The Impact of the Bai Ethnic Minority Intangible Cultural Heritage Teaching Model on College Students' National Cultural Identity

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Received May 26, 2026; **Revised** June 26, 2026; **Accepted** June 29, 2026

Abstract

This article aimed to study: (1) the development and evaluation of constructivist-based teaching models for Bai ethnic intangible cultural heritage (ICH) education; (2) the impact of these teaching models on college students' national cultural identity; and (3) evidence-based recommendations for integrating ICH education in higher education. The research was quantitative. Data were collected via a structured questionnaire from 1,136 college students at six public universities in Yunnan Province, China, selected through stratified cluster sampling. Analyses included descriptive statistics, independent samples t-tests, and one-way ANOVA using SPSS 26.0, with effect sizes (η^2) calculated to assess practical significance.

The research results were found as follows: (1) all three constructivist teaching models scaffolding ($M = 3.59$), anchored ($M = 4.17$), and random access ($M = 4.01$) significantly enhanced students' national cultural identity ($p < 0.05$); (2) anchored teaching demonstrated the highest effectiveness, confirming the value of authentic situational learning for cultural identity formation; (3) significant grade-level differences emerged, with lower-grade students showing greater receptiveness to innovative approaches, particularly random access teaching ($F(4, 1131) = 2.63$, $p = 0.03$); and (4) no significant differences were found across gender or ethnic groups, indicating broad cross-demographic applicability.

The new knowledge derived from this research is that constructivist ICH education can transform students' cultural identity from cognitive awareness to active behavioral engagement, providing

validated frameworks and practical guidance for universities seeking to integrate traditional cultural heritage into contemporary curricula.

Keywords: Intangible Cultural Heritage; Teaching Model; National Cultural Identity; Constructivist Learning; Bai Ethnic Culture

Introduction

In an era of accelerating globalization, the preservation of cultural diversity has emerged as one of the defining challenges for education systems worldwide. Intangible cultural heritage (ICH) encompassing oral traditions, performing arts, social practices, rituals, and traditional craftsmanship serves as the living repository of a nation's historical memory, aesthetic sensibility, and collective identity (UNESCO, 2003; Zhuo, 2016). Yet precisely as its importance is most widely recognized, ICH faces unprecedented threats from the homogenizing forces of global culture, demographic transition, and modernization. Many ICH traditions confront inheritance crises, with younger generations increasingly disconnected from the cultural practices of their ancestors (Siyam, 2004).

China, home to one of the world's richest concentrations of ICH traditions, has responded through systematic policy and legislative frameworks. Since ratifying UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage in 2004, the Chinese government has established national ICH inventories, enacted the Law of the People's Republic of China on Intangible Cultural Heritage (2011), and mandated integration of ICH education into schooling at multiple levels (Wang, 2013). Despite these comprehensive frameworks, implementation at the institutional level particularly in higher education remains inconsistent, with ICH often occupying marginal status in curricula dominated by technical and professional content (Liu, 2011; Peng et al., 2024).

The Bai ethnic minority of Yunnan Province offers a particularly instructive case. As one of China's 55 recognized ethnic minorities, the Bai people have developed a rich constellation of ICH traditions encompassing architecture, tie–dyeing, embroidery, folk music, and ceremonial practices. Yunnan is the province with the most abundant Bai ethnic ICH, providing an authentic environment for studying the effectiveness of ICH education interventions. However, although prior studies have documented the educational, family, and community channels of Bai ICH transmission (Li, 2012; Peng

et al., 2024), and although constructivist pedagogy has been advocated for heritage education in principle, no large-scale empirical study has quantitatively examined how specific constructivist teaching models for Bai ICH affect college students' national cultural identity across its multiple dimensions. This gap—connecting the policy mandate, the documented weakness of the educational channel, and the untested effectiveness of specific pedagogies–establishes the necessity of the present study.

Accordingly, this study tests three constructivist teaching models– scaffolding, anchored, and random access instruction as approaches to Bai ICH education in Yunnan universities. Using a quantitative survey of 1,136 students, it measures the models' differential effectiveness on national cultural identity and examines how demographic factors moderate these effects, thereby providing evidence-based guidance for curriculum design and for the broader goal of cultural preservation through higher education.

Research Objectives

1. To develop and evaluate constructivist-based teaching models (scaffolding, anchored, and random access) for Bai ethnic ICH education in higher education settings.

2. To examine the impact of these teaching models on college students' national cultural identity across four dimensions—national belonging, national identity, national behavior, and cultural identification—and the moderating role of demographic characteristics (grade level, gender, ethnicity).

3. To provide evidence-based recommendations for integrating ICH education into higher education curricula.

Research Hypotheses

H1: Constructivist teaching models (scaffolding, anchored, and random access) significantly enhance college students' national cultural identity.

H2: Among the three models, anchored teaching demonstrates the highest effectiveness owing to its authentic situational learning characteristics.

H3: Student demographic characteristics (grade level, gender, ethnicity) significantly influence receptiveness to different ICH teaching models.

H4: Lower–grade students show greater receptiveness to innovative ICH teaching approaches than higher–grade students.

Literature Review

Theoretical Framework

This study draws on three interconnected theoretical foundations. Social Cognitive Theory (Bandura, 1986) posits a reciprocal relationship among personal factors, environmental influences, and behavior, providing the conceptual basis for understanding how structured educational environments shape cultural identity development. When students engage with ICH through carefully designed pedagogical contexts, the interplay of prior cultural knowledge, the learning environment, and behavioral engagement co–produces lasting identity change.

Constructivist Learning Theory (Piaget, 1977; Vygotsky, 1978) argues that learners actively construct knowledge through interaction with their environment and social contexts rather than passively receiving transmitted information. This framework is particularly well–suited to cultural heritage education, where the richness of cultural meaning cannot be adequately conveyed through didactic instruction alone. Vygotsky's (1978) concept of the Zone of Proximal Development underpins the scaffolding teaching model and explains how structured teacher support can extend students' cultural understanding beyond what they could achieve independently.

Cultural Identity Theory (Tajfel & Turner, 1979) provides the architecture for operationalizing national cultural identity as a multidimensional construct. Social Identity Theory emphasizes the cognitive, affective, and evaluative dimensions through which individuals derive a sense of belonging from group membership—directly applicable to the formation and strengthening of cultural identification through educational experience.

Intangible Cultural Heritage and Education

UNESCO's 2003 Convention defines ICH as living heritage continuously recreated by communities in response to their environment, history, and interactions with nature, providing them with a sense of identity and continuity (UNESCO, 2003). The Convention's emphasis on community–based transmission underscores the importance of experiential and participatory approaches in ICH education, supporting the constructivist orientation of this study. Comparative policy experiences, such as Japan's

'Living National Treasure' system (established 1950) and South Korea's Cultural Properties Protection Act (1962), represent policy–level recognition of the importance of sustained, supported inheritance (Chu, 2020). In China, despite comprehensive national frameworks, grassroots implementation in universities faces resource constraints, insufficient teacher preparation in ICH content, and the marginalization of ICH within competitive academic environments (Liu, 2011; Peng et al., 2024). Research specific to Bai ICH has identified family transmission, community cultural activities, and formal education as three principal channels, with the educational channel underperforming relative to its potential (Li, 2012; Peng et al., 2024).

Constructivist Teaching Models in Cultural Education

Joyce and Weil (1972) established the foundational typology of teaching models as systematic frameworks guiding curriculum and instructional design. Within the constructivist tradition, three models are particularly relevant to ICH education. The Scaffolding Teaching Model, derived from Vygotsky's Zone of Proximal Development and elaborated by Bruner, involves teachers establishing conceptual frameworks that progressively transfer responsibility for knowledge construction to learners as competence develops; applied to ICH education, it helps students connect unfamiliar cultural content to existing knowledge structures. The Anchored Teaching Model creates authentic problem situations—'anchors'—that ground learning in real cultural contexts and drive inquiry–based knowledge construction; Brown et al.'s (1989) situated cognition theory provides independent support, demonstrating that knowledge acquired in authentic contexts is more transferable and durable. The Random Access Teaching Model draws on Cognitive Flexibility Theory to support non–linear, multi–perspectival engagement with complex content, allowing students to revisit the same cultural material through multiple approaches—valuable for the multifaceted nature of ICH traditions (Liu & Zhong, 2005).

Research Gaps

Synthesizing the literature above, four gaps justify the present study. First, rigorous quantitative evidence comparing the effectiveness of specific teaching models on cultural identity formation is largely absent. Second, no published study has conducted a direct comparative analysis of scaffolding, anchored, and random access models within the same ICH educational context. Third, validated instruments for measuring national cultural identity across its cognitive, affective, and behavioral dimensions are underutilized in Chinese educational research. Fourth, the role of demographic variables—particularly grade level—in moderating receptiveness to ICH pedagogies has received

insufficient empirical attention. These gaps directly inform the variables and hypotheses adopted in this study and the conceptual framework presented below.

Conceptual Framework

Drawing on Constructivist Learning Theory, situated cognition, and Cultural Identity Theory, this study conceptualizes three constructivist teaching models as the independent variables and national cultural identity (four dimensions) as the dependent variable, with student demographic characteristics serving as moderating variables. The framework is illustrated in Figure 1.

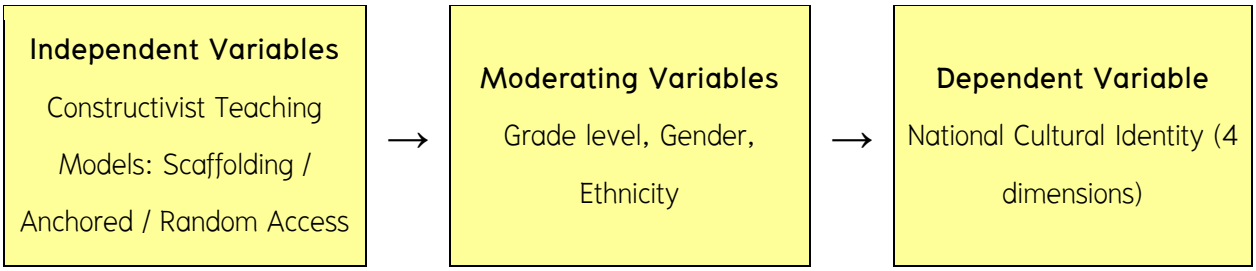


Figure 1 Conceptual framework of the study

Research Methodology

Research Design

This study employed a quantitative cross–sectional survey design to test the hypothesized relationships among constructivist ICH teaching models, demographic characteristics, and national cultural identity. The design enables systematic comparison of teaching–model effectiveness across a large, demographically diverse student population.

Population, Sample, and Sampling Procedure

The target population comprised college students enrolled in higher education institutions in Yunnan Province, China. Yunnan was selected because it has the richest concentration of Bai ethnic ICH, providing the authentic cultural environment necessary for meaningful ICH education research. A three–stage stratified cluster sampling approach was used. In Stage 1, six public universities were purposively selected against explicit criteria: geographic distribution across the province, institutional diversity (comprehensive, polytechnic, and applied universities), suitability of programs offering or able to host ICH–related instruction, and expressed institutional willingness to participate. In Stage 2, students within each university were stratified by grade level, academic discipline, and ethnic background to ensure

proportional demographic representation. In Stage 3, intact classes within each stratum were randomly selected as the sampling unit, balancing methodological rigor with feasibility. The final sample comprised 1,136 valid responses, an effective response rate of 94.67%. The sample was predominantly female (64.6% female, 35.4% male); freshmen formed the largest cohort (44.9%), followed by sophomores (25.7%), juniors (21.6%), and seniors (7.5%). Ethnic composition included Han Chinese (33.1%), Bai (3.4%), and other ethnic minorities (31.8%), reflecting the multicultural character of Yunnan's student population.

Research Instrument and Quality Verification

A single structured questionnaire of 81 items was used because the study required standardized, comparable, quantitative measurement of attitudes across a large sample conditions for which a Likert-type survey is the most appropriate and economical instrument. The questionnaire measured two constructs. The Bai ICH Teaching Models scale (13 items) assessed acceptance and engagement across three subscales scaffolding (3 items), anchored (5 items), and random access (5 items) constructed on the constructivist model typology of Joyce and Weil (1972) and Liu and Zhong (2005). The National Cultural Identity scale (68 items) assessed four dimensions national belonging, national identity, national behavior, and cultural identification operationalized from Cultural Identity Theory (Tajfel & Turner, 1979) and Xiao (2012). All items used five-point Likert response formats. Instrument quality was verified in three steps: (a) content validity was examined by an expert panel (n = 6 specialists), yielding item-objective congruence within acceptable limits; (b) a pilot test with 50 participants preceded full administration; and (c) reliability analysis confirmed Cronbach's $\alpha > 0.80$ for all subscales, with construct validity supported and all distributions satisfying normality assumptions (skewness < 3, kurtosis < 10).

Data Collection and Analysis

Questionnaires were administered to the selected classes, and completed responses were screened for validity before analysis. Statistical analyses were conducted using SPSS 26.0. Descriptive statistics characterized variable distributions; independent samples t-tests compared teaching-model acceptance and cultural identity scores by gender; and one-way ANOVA examined grade-level and ethnic-group effects, with post-hoc LSD comparisons where significant main effects were found. Effect size (η^2) was calculated alongside F-tests to assess practical significance. The significance threshold was set at $\alpha = 0.05$ for all analyses.

Research Results

Objective 1 Effectiveness of the Teaching Models

Table 1 presents descriptive statistics for the three constructivist teaching–model dimensions. Anchored teaching received the highest acceptance ratings (M = 4.17, SD = 0.83), followed by random access teaching (M = 4.01, SD = 0.81) and scaffolding teaching (M = 3.59, SD = 0.90). All three models achieved means above the scale midpoint (3.0), with all distributions satisfying normality assumptions. These results support H1 (positive acceptance of all three approaches) and H2 (superior performance of anchored teaching).

Table 1 Descriptive Statistics for Constructivist Teaching Model Dimensions (N = 1,136)

Teaching Model	Items	M	SD	Skewness	Kurtosis
Scaffolding Teaching	3	3.59	0.90	−0.15	−0.14
Anchored Teaching	5	4.17	0.83	−0.47	−0.32
Random Access Teaching	5	4.01	0.81	−0.47	−0.32

Note. All items scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). All distributions satisfied normality (skewness < 3, kurtosis < 10). Anchored teaching shows the highest mean, indicating the strongest student acceptance.

Objective 2 Demographic Moderation and Cultural Identity Outcomes

To test H3 and H4, independent samples t-tests and one-way ANOVA examined differences across gender, ethnicity, and grade level. For gender, no significant differences emerged on any teaching-model dimension: scaffolding ($t = 1.87$, $p = 0.24$), anchored ($t = -0.55$, $p = 0.35$), and random access ($t = 0.18$, $p = 0.56$), indicating that all three models are equally accessible regardless of gender. For ethnicity, one-way ANOVA revealed no significant differences among Han, Bai, and other ethnic minority students on any dimension ($F = 0.48$–1.29, all $p > 0.05$), indicating equal acceptability across the ethnically diverse population. For grade level, significant differences emerged specifically for random access teaching ($F(4, 1131) = 2.63$, $p = 0.03$); post-hoc LSD analyses showed that first-year ($M = 4.05$, $SD = 0.68$) and second-year students ($M = 4.07$, $SD = 0.72$) rated it significantly higher than third-year students ($M = 3.90$, $SD = 0.73$). No grade-level differences appeared for scaffolding ($F = 0.15$, $p = 0.96$) or anchored teaching ($F = 1.81$, $p = 0.12$). These findings partially support H3 and fully support H4.

Regarding cultural identity outcomes, t–tests revealed no significant gender differences across the four dimensions: national belonging ($t = -2.40$, $p = 0.08$), national identity ($t = -0.37$, $p = 0.63$), national behavior ($t = 0.14$, $p = 0.39$), and cultural identification ($t = -1.71$, $p = 0.28$). One–way ANOVA likewise found no significant ethnic–group differences. As shown in Table 2, only national identity showed significant grade–level variation ($F(4, 1131) = 2.50$, $p = 0.04$, $\eta^2 = 0.009$); post–hoc analyses indicated that fourth–year students ($M = 4.31$, $SD = 0.71$) scored significantly higher than first–year ($M = 4.14$, $SD = 0.72$) and third–year students ($M = 4.05$, $SD = 0.78$), and that second–year students ($M = 4.21$, $SD = 0.72$) scored higher than third–year students. The effect size was small, suggesting limited practical magnitude despite statistical significance.

Table 2 Grade–Level Differences in National Cultural Identity Dimensions

Cultural Identity Dimension	F	df	p	η^2
National Belonging	0.84	4, 1131	0.50	0.003
National Identity	2.50	4, 1131	0.04*	0.009
National Behavior	1.01	4, 1131	0.40	0.004
Cultural Identification	0.61	4, 1131	0.65	0.002

Note. * $p < 0.05$. η^2 = eta–squared (effect size); df = degrees of freedom. Only national identity differs significantly by grade level, and the effect size is small.

Hypothesis Testing Summary

Table 3 summarizes the four hypothesis tests. H1 and H2 were supported; H3 was partially supported (grade level significant, gender and ethnicity non–significant); and H4 was supported.

Table 3 Hypothesis Testing Summary

Hypothesis	Key Finding	Result
H1: Models enhance cultural identity	All three models rated above $M = 3.50$ ($p < 0.05$)	Supported
H2: Anchored teaching most effective	Anchored (4.17) > Random Access (4.01) > Scaffolding (3.59)	Supported

Hypothesis	Key Finding	Result
H3: Demographics influence receptiveness	Grade level significant; gender and ethnicity non–significant	Partially Supported
H4: Lower–grade students more receptive	Yr1 & Yr2 > Yr3 for random access ($F = 2.63$, $p = 0.03$)	Supported

Note. All hypotheses tested at $\alpha = 0.05$.

Discussion

The finding that all three constructivist models significantly enhanced national cultural identity is consistent with the constructivist premise that learners build cultural meaning through active interaction rather than passive reception (Piaget, 1977; Vygotsky, 1978). This may be because ICH content—embodied, performative, and context–dependent—resists transmission through didactic instruction and is better internalized when students engage with it through structured, participatory tasks. The result extends prior advocacy for experiential ICH pedagogy (UNESCO, 2003; Li, 2012) by supplying the quantitative confirmation that earlier, largely descriptive studies lacked.

The superiority of anchored teaching ($M = 4.17$) aligns closely with situated cognition theory (Brown et al., 1989), which holds that knowledge acquired in authentic contexts is more transferable and durable than knowledge acquired through abstract instruction. The likely explanation is that anchors—live demonstrations, community engagement, and documentary analysis of Bai practices—create emotionally resonant, personally meaningful encounters that convert cultural awareness into identification. This finding both supports and sharpens earlier theoretical claims (Liu & Zhong, 2005) by ranking anchored instruction above random access and scaffolding within a single comparative design, addressing a gap that previous single–model studies could not.

The grade–level pattern—first– and second–year students being more receptive to random access teaching—can be interpreted through the lens of cognitive flexibility and identity development. Lower–grade students, whose academic routines and identity commitments are less consolidated, may be more open to non–linear, multi–perspectival engagement, whereas upper–year students may prefer more structured formats. This developmental reading is congruent with the broader literature on a

sensitive period for cultural identity formation and suggests, in line with Xiao (2012), that the timing of intervention matters as much as its content.

Finally, the absence of significant gender and ethnic-group differences indicates that the constructivist approaches function comparably across demographic subgroups. Rather than a null result of little interest, this cross-demographic equivalence is practically valuable: it suggests that the models can be implemented in China's highly diverse universities without group-differentiated adaptation, complementing Peng et al.'s (2024) observation that the educational channel of Bai ICH transmission is underexploited. Taken together, the discussion connects each empirical result to its theoretical rationale and to prior research, and provides the basis for the recommendations that follow.

New Knowledge from the Research

This study makes four contributions. First, it provides the first large-scale quantitative validation of constructivist teaching models specifically designed for Bai ethnic ICH education, with a sample of 1,136 students across six institutions offering sufficient statistical power. Second, it establishes a comparative effectiveness ranking– anchored > random access > scaffolding– that gives educators actionable guidance for pedagogical decision-making. Third, it contributes developmental knowledge about the optimal timing of ICH interventions, identifying the first two years of study as a window of heightened receptiveness to innovative, non-linear formats. Fourth, and most fundamentally, it demonstrates that well-designed ICH education can move cultural identity from the cognitive to the behavioral level students do not merely learn about heritage but develop active engagement with it advancing beyond the attitudinal outcomes of previous studies and carrying clear implications for cultural preservation policy.

Conclusion

This study provides rigorous empirical evidence that constructivist teaching approaches to Bai ethnic ICH education significantly enhance college students' national cultural identity. Across 1,136 students from six Yunnan universities, all three models produced above-average outcomes, with anchored teaching the most effective ($M = 4.17$). Grade level was a meaningful moderating variable, with lower-grade students more receptive to innovative pedagogies, particularly random access

methods, whereas gender and ethnic background did not significantly differentiate outcomes. The findings advance constructivist learning theory in the heritage–education context, validate situated cognition principles for ethnic minority culture transmission, and support Cultural Identity Theory's multidimensional conception of national belonging. For China's expanding higher education sector, they offer an actionable model for fulfilling the dual mandate of academic quality and cultural preservation—goals that prove mutually reinforcing when pedagogical design is grounded in constructivist principles and authentic cultural experience.

Recommendations

Recommendations for Practice

These recommendations follow directly from the results. Because anchored teaching was the most effective model, universities in regions with rich ICH traditions should systematically integrate anchored teaching into ICH curricula, establishing authentic learning anchors through formalized partnerships with local communities, cultural practitioners, and ICH inheritors rather than one off activities. Because lower–grade students were most receptive to innovative pedagogies, ICH education should be prioritized in the first and second years, with introductory courses anchored in authentic Bai cultural experiences positioned as core rather than elective offerings. Because effective delivery depends on teacher capacity, faculty development programs combining constructivist methodology with deep cultural content knowledge should be established and institutionalized through regular collaboration with ICH inheritors. Finally, because sustained programs require infrastructure, universities should develop dedicated cultural–experience spaces, digital heritage archives, and community partnership networks to support delivery and assessment.

Recommendations for Future Research

Future studies should extend the comparative analysis to ICH traditions of other ethnic minority groups in China and other national contexts to test the generalizability of the framework. Longitudinal designs tracking the same cohorts over two to four years are needed to determine whether enhanced cultural identity is sustained beyond the immediate intervention. Experimental or quasi–experimental designs that randomly assign students to teaching–model conditions would strengthen causal inference about relative effectiveness. Finally, future research should examine mediating variables such as cultural

self–efficacy, community belonging, and student–teacher cultural dialogue quality to develop a more complete model of how constructivist ICH education produces cultural identity change.

References

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Prentice–Hall.

Brown, J. S., Collins, A. & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18*(1), 32–42. https://doi.org/10.3102/0013189X018001032

Chu, G. S. (2020). Analysis of the protection and inheritance system of Korean intangible cultural properties. *Intangible Cultural Heritage Research, 4*(7), 4–10.

Joyce, B. R. & Weil, M. (1972). *Models of teaching.* Prentice–Hall.

Li, X. (2012). Research on the inheritance of intangible cultural heritage in Dali and the practice of university campus culture construction. *Journal of Dali University,* (8), 62–65.

Liu, X. L. (2011). Playing the role of education in the inheritance of intangible cultural heritage. *Journal of Changchun Education Institute,* (3), 26–27.

Liu, Y. & Zhong, Z. X. (2005). On anchored teaching model. *Jiangxi Educational Research,* (2), 9–11.

Peng, K., Li, F. Z., Chen, Z. M., Feng, Y. C., Fu, H., Zhou, Y. Y. & Yao, Y. T. (2024). Research on the inheritance and innovation of intangible cultural heritage in the Erhai Basin of Dali Prefecture. *Southern Forum,* (7), 81–86.

Piaget, J. (1977). *The development of thought: Equilibration of cognitive structures.* Viking Press.

Siyam, W. (2004). The chances of success of small enterprises in the context of globalization. *Economic Prospects, 100*(25), 60–61.

Tajfel, H. & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Brooks/Cole.

UNESCO. (2003). *Convention for the safeguarding of the intangible cultural heritage.* https://unesdoc.unesco.org/ark:/48223/pf0000132540

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Harvard University Press.

Wang, W. Z. (2013). *Introduction to intangible cultural heritage.* Culture and Arts Publishing House.

Xiao, C. G. (2012). On the practical significance of enhancing Chinese national identity and state identity. *Journal of Guangdong Institute of Socialism,* (2), 15–19.

Zhuo, M. (2016). Research on the protection and inheritance of intangible cultural heritage. *Cultural Heritage,* (3), 23–28.