

Research on the Inheritance Education of Yellow River Culture from the Bio-cultural Perspective



Jun Meng ^{*,1} & Yufeng Wu ¹

¹ De La Salle University-Dasmariñas, Philippines

Abstract: The Yellow River, as mother river, its culture has taken the lead of the overall process of Chinese civilization. The Yellow River culture originated from the interaction between local people and the Yellow River for thousands of years, so its culture is based on place. However, influenced by traditional research in the field of biology, environmental education (EE) has not included any cultural content, and EE and cultural inheritance education have always been two unrelated contents. Bio-cultural diversity (BCD) is the product of biological and cultural co-evolution in social-ecological systems. It advocates for the integration of culture and nature in conservation practice. Therefore, the purpose of this study is to introduce the perspective of BCD and its new experience from the latest researches into the field of education. A broad bibliographic search in the databases was carried out by EDS (EBSCO DISCOVERY SERVICE) from De La Salle University Dasmariñas on-line Library. A review of relevant literature reveals the division between nature and culture in the field of conservation and education. Therefore, adopting a BCD perspective in inheritance education of Yellow River culture recommends beyond the epistemological bias of traditional EE, which views environmental education as a single content unrelated to culture, and advocates for interdisciplinary integration and the participation of different stakeholders, in order to achieve a broader public interest through comprehensive curriculum involvement. It has both theoretical evidence and a large amount of empirical research support, indicating that the perspective introduced into education is correct and feasible for YR culture education, and it is a diverse, open, and inclusive attitude towards various disciplines and stakeholders. The curriculum development from bio-cultural perspective will be a beneficial educational and research attempt, which may be beneficial in improving the current problem of fine division of disciplines and weak applicability of subject knowledge.

Keywords: bio-cultural diversity; Yellow River culture; inheritance education; discipline integration; environmental education

1. Introduction

As early as in ancient times, Yellow River (YR) and its basin was an important home for ancestors' reproduction and survival along the river. It has been proved that YR culture has taken the lead of the overall process of Chinese civilization. So driven by policy on YR culture protection including protecting the cultural heritage, deeply inheriting the cultural genes, telling the story of the YR in the new era, and creating an internationally influential cultural tourism belt, It is necessary to carry out education on the inheritance of the Yellow River culture and its environment.

However, based on current environmental education (EE), influenced by the research field, it always regards EE as an important and singular content, aiming to enhance students' awareness of environmental crisis, willingness and ability to protect while the cultural aspect is not included. It is because similar to the research field, education often views nature and culture as two unrelated aspects, leading to the separation of EE and cultural education as two separate courses in curriculum design and educational strategies. While for the Yellow River culture, it originated from the interaction between local people and the Yellow River. Its culture is based on local characteristics, and its nature and culture are

Corresponding Author: Jun Meng

De La Salle University-Dasmariñas, Philippines

Email: 3351829371@qq.com

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closely related. It is urgent to break down the barriers between disciplines and provide students with bio-cultural education to promote the integrated protection of Yellow River culture and environment. In fact, “bio-culture” or bio-cultural research has long started such attempts to support the joint progress of nature and culture as a response to the global diversity crisis in theory and methods. Researchers, at first, just realized the ecological contradiction between man and environment caused by industrial society, one of which is the sharp decline of species. Therefore, the term “biodiversity” was put forward to appeal to the world for the protection of species and their ecological environment. The UN Convention on Biological Diversity in 1992 made people aware of equally important status of the biodiversity-related knowledge, innovations and practices of indigenous people with the biodiversity.

2. Material and Method

As a strategy, a broad bibliographic search in the databases was carried out: EDS (EBSCO DISCOVERY SERVICE) provides a one-stop search service for electronic resources and paper collections ordered within the library. The target library is the De La Salle University Dasmariñas Library, which contains eDatabases including EBSCOhost, Emerald, Mental Measurements Yearbook, Explora, ProQuest, Science Direct and it provides EDS.

In order to lock the literature in the field of bio-cultural research, it was required that the title of the target literature must include “bio-culture or bio-cultural or bio-cultural diversity”. In order to further refine the scope of the target literature, other keywords related to bio-cultural research were involved: indigenous or local or first nations, environment or ecology or nature or culture or landscape or cultural heritage.

The purpose of this study is to draw on advanced experience in “bio-culture/bio-cultural” research, so that most of the literature were published in the last 5 years and whose research subjects were outside of China in English although a small number of other valuable literature were also included. However, the literature related to YR research first selected the discussions of Chinese scholars.

3. Results

This part presented and discussed related literature collected by searching strategy made by

this study. Through a literature review, it was discussed why it is necessary to adopt a BDC view in inheritance education of Yellow River culture. And it explained what research content of BCD can provide experience for the education.

3.1 Emergence of the term BCD

Due to the influence of western ontology and epistemology, nature, as a collection of concrete things, is of course ignored, and is separated from the subject of human knowledge and its civilized world as a transformed object. However, more and more scholars have noticed that the natural environment closely relate to the origin and development of culture. For example, researchers demonstrated the interrelation between the loss of BD (biological diversity) and BCD in western and central India through the discussion of issues related to indigenous people of Indian tribes and illustrated the importance of indigenous knowledge for local ecological environment protection, resource management, health and education. The natural environment provides a place for the development of culture and human’s belief systems. BD and BCD are closely connected through the 4 bridges of indigenous peoples’ beliefs and worldviews, livelihoods and practices, language and basic knowledge, and norms and systems (Rashkow, 2023). The relationship between the two is reflected in the spatial overlap common evolution process and common threats. The so-called “ontological turn” in philosophy and anthropology provides an opportunity for the connection between the two. Before Steward developed cultural ecology, anthropologists seldom considered the environment when trying to explain cultural differences. Steward’s concept of “cultural core”, that is, the cultural characteristics are most closely related to the use of a specific environment (Haenn et al., 2016). Nature and culture lost their connections in human ways and there is a need to rebuilt the links between nature and culture. What has driven changes in the field of conservation is the awareness that relationships between humans, their social organization, and their natural environment cannot be universally understood along the nature-culture dichotomy.

On the basis of this consensus, the term “bio-culture” combines the words “biology” and “culture” to emphasize the interrelated essence of natural environment and human culture. In the 1980s, scientists coined the term “biodiversity” to describe the large-scale extinction of natural biodiversity

caused by human behavior and actively advocated for biological and environmental protection. Later, with the efforts of American biologists such as Edward O. Wilson, “biodiversity” developed into a popular scientific concept. Subsequently, in the 1990s, the term “bio-cultural diversity” first appeared in UNESCO’s article “Global Language, Culture, and Biodiversity”. In 1988, the Declaration of Belem defined bio-cultural diversity as the accumulated reserve of human acquired responses to the environment. Early studies on BCD focused on the knowledge and tradition of local residents and their role in conservation, mainly in developing countries in Asia, Africa, and Latin America. Nowadays, it is widely believed that BCD refers to the total diversity exhibited by various natural and social systems in the world, and is a product of the co-evolution of organisms and cultures in social ecosystems. BCD evolves from world differences, but is not a simple combination of biological and cultural aspects. This expands the dimensions of social science on the basis of the natural science of biodiversity and has promoted the development of interdisciplinary concepts and fields such as social-ecological systems, ecological economics, ecological politics, human ecology, environmental/ecological anthropology (Lukawiecki et al., 2022).

3.2 The research field of BCD and as a method extension

The study of BCD is an exploration of human response to the global diversity crisis in theory and methods. Its research content first faces the issue of the relationship between nature and culture. Although in urbanized societies, people no longer maintain direct contact with the natural environment or live directly dependent on the environment like indigenous people, but humans are part of the natural world, and all humans are immersed in universal connections to language, culture, nature, and land. Secondly, It focuses on the role of indigenous knowledge or traditional ecological skills in BCD conservation. Indigenous people draw on their living ecological knowledge, based on a rich history of observation, practices, and beliefs between humans and their local landscapes and ecological systems. The knowledge of indigenous people comes from their long-term interaction and coexistence with nature, which is a summary of experience and observation. These knowledge are passed down from generation to generation to guide their children on how to manage and use the resources bestowed by

nature while respecting it. Traditionally, indigenous management practices utilized agriculture, hunting, migration, and even dispersed seeds to balance land use and protection, rather than current resource extraction such as monoculture and continuous grazing. This indigenous knowledge is often combined with religious beliefs and the original concept of the unity of things and oneself to form an intangible force and inheritance method, ensuring that this concept and knowledge are passed down from generation to generation. They regard the protection of trees as respect for gods, as they often hold religious ceremonies in fixed places (Kakiso, 2023). Thirdly, traditional rural landscapes are carriers of bio-cultural heritage, and people’s planting varieties and methods adapt to the natural geographical environment, forming a unique landscape. Similarly, scholars have also actively explored indigenous knowledge, urban landscape and environmental management from the perspective of BCD. Fourth, protection issues. The term “bio-cultural” first started to appear in the conservation literature is to illustrate the necessity of synchronous protection of nature and culture by Luisa Maffi and Darrell Posey. Researchers have examined a large number of landscapes, traditional relics, habitats of animals and plants, and human farmland, and found that people’s natural concepts and beliefs are closely related to the local geographical and ecological conditions, forming complex interactions and symbiotic relationships.

It has now become a research method and philosophical thinking and perspectives widely applied to various disciplines, such as healthcare, literature, power, ethics, protection, and other fields of research. They all acknowledge the symbiotic relationship between nature and culture in their research field. Such a view has been recognized by more and more scholars in the field, and has developed into a bio-cultural method for research in various disciplines (Campbell et al., 2022) (Wengerd & Gilmore, 2022).

3.3 Landscape and traditional knowledge

One of the bridges between nature and culture is landscape. Because the concept of landscape is based on shared values and culture, it shapes human’s aesthetics and influences people’s judgments of beauty and ugliness. It is places and memories that give people feelings of connection with nature. It is precisely because of the close relationship between landscape, culture, and collective memory that it is

critical to how heritage is understood or perhaps misunderstood. Contemporary people can also distort our understanding of the past and even manipulate or influence our collective memory through landscape shaping and intentional or unintentional misreading of cultural heritage. In other words, heritage is not a living fossil left over to prove the existence of the past, it is infinitely creative. Culture is not a set of defined practices and beliefs, but a series of possible actions and reactions. The tourism industry can be said to be a proactive interpretation of the past, whether it is a misreading or a correct interpretation. A vivid example of the connection between culture and nature is the indigenous people and their indigenous cultures. Aboriginal people are so closely connected to their environment and culture that BCD provides them with the basis for their identity. Indigenous people have developed source of knowledge about species, ecosystems, or practices closely related to people's lives and their natural environment. Their experience should not be underestimated, as research has shown that incorporating traditional experiences locally and combining them with modern technology and management methods can bring better protection outcomes. At the same time, transmitting indigenous knowledge to non-indigenous people and incorporating this knowledge into environmental governance and policy formulation can effectively enhance people's environmental awareness. The close connection between indigenous people and nature is deepened through their architectural design, dietary habits, local medicine, literature and art, customs, and other aspects (Zavoleas et al., 2023) (Vecchio et al., 2022). Therefore, sufficient attention and protection should be given to the landscape that carry cultural memories and unique natural scenery, and traditional ecological knowledge, culture and philosophical thinking should be actively explored to guide course design and development. Culture is the crystallization of the interaction between man and nature. It inevitably contains respect and love for nature, and the environment shapes people's perception and memory, and creates the shape of human culture. They are an indivisible whole.

4. Discussion and Recommendation for Education

A review of relevant literature reveals the division between nature and culture in the field of conservation. This is reflected in the fact that environmental and cultural education and research

belong to two different fields. There are few studies that take into account both natural and cultural aspects in conservation practice and education design.

4.1 Beyond environmental education

There is a growing consensus that education can help economic and social development by influence people's idea and actions. EE for Sustainability is a core philosophy and the teacher is considered a key strategy because his work can directly affect the students they work with. It has been confirmed that EE benefits environmental outcomes and promotes people to participate in environmental related activities through voluntary behavior and environmental awareness (Sharma et al., 2023). While EE has developed as an independent direction based on ecology and biology knowledge and culture is almost invisible.

However, as a clustering of local cultural achievements, the protection and inheritance of the YR culture cannot be separated from the protection of the local environment, such as the names of plants and places, ecological knowledge and philosophy, cultural sites, languages, etc. The natural environment of the YR provides physical space, places, and material for the development of its culture. Therefore, according to BDC's view, Yellow River cultural education must be based on the excavation and curriculum design of natural, geographical, and historical materials on the YR. It is neither isolated EE nor abstract cultural education. Place-based curriculum design makes it easier for students to understand the origins of culture and its profound interaction with nature.

4.2 Beyond disciplinary barriers

BDC acknowledges in terms of protection and education, they are rooted in the complex place history and social-political context, and therefore should include more knowledge and different stakeholders (Gavin et al., 2015). For protecting education, it means breaking down disciplinary barriers and implementing flexible and diverse curriculum settings. Not only its historical and cultural significance, such as representative cultures from different periods, handicrafts, art, history, literature, etc., should be included but also knowledge about the species, nature, geography, water patterns, and other environmental aspects of the YR should be included. In addition, the political and economic background related to the YR will also

provide a more profound background for the inheritance and education of its culture.

In short, traditional barriers between disciplines should be broken down, and interdisciplinary teaching and research teams should be established to develop interdisciplinary courses. This means that teachers and researchers should abandon their respective disciplinary positions and coordinate cooperation in order to achieve broader public interests. Therefore, a single discipline cannot meet the needs of YR culture inheritance education, and multidisciplinary cooperation and knowledge sharing are the best paths. But this requires schools, universities and their administrators, and even educational departments to have a theoretical reserve and viewpoint recognition of BDC, and to use it as educational philosophy and teaching guidance. On the basis of theoretical recognition, necessary reforms should be carried out from subject setting, personnel organization, to curriculum design and development. Firstly, in terms of organization, it is necessary to allow the emergence of interdisciplinary research groups, teaching groups, and other new organizations, encourage teachers to participate in collaborative research, and establish reasonable interdisciplinary assessment and reward mechanisms. Secondly, the curriculum and design should boldly explore the local resources of the YR. The education should be placed in a broad perspective and interdisciplinary background of BDC, with flexible design modules and class activities.

4.3 Wide range of participants

BDC advocates for the participation of different interest groups, on the one hand, to ensure the rights of local and indigenous people to participate in the protection and management of their environment and culture, reflecting an equal human rights. Then it aims to achieve multi-party cooperation in order to form the best protection strategy. For the Yellow River culture, its important stakeholders are local communities and residents, whose participation rights and experiences have always been valued and respected. However, in terms of education, there are no specific measures to incorporate them into educational activities. Teachers should actively explore the resources related to the Yellow River in the local area, integrate them into teaching design, and more importantly, create opportunities for students to delve into the local community and the natural and cultural environment of the YR, and gain

direct knowledge of nature and culture through tangible experiences.

In addition to formal education at all levels of schools, informal education should not be ignored. In traditional society, the relevant culture of the YR was spread and passed down through informal education through oral transmission. This approach is based on community organizations represented by traditional villages, internalized as deep-rooted beliefs, habits, and action strategies for future generations through daily labor, festivals, customs, and other cultural activities. With the emergence of modern education, children receive formal school education at the appropriate age, and the educational function of villages or communities gradually diminishes. But according to BDC's emphasis on indigenous and traditional knowledge, communities or villages should continue to play their informal educational role but this requires the cooperation of schools at all levels, including the government, even educational institutions, and public welfare organizations, to guide them to play the role of informal education through the development of local curriculum and the design of community cultural activities. This is not only conducive to protecting the participation rights of local residents and their cultural and natural management and protection rights, but also enables their traditional culture and ecological knowledge to continue to be inherited. As well, schools and students are also beneficiaries. So, the perspective of BDC can ensure the public interest to the greatest extent possible.

5. Conclusion

Researches on BCD provide a new theoretical perspective for protection and education of YR and its culture. This term has gradually been extended to the field of culture gradually gained richer explanations and practices because its emergence is to bridge the gap between nature and culture. Therefore, changes must also be made in the field of education, as traditional EE has been a deviation in epistemology. The culture of the YR is formed in the unique ecological environment of the YR, through the interaction between humans and nature for thousands of years, with a profound imprint of the YR. From existing literature, it can be seen that the existing research and education on the YR culture contradicts the BDC perspective. It still follows the dichotomy of natural and culture, splitting the ecology and culture of the YR. The background of

the birth of BCD originally stems from people's awareness of the crisis of indigenous people and their cultures, as well as the affirmation of their correlation with nature. Therefore, adopting a bio-cultural perspective in conservation and education of the YR and its culture has both theoretical evidence and a large amount of empirical research support, indicating that the perspective is correct and feasible for YR culture inheritance education.

Future research should first bring the bio-cultural perspective into the practice of YR cultural conservation and inheritance education, and abandon the dichotomy of nature and culture brought about by industrial society in the past. Researchers and curriculum designers should actively develop new comprehensive educational courses through interdisciplinary integration, surpassing the limitations of traditional EE, leading students to return a member of nature and re-establish the original close relationship between nature and culture. Teachers should throw away disciplinary stereotypes and methodological biases, and allow effective cooperation between humanities and culture disciplines, natural environment disciplines and even other related disciplines through workshops, projects, school-enterprise cooperation, etc. A large number of practical courses are also necessary. Based on local culture, it is necessary to return to the local area in order to achieve better educational results. Therefore, local communities and stakeholders are also recommended to participate in curriculum design and implementation. In short, the bio-cultural perspective implies a diverse, open, and inclusive attitude towards various disciplines and stakeholders. The curriculum development from bio-cultural perspective will be a beneficial educational and research attempt, which may be beneficial in improving the current problem of fine division of disciplines and weak applicability of subject knowledge.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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How to Cite: Meng, J. & Wu, Y. (2024). Research on the Inheritance Education of Yellow River Culture from the Bio-cultural Perspective. *Contemporary Education and Teaching Research*, 05(05), 175-180.
<https://doi.org/10.61360/BoniCETR242016240503>