture can be divided into overt culture and covert culture. When developing cultural and creative products of research and study category, designers need to code cultural content based on the aesthetic preference and cognitive scope of young people and transform them into visual, usable and playable cultural and creative products.

To sum up, this study summarized the game design elements of cultural and creative products of research and study category into user motivation elements, product mechanism elements and cultural component elements. It is worth noting that creating user motivation is the first step to stimulate young people's interest and participation. Setting product mechanisms is the key to improving and extending young people's learning experience. Designing cultural components is a direct factor for young people to gain cultural knowledge and influence. The relationship between the three is top-down and progressive, rather than independent. Therefore, when gamification is involved in the design of cultural and creative products of research and study category, designers should fully

7. (U.S.) Jane McGonigal, *Reality Is Broken: Why Games Make Us Better and How They Can Change the World* [M]. Lv Jia, trans., Hangzhou: Zhejiang People's Publishing House, 2012: 19.

8. Palmer D., Lunceford S., Patton A.J. *The Engagement Economy: How Gamification is Reshaping Businesses*. Deloitte Review, no.11, 2012. p.58.

9. (U.S.) Kevin Werbach, Dan Hunter, *For the Win: How Game Thinking Can Revolutionize Your Business* [M]. Zhou Kui, Wang Xiaodan, trans., Hangzhou: Zhejiang People's Publishing House, 2014: 91-92.

10. Ci Hai Editorial Committee, *Ci Hai* [M]. Shanghai: Shanghai Lexicographical Publishing House, 1989. (in Chinese)

11. (U.S.) Kevin Werbach, Dan Hunter, *For the Win: How Game Thinking Can Revolutionize Your Business* [M]. Zhou Kui, Wang Xiaodan, trans., Hangzhou: Zhejiang People's Publishing House, 2014: 88-89.

12. (U.S.) Kevin Werbach, Dan Hunter, *For the Win: How Game Thinking Can Revolutionize Your Business* [M]. Zhou Kui, Wang Xiaodan, trans., Hangzhou: Zhejiang People's Publishing House, 2014: 90.

coordinate and give play to these three game elements to achieve the goal of combining

education with pleasure.

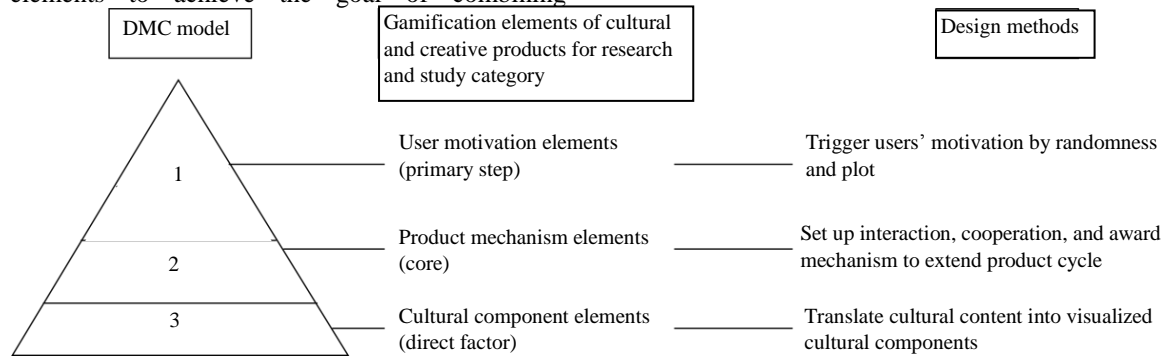


Figure 1 Innovation model of gamification design method for cultural and creative products of research and study category.

a 1. Motivation: The overall concept in gamification system, but it can't be used in the games directly. 2. Mechanism: Basis process for promoting game progress and users' participation. 3. Components: Specific examples of motivation and mechanism.

4. CONSTRUCTION OF GAMIFICATION DESIGN METHOD FOR CULTURAL AND CREATIVE PRODUCTS OF RESEARCH AND STUDY CATEGORY

4.1 *Triggering User Motivation with Randomness and Plot*

According to the above content, creating user motivation is the first step to enhance teenagers' interest and participation. Gamification cultural and creative products of research and study category need to capture the personality characteristics of young people who are active, curious, and keen to explore the unknown, so as to trigger the participation motivation of young people. Taking blind box products as an example, it is an important branch of cultural and creative products, which has been widely sought after by the public in recent years, among which teenagers are the main consumers of blind box products. The blind box products on the market are mainly launched in a serialized way, with different dolls packed in the same box. At the same time, there are rare images such as hidden style and special edition in each series theme. Users cannot choose the doll image independently during the purchase process. This randomness can stimulate the curiosity of users first, and then trigger consumption behavior. The plot can also trigger the user's motivation. Then the plot was first proposed by Aristotle, who described the plot as "the organization and arrangement of events" in "Poetics". Therefore, using the episodic way to express and interpret the cultural content in

the form of stories in the cultural and creative products of research and study category can not only attract users to participate in the product experience, but also enable users to more easily and effectively receive the product cultural connotation. For example, the digital cultural and creative APP, Emperor's Day, developed by the Forbidden City Museum, is aimed at children aged 9-12 years. With time as the axis, it enhances the freshness and interest of the product by taking advantage of the stories of the emperor's daily necessities, work, study and leisure, and drives children to actively learn and understand the architecture, culture and history of the Forbidden City Museum. To sum up, the motivation to create a gamification cultural and creative products of research and study category is to gradually improve the willingness and degree of cultural acceptance of young people and their initiative and enthusiasm to participate in research and experience by means of randomness and plot based on the physiological and psychological characteristics of young people.

4.2 *Setting up Interaction, Cooperation and Incentive Mechanisms to Extend the Product Cycle*

Cultural and creative products of research and study category should have a good interaction with users. The purpose of setting up an interaction mechanism is for teenagers to experience cultural and creative products through vision, touch, smell and other senses, narrow the distance between teenagers and traditional culture, and better spread traditional culture. For example, the "Archaeological Blind Box" cultural and creative product launched by Henan Museum, the designer

has set up an archaeological interaction mechanism, combining the current popular blind box form with the characteristics of archaeological work. Users use Luoyang shovels and brushes attached to the products to excavate miniature cultural relics buried in the soil. In the process of experiencing archaeology, users not only understand the historical details of cultural relics, but also get a sense of joy and achievement. Another example is the "Dunhuang Poetry Scarf" applet jointly launched by Tencent and Dunhuang Museum, which adds interactive links to the product. Users can use the convenient interaction of WeChat applet to combine the eight official themes and the details of more than 200 murals, adjust the number and size at will, and finally design a unique "Dunhuang Poetry Scarf" that belongs to themselves.

Reward mechanism is another important mechanism in gamification design, which is explained in the book "For the Win: How Game Thinking Can Revolutionize Your Business" as: the welfare of some actions or achievements¹³[6]. In the cultural and creative products of research and study category, it can be understood as driving users to complete corresponding tasks through rewards. Rewards are not only material, but also spiritual. For example, the Suzhou Museum launched the "Meet you in Suzhou" national style millionaire puzzle game. The layout of the chessboard covers more than 20 scenic spots in Suzhou and the historical and cultural knowledge about Suzhou. Users will get corresponding rewards through the links set up and eventually achieve their goals step by step. The use of reward mechanism can help users to obtain a sense of achievement and satisfaction, which can be transformed into an internal driving force, thus extending the user's experience time, so that teenagers can imperceptibly learn and accept relevant cultural knowledge.

Cooperation mechanism is one of the typical mechanisms in game design, that is, players work together to achieve common goals¹⁴[6]. For example, most of the shopping applications on the market have adopted a gamification cooperation

mechanism. The main way to play is to buy goods at a preferential price through two or more people teaming up. For businesses, this gamification cooperation mechanism not only attracts consumers, but also drives potential consumption. From the perspective of users, the cooperative consumption mode can connect the emotions between people. The introduction of cooperation mechanism in cultural and creative products of research and study category is mainly to stimulate the curiosity and communication motivation of young people, increase emotional communication and exchange with peers, and thus expand the spread of traditional culture among young people.

To sum up, whether it is an interaction mechanism, a reward mechanism or a cooperation mechanism, to a certain extent, it has improved the learning experience of young people, extended the product life cycle, and enhanced the communication and interaction between users and products, users and users. It is common to set up interaction mechanism and reward mechanism in cultural and creative products, but the application of cooperation mechanism is relatively small.

4.3 Translating Cultural Content into Visual Cultural Components

The user motivation elements and product mechanism elements mentioned above are abstract, both of which need to be realized through visual cultural component elements. It can be further said that when young people experience cultural and creative products of research and study category, they first experience their senses, then attract interaction in behavior, finally arouse emotional resonance, feel the cultural connotation in a progressive way, and truly understand the deep meaning of traditional culture. Therefore, designers should base themselves on the youth group, coordinate all the elements in the sensory field of cultural and creative products of research and study category, and realize the visual translation of excellent traditional culture from various aspects such as product shape, material, color, etc. For example, Oriental Beauty · Bamboo Weaving Bookmark, the designer combines four common traditional bamboo weaving patterns with modern simple design style, and through the change of materials, the product has both a modern sense and an oriental aesthetic charm. Users can experience the cultural image and cultural connotation of traditional bamboo weaving handicraft through daily observation and use of products. What needs

13. (U.S.) Kevin Werbach, Dan Hunter, For the Win: How Game Thinking Can Revolutionize Your Business [M]. Zhou Kui, Wang Xiaodan, trans., Hangzhou: Zhejiang People's Publishing House, 2014: 89.

14. (U.S.) Kevin Werbach, Dan Hunter, For the Win: How Game Thinking Can Revolutionize Your Business [M]. Zhou Kui, Wang Xiaodan, trans., Hangzhou: Zhejiang People's Publishing House, 2014: 89.

to be emphasized is that when designers extract local cultural resources and transform them into cultural and creative products, the extracted cultural elements should have a certain regional representation and be able to present local styles, expressed through modern design language, so that they can have both traditional and modern cultural and creative products.

5. CONCLUSION

Gamification has great potential for development and has been valued and applied in many fields. In the context of the deep integration of culture and tourism, cultural and creative products of research and study category will focus more on the improvement of young people's spiritual quality. In the future, gamification design will play a greater role in the development of cultural and creative products of research and study category. This study analyzes the gamification characteristics of cultural and creative products of research and study category, that is, the transformation of young people from passive learning to active learning and from short-term experience to long-term experience; Then, according to the DMC model, it summarizes the gamification elements of cultural and creative products of research and study category, namely, user motivation elements, product mechanism elements and cultural component elements; Finally, the researchers construct the method of gamification design of cultural and creative products of research and study category: trigger user motivation with randomness and plot, set interaction, cooperation and reward mechanisms to extend the product cycle, and translate cultural content into visual cultural components. Through the gamification design, teenagers can have a better use experience, and at the same time, strengthen the educational attribute of cultural and creative products of research and study category. Gamification design also provides a reference for the development of cultural and creative products of research and study category.

AUTHORS' CONTRIBUTIONS

Wenling Shi wrote the manuscript, and Zhixiong Huang contributed to revising and editing.

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