DESIGNING A CULTURALLY RESPONSIVE CURRICULUM FRAMEWORK FOR HIGHER EDUCATION: A MODIFIED DELPHI STUDY*

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Abstract

Universities in culturally diverse regions face increasing demands to cultivate graduates with intercultural competence while respecting local cultural identities. This study developed and validated a culturally responsive curriculum framework for higher education through a three-round Modified Delphi study with 15 interdisciplinary experts. Using Context-Input-Process-Product (CIPP) evaluation, the resulting Four-Dimensional Culturally Responsive Curriculum Framework (4D-CRCF) comprises Curriculum Values, Curriculum Knowledge, Curriculum Pedagogy, and Curriculum Assessment. The framework demonstrated high expert agreement (Kendall's W = 0.286, $p < .001$; 98.9% high-consensus indicators) and satisfactory feasibility across all CIPP dimensions. This transferable framework provides practical guidance for curriculum development in universities serving culturally diverse student populations.

Keywords: Culturally responsive curriculum, higher education, Modified Delphi method, intercultural competence, curriculum framework

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Introduction

The twenty-first century has witnessed unprecedented diversification of student populations in higher education worldwide. University campuses are increasingly characterized by ethnic, linguistic, and cultural heterogeneity, prompting calls for culturally responsive pedagogies that recognize diverse identities as intellectual assets rather than assimilation challenges (Banks, 2016; Du, 2024). Curriculum reform has emerged as the central mechanism through which universities can operationalize inclusivity.

In China, higher education institutions are mandated to cultivate talent that is not only professionally competent but also culturally responsive to the nation's pluralistic fabric, while forging a strong sense of community for the Chinese nation (Wan & Wang, 2023). This dual imperative is particularly salient in autonomous regions such as the Guangxi Zhuang Autonomous Region, where universities must simultaneously preserve indigenous cultural heritage and foster intercultural communicative competence for global engagement.

For foreign language universities, this challenge is magnified. Modern foreign language education must pivot toward a culturally responsive approach that empowers students to articulate local ethnic narratives on the global stage (Li & Wang, 2021). However, existing curricula often lack systematic progression from theoretical ethnic knowledge to practical intercultural application, leaving graduates ill-equipped for multicultural communication (Chen & Liu, 2024). While diagnostic surveys identify these gaps, they do not furnish systematic architectures for curricular reconstruction.

This study employs the modified Delphi method to construct a theoretically grounded, expert-validated multicultural curriculum development model for Guangxi University of Foreign Languages (GUFL), providing a replicable paradigm for similar institutions in ethnically diverse regions.

Objectives

This study pursued two interrelated objectives:

1. To construct a theoretically grounded and operationally specific multicultural curriculum framework for higher education in culturally diverse regions, integrating curriculum values, knowledge, pedagogy, and assessment into a coherent architecture.

2. To validate the framework's structural coherence and practical feasibility through expert consensus and CIPP-based external evaluation.

Literature Review

1. Theoretical Foundations

Contemporary curriculum design is rooted in Tyler's (1949) rational planning paradigm, which posits four fundamental questions: What educational purposes should be attained? What experiences can attain these purposes? How can these experiences be organized? How can attainment be determined? These questions map onto curriculum planning, implementation, and evaluation. However, the rational-linear model requires substantive infusion with culturally responsive pedagogies in diverse educational contexts (Smith & Jones, 2022).

Multicultural education provides the normative orientation for culturally responsive content. Banks's (2016) dimensions of multicultural education—content integration, knowledge construction, prejudice reduction, equity pedagogy, and empowering school culture—provide the normative lens for curriculum judgment. In the Chinese context, Teng Xing's theory of multicultural integrated education emphasizes the symbiotic relationship between ethnic identity affirmation and national unity. Together, these frameworks demand that a multicultural curriculum simultaneously honor local ethnic diversity, develop cross-cultural communicative competence, and reinforce the overarching identity of the Chinese national community.

Recent scholarship emphasizes that foreign language students must first be grounded in their own cultural heritage before they can effectively engage with target-language cultures (Li & Wang, 2021). The curriculum must balance 'root' (local ethnic culture and national identity) with 'vision' (global perspective and intercultural communicative competence).

2. Research Gap

Despite established theoretical imperatives, operational architectures for multicultural curriculum remain underdeveloped. Existing studies provide valuable theoretical insights but limited empirically validated curriculum frameworks integrating values, content, pedagogy, and assessment within higher education. No study has employed the modified Delphi method to construct a comprehensive, expert-validated multicultural curriculum development model tailored to foreign language universities in ethnic minority regions. This study addresses this lacuna by constructing the Four-Dimensional Culturally Responsive Curriculum Framework (4D-CRCF).

Methodology

1. Research Design

This study employed a modified Delphi design comprising three rounds of expert consultation followed by CIPP-based validation (Keeney et al., 2006). Unlike classical Delphi, the modified approach utilized structured questionnaires derived from preliminary gap analysis and literature synthesis, reducing expert fatigue and enhancing consensus efficiency (Li & Chen, 2023).

2. Expert Panel

Fifteen experts were purposively sampled across six domains: Curriculum Studies, Higher Education, Multicultural Education, Ethnic Studies, Curriculum Evaluation, and Educational Leadership. Selection criteria included: (a) minimum eight years professional experience; (b) intermediate or senior professional title

(associate professor or above); and (c) direct engagement with GUFL or regional ethnic cultural research. All 15 experts completed three rounds (100% response rate).

Table 1 Demographic Profile of the Expert Panel (N = 15)

Characteristic	Category	n	%
Gender	Male	1	6.7
	Female	14	93.3
Age	30–39	6	40.0
	40–49	8	53.3
	≥ 50	1	6.7
Highest Degree	Master's	12	80.0
	Doctorate	3	20.0
Professional Title	Associate Professor	11	73.3
	Professor	4	26.7
Work Experience	< 10 years	3	20.0
	10–19 years	6	40.0
	20–29 years	5	33.3
	≥ 30 years	1	6.7
Affiliation	GUFL	12	80.0

Characteristic	Category	n	%
	NRECA*	3	20.0
Research Focus	Curriculum Studies	3	20.0
	Ethnic Culture	4	26.7
	Ethnology	5	33.3
	Education	3	20.0

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3. Delphi Procedure and Consensus Criteria

Consensus was evaluated using measures of central tendency, dispersion, and agreement. Indicators were retained when meeting dual thresholds: mean importance rating $M \geq 4.0$ and standard deviation $SD \leq 0.8$ on a 5-point Likert scale. Kendall's coefficient of concordance (W) assessed expert agreement across rounds, with $W \geq 0.3$ indicating satisfactory consensus (Schmidt, 1997).

Results

1. Delphi Consensus Results

The modified Delphi procedure achieved strong expert convergence across three iterative rounds. As illustrated in Figure 3, the indicator pool was progressively refined from 119 to 101, and ultimately to 87 indicators, with 84 retained after final CIPP validation. Concurrently, consensus strength improved markedly: the mean Coefficient of Variation (CV) decreased from 15.48% (Round 1) to 13.20% (Round 2), stabilizing at 14.10% in Round 3; the high-consensus rate ($CV \leqq 15\%$) rose from 95.8% to 98.9%; and Kendall's Coefficient of Concordance

(W) increased from 0.155 to 0.286 ($p < .001$), signifying a shift from basic to high consensus. The relatively low baseline W in Round 1 was anticipated, given the interdisciplinary composition of the panel; as abstract or overlapping indicators were systematically eliminated or merged, the focus narrowed to highly operationalizable items, driving significant epistemic stabilization characteristic of rigorous Delphi applications in complex educational modeling (Müller & Klein, 2022).

Table 2 Summary of Consensus Statistics Across Delphi Round

Round	1	2	3
Indicators (N)	119	101	87
Mean CV (%)	15.48	13.20	14.10
CV Range (%)	5.27–28.61	5.27–34.71	0.00–26.21
High-Consensus Indicators (CV ≤ 15%)	114	97	86
High-Consensus Rate	95.8%	96.1%	98.9%
Kendall's W	0.155	0.199	0.286
χ^2	274.63	186.93	201.01
df	118	100	85
p	< .001	< .001	< .001
Consensus Level	Basic	Moderate	High

2. The Four-Dimensional Framework (4D-CRCF)

Rather than presenting a decontextualized list of 84 indicators, the expert consensus was synthesized into a coherent, theoretically grounded framework: the Four-Dimensional Culturally Responsive Curriculum Framework (4D-CRCF). As depicted in Figure 2, the framework comprises four interdependent dimensions, Curriculum Values, Curriculum Knowledge, Curriculum Pedagogy, and Curriculum Assessment, which collectively orient toward three educational outcomes:

Intercultural Competence, Cultural Confidence, and Global Citizenship. The 84 retained indicators serve as operational evidence supporting these four dimensions.

Table 3 Consolidated Structure of the 4D-CRCF

Dimension	Core Components	Illustrative Indicators
Curriculum Values	Equity, Inclusion, Identity, Belonging	Cultural identity pride; Respect for diversity; Equity principle
Curriculum Knowledge	Cultural Literacy, Local Knowledge, Global Perspectives	Ethnic spiritual culture; Regional features; Cross-cultural theories
Curriculum Pedagogy	Experiential Learning, Community Engagement, Reflection	Scenario simulation; Village visits; Theory-practice integration
Curriculum Assessment	Authentic Assessment, Portfolio, Performance Evaluation	Reflection journals; Project assessment; Presentation skills

3. CIPP Validation Results

To verify the model's feasibility and structural validity, five experts were invited to rate the finalized 4D-CRCF using a CIPP-based instrument (Stufflebeam, 2003) comprising 20 indicators across four dimensions. The CIPP framework has been recently validated and widely applied in higher education curriculum assessment across diverse disciplines, demonstrating robustness in evaluating

context, input, process, and product dimensions (Chen & Liu, 2023; Ni & Wu, 2024; Zhong & Shi, 2025). Its applicability in evaluating ideological and political education systems further underscores its utility in assessing culturally responsive curricula (Cai & Zhang, 2025).

Table 4 CIPP Validation Results (N = 5)

CIPP Dimension	Mean	SD	Min	Max
Context	4.92	0.27	4	5
Input	4.80	0.40	4	5
Process	4.88	0.32	4	5
Product	4.76	0.43	4	5

The model scored highest on Context (M = 4.92), indicating strong alignment between the 4D-CRCF and Guangxi's ethnic diversity, GUFL's "Foreign Language + Culture" mission, and national policies on forging a strong sense of community for the Chinese nation. Input (M = 4.80) and Process (M = 4.88) scores confirmed that the framework is resource-feasible and procedurally sound. However, the comparatively lower Product score (M = 4.76) and Overall Effectiveness (M = 4.60) reflected expert concern that "demonstrable learning outcomes" (Pr3, M = 4.40) and concrete effectiveness metrics require further operationalization. This discrepancy is a common methodological challenge in CIPP evaluations of multicultural curricula: while contextual relevance and procedural design are relatively straightforward to structure, measuring the long-term internalization of intercultural competence and shifts in ethnic identity requires longitudinal tracking that exceeds the scope of standard module evaluation (Zhang & Chen, 2024). Experts recommended that future iterations of

the Product dimension should incorporate multi-source feedback mechanisms, such as peer evaluations and post-graduation employer surveys, to capture the delayed efficacy of multicultural education.

4. Application Model

The 4D-CRCF is designed not merely as a theoretical construct but as a transferable implementation architecture. Figure 2 illustrates how the framework can be operationalized within higher education institutions situated in ethnically diverse regions.

Figure 1 Application Model of the 4D-CRCF



In this model, the University Context, encompassing regional ethnic diversity, institutional mission, and national policy directives, shapes the Curriculum Planning phase, where Values and Knowledge are co-specified. These planning decisions then inform Teaching and Learning through experiential, community-engaged, and reflective pedagogies. Assessment functions as a continuous, developmental process rather than a terminal event, feeding back into pedagogical adjustment. Ultimately, the model is designed to produce

graduates who possess not only Intercultural Competence but also Cultural Confidence, the capacity to articulate their own ethnic heritage in global contexts, and Global Citizenship, understood as responsible engagement with cultural diversity beyond national borders.

Discussion

Research Objective 1: Framework Construction

The results of research objective 1 found that expert consensus converged on a four-dimensional framework comprising Curriculum Values, Curriculum Knowledge, Curriculum Pedagogy, and Curriculum Assessment. This is because the multidisciplinary panel systematically rejected indicators that were either too abstract for operational translation or too narrowly performative to meet academic rigor. For instance, philosophically laden items such as "legitimization of ethnic cultural identity and intellectualization of learning rights" were deleted in favor of concrete value statements like "Pride in Ethnic Cultural Identity and Sense of Belonging to Learning Rights," while performative indicators such as "ethnic song-and-dance learning experience" were eliminated in favor of theoretically grounded knowledge categories including "Spiritual Culture of Ethnic Diversity" and "Interaction and Integration of Multi-ethnic Cultures." This aligns with the concepts, theories, and research of Tyler (1949), whose rational curriculum questions demand that educational purposes be translatable into organized experiences, and Banks (2016), whose multicultural dimensions insist that content integration must be accompanied by knowledge construction rather than superficial cultural display. Furthermore, the panel's insistence on embedding Equity, Inclusion, Identity, and Belonging as foundational values reflects the core tenets of culturally responsive curriculum theory, which posits that effective multicultural education must affirm students' cultural backgrounds as integral components of the learning process rather than assimilation

challenges (Du, 2024). The framework's deliberate balance between "root" (local ethnic heritage) and "vision" (global intercultural competence) also mirrors recent scholarship emphasizing that foreign language students must first be grounded in their own cultural identity before they can effectively engage with target-language cultures (Li & Wang, 2021).

Research Objective 2: Validation

The results of research objective 2 found that the framework achieved high structural coherence and practical feasibility, as evidenced by progressive expert consensus (Kendall's W = 0.286, $p < .001$; 98.9% high-consensus indicators by Round 3) and strong CIPP validation scores for Context (M = 4.92), Input (M = 4.80), and Process (M = 4.88). This is because the modified Delphi method's anonymous iteration and controlled feedback mitigated groupthink risks, while the dual-threshold screening mechanism ($M \geqq 4.0$, $SD \leqq 0.8$) ensured that only indicators with both high importance and convergent agreement were retained. The CIPP validation further confirmed that the framework is contextually aligned with institutional missions and procedurally sound. However, the comparatively lower Product (M = 4.76) and Overall Effectiveness (M = 4.60) scores indicate that measuring long-term intercultural competence internalization requires longitudinal tracking beyond the scope of standard module evaluation. This aligns with the concepts, theories, and research of Hasson et al. (2000) and Keeney et al. (2006), who established that rigorous Delphi protocols achieve validity through iterative expert judgment rather than single-round surveys. The use of Kendall's W as a nonparametric consensus metric aligns with Schmidt (1997), who demonstrated its suitability for Delphi surveys where ordinal data and interdisciplinary panels preclude parametric assumptions. The CIPP validation structure reflects Stufflebeam's (2003) evaluation model, which distinguishes between context-input-process adequacy and product outcomes, while the emphasis on observable, assessable indicators in the Assessment

dimension resonates with Patton (2021), who argued that curriculum evaluation must prioritize operational feasibility over abstract societal impact metrics.

Recommendation

1. Practical Recommendations:

For higher education institutions in culturally diverse regions, the 4D-CRCF offers a sequential implementation architecture rather than a static blueprint. First, curriculum planners should conduct an audit of existing programs against the four value principles, Equity, Inclusion, Identity, and Belonging, to identify structural gaps before selecting content. Second, faculty development programs must be redesigned to equip instructors with experiential pedagogical skills, including scenario simulation, community-based fieldwork facilitation, and reflective practice mentoring, rather than relying solely on linguistic expertise. Third, quality assurance offices should transition from terminal examination systems toward portfolio-based, developmental assessment architectures capable of tracking intercultural competence growth across semesters. Finally, institutions can apply the CIPP logic to conduct periodic curriculum reviews, ensuring that multicultural commitments are maintained through institutional leadership transitions and policy shifts.

2. Future Research:

Four directions warrant investigation. First, subsequent studies should incorporate student voices through focus groups or participatory validation rounds to ensure the framework's developmental appropriateness and cultural resonance. Second, longitudinal pilot studies are needed to empirically test whether the framework produces measurable gains in intercultural competence, cultural confidence, and global citizenship over time. Third, cross-national validation in Southeast Asian, Central Asian, or Latin American institutions would establish the framework's transferability across divergent political and cultural

ecologies. Fourth, future iterations should explore the integration of digital technologies, such as virtual reality cultural simulations and online multicultural resource repositories, to enhance scalability and accessibility for resource-constrained settings.

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