

Research Article

OPTIMIZING SAFETY, DATA RELIABILITY, AND RESEARCH DIVERSITY IN ETHNOMUSICOLOGY FIELDWORK: A CASE STUDY OF UNDERGRADUATE STUDENTS IN YUNNAN UNIVERSITIES

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ABSTRACT

Fieldwork plays a central role in ethnomusicology, enabling students to engage with real-world musical practices. However, this study reveals that many student researchers encounter serious challenges, particularly regarding safety, data reliability, and research diversity. A mixed-methods approach was used, involving surveys from 350 students and 15 interviews across four universities in Yunnan Province, China. Results showed that 62% of students faced safety risks, while only 34.4% applied data validation techniques such as triangulation. Furthermore, over 70% focused on well-known ethnic groups, leaving lesser-known communities underrepresented. These trends raise concerns about the depth, scope, and academic value of undergraduate fieldwork. Based on these findings, the study proposes practical strategies, including scenario-based safety training, standardized methodological instruction, and institutional support for underrepresented regions. These measures aim to improve students' readiness, promote diverse fieldwork practices, and enhance the overall quality of ethnomusicology education.

Keywords: Ethnomusicology, Fieldwork Safety, Data Reliability, Research Diversity

INTRODUCTION

Ethnomusicology focuses on the study of music within cultural contexts, and fieldwork is considered its core method (Rice, 2017). In China, undergraduate programs increasingly rely on field-based learning, especially in Yunnan Province, which hosts 26 ethnic groups and serves as a hub for student fieldwork.

However, students increasingly face challenges related to physical safety, especially in remote or unfamiliar regions. Many struggle with data reliability due to limited methodological training, and most tend to focus on well-known ethnic groups, leaving lesser-known communities underrepresented.

These patterns reflect a form of “academic glocalization,” where institutional guidance and student choices reinforce familiar topics, resulting in limited originality and cultural scope.

In response, this study adopts a mixed-methods design to explore how safety, data reliability, and research diversity affect student fieldwork. It further proposes a diagnostic readiness tool aimed at improving training strategies and guiding curriculum design in ethnomusicology education.

RESEARCH OBJECTIVES

- 1) To identify and analyze the key challenges faced by ethnomusicology students in fieldwork, particularly those related to safety, data reliability, and research diversity.
- 2) To design an Ethnomusicology Test for evaluating students’ readiness for fieldwork, based on the challenges of fieldwork safety, data reliability, and research diversity.
- 3) To implement the Ethnomusicology Test and assess its feasibility and instructional value through feedback collected from both students and instructors.

RESEARCH SCOPE

The study focused on undergraduate ethnomusicology students at four universities in Yunnan Province between 2020 and 2024. Most participants were in their third or fourth year and had prior fieldwork experience. The research examined three core variables: fieldwork safety, data reliability, and research diversity. A mixed-methods design was used to obtain both quantitative and qualitative insights. Although the findings offer practical recommendations, the sample’s regional limitation suggests that further studies in broader contexts are necessary.

RESEARCH QUESTIONS

This study focused on three core challenges faced by undergraduate students in ethnomusicology during their fieldwork: fieldwork safety, data reliability, and research diversity. As fieldwork becomes a central part of practice-based teaching in ethnomusicology, it has become increasingly clear that students—often acting as novice researchers—face structural gaps in their preparation. This suggests that current fieldwork training may prioritize research methods while neglecting early-stage readiness and practical conditions.

To address this gap, the study was guided by the following research questions:

RQ 1: What are the key challenges faced by ethnomusicology students in fieldwork?

RQ 2: How can the challenges of fieldwork be translated into Ethnomusicology Test for assessing students' fieldwork readiness?

RQ 3: To what extent is the proposed Ethnomusicology Test feasible and pedagogically valuable according to the feedback from students and instructors?

CONCEPTUAL FRAMEWORK

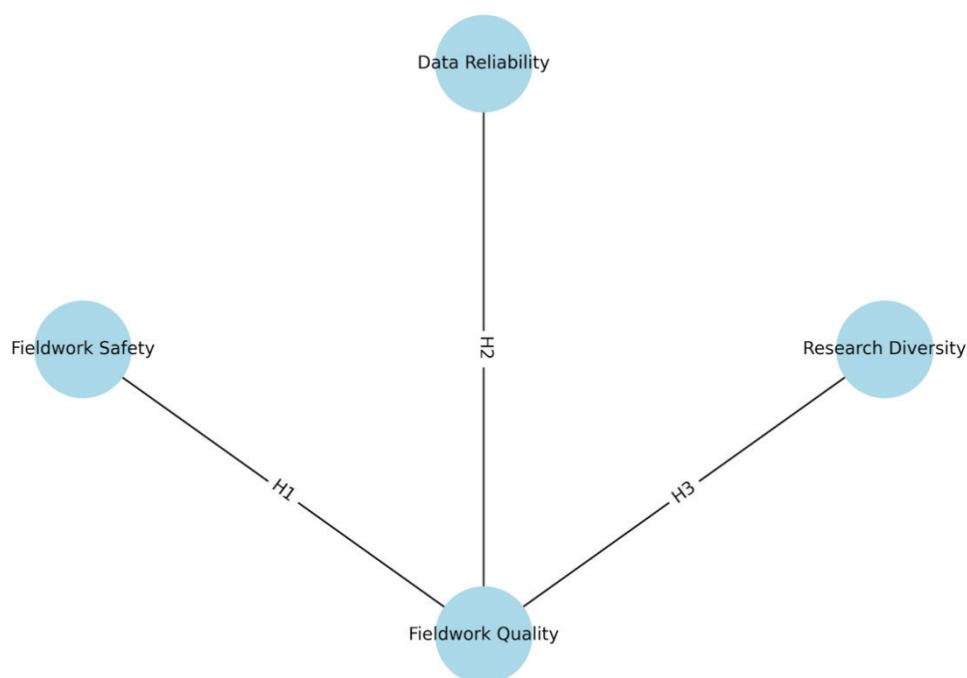


Figure 1 Conceptual Framework

Building on the previous literature review and stated research objectives, this study aimed to examine the key factors that influenced the quality of ethnographic fieldwork conducted by undergraduate ethnomusicology students. The study proposed three hypotheses that conceptualized fieldwork quality as the dependent variable. Each hypothesis explored the direct influence of a specific factor. These hypotheses were not only designed to guide the empirical investigation but also aimed to support the creation of a diagnostic tool to evaluate fieldwork readiness among undergraduate students. The hypotheses were as follows:

H1: Students' perceived level of fieldwork safety significantly and positively influenced the overall quality of fieldwork.

H2: Higher reliability in students' data collection significantly and positively influenced the overall quality of fieldwork.

H3: Greater diversity in research topics and regions significantly and positively influenced the overall quality of fieldwork.

RESEARCH METHODOLOGY

1. Research Design

This study adopted a mixed-methods research design, following a three-stage process: identification, tool development, and reflection (Figure 2). The overall aim was to explore the core factors influencing the quality of ethnographic fieldwork conducted by undergraduate ethnomusicology students and to design a diagnostic assessment tool for teaching applications.

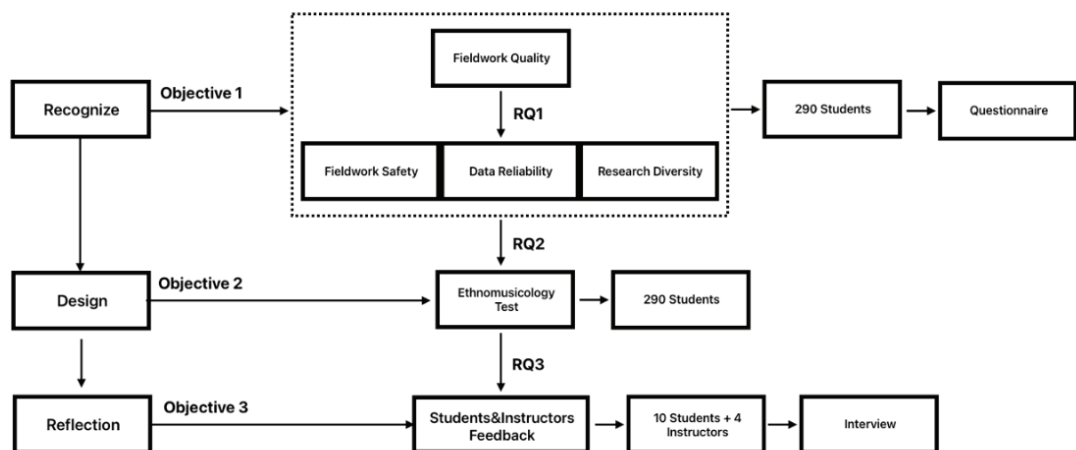


Figure 2: Research Design

The study followed a three-stage mixed-methods design. In the first stage, a structured questionnaire identified key student challenges in fieldwork—safety, data reliability, and research diversity—based on a stratified sample across four universities. In the second stage, a diagnostic readiness tool was developed to evaluate students' preparedness in these areas and was pilot-tested to ensure internal consistency. The third stage involved semi-structured interviews with students and instructors to gather qualitative feedback on the tool's feasibility and pedagogical

value. Overall, the research followed a closed-loop structure from identification to application, aligning sampling design, research procedures, and data triangulation to support the improvement of fieldwork training in undergraduate ethnomusicology education.

2. Data Collection

Quantitative data were collected via a structured questionnaire developed through literature review and expert consultation. It focused on three core variables: fieldwork safety, data reliability, and research diversity. The survey included demographic questions, a fieldwork readiness assessment, and feedback on research topics. Responses were rated on a five-point Likert scale and collected through the Wenjuanxing platform, with standardized procedures ensuring confidentiality and completeness.

To evaluate the instructional value of the Ethnomusicology Test, semi-structured interviews were conducted with ten students and four instructors. These interviews focused on the test's clarity, contextual relevance, and feasibility for classroom use.

3. Human Research Ethics Consideration

All procedures involving human participants were reviewed and approved by the Ethics Review Board of Rangsit University (RSU-ERB), under Certificate No. RSUERB2025-019, issued on January 15, 2025. This approval covered the entire research process, including the study design, informed consent, and data collection methods. The review followed international ethical standards such as the Declaration of Helsinki and the Belmont Report.

This suggests that the study was conducted with full attention to participants' rights and safety. In contrast to studies that lack formal oversight, the involvement of the RSU-ERB added credibility and ethical accountability. The certificate remains valid until January 15, 2027.

RESULTS

This section presents findings aligned with the three research questions. First, it identifies key challenges in student fieldwork. Second, it translates these into measurable criteria for assessing readiness, using survey and interview data. Third, it evaluates student and instructor feedback on the Ethnomusicology Test, focusing on its feasibility and pedagogical value. Overall, the results provide a foundation for improving fieldwork preparation through targeted interventions in ethnomusicology education.

1. RQ1: Key challenges faced by ethnomusicology students in fieldwork

1) Demographic Statistics

A total of 302 valid questionnaires were collected for the quantitative phase of the study. As shown in Table 1, 57.6% of respondents were female (n = 174) and 42.4% were male (n = 128). In terms of age, the majority of participants were between 21 and 22 years old (55.6%), followed by those aged 18 to 20 (30.5%) and those 23 and above (13.9%).

Regarding academic level, students were distributed across three year groups: second-year students comprised the largest portion (48.7%), followed by third-year students (38.1%) and fourth-year students (13.2%). This suggests that the sample included a balanced representation of students at different stages of their undergraduate programs. In terms of fieldwork experience, 41.1% of respondents had conducted fieldwork once, while 35.4% had done so two or more times, and 23.5% had no prior fieldwork experience.

Table 1 Demographic Profile of Participants

(N = 302)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	128	42.4%
	Female	174	57.6%
Age	18–20 years	92	30.5%
	21–22 years	168	55.6%
	23 years and above	42	13.9%
Year of Study	Second Year	147	48.7%
	Third Year	115	38.1%
	Fourth Year	40	13.2%
Field Experience	None	71	23.5%
	Once	124	41.1%
	Twice or more	107	35.4%

2) Correlation Analysis

To explore the relationships among the core variables, Pearson correlation analysis was conducted. As shown in the table 2, all three independent variables—perceived fieldwork safety, data reliability, and research diversity—were significantly and positively correlated with the overall quality of fieldwork ($p < .01$).

Table 2 Correlation Analysis

Variable	Fieldwork Safety	Data Reliability	Research Diversity	Fieldwork Quality
Fieldwork Safety	1.000			
Data Reliability	.472**	1.000		
Research Diversity	.395**	.449**	1.000	
Fieldwork Quality	.521**	.563**	.486**	1.000

Note: $p < .05^*$, $p < .001^{**}$

Specifically, students' perceived level of safety showed a moderate positive correlation with fieldwork quality ($r = .521, p < .01$). This suggests that students who felt safer during fieldwork were more likely to produce higher-quality research outcomes. In contrast, data reliability exhibited the strongest correlation with fieldwork quality ($r = .563, p < .01$), indicating that more rigorous data collection was closely linked to better academic performance. Research diversity also showed a significant positive association with fieldwork quality ($r = .486, p < .01$), implying that students who explored a wider range of topics and regions were more likely to conduct comprehensive and meaningful field studies.

In addition, significant correlations were observed among the three independent variables. For example, data reliability was positively correlated with both fieldwork safety ($r = .472, p < .01$) and research diversity ($r = .449, p < .01$). This suggests that strong methodological training may not only improve the reliability of data collection but also enhance students' confidence in the field and encourage broader research choices.

These initial findings provided empirical support for the regression analysis conducted in the next section, offering preliminary validation for the proposed hypotheses.

3). Regression Analysis

The regression analysis was conducted to examine how perceived fieldwork safety, data reliability, and research topic diversity jointly influenced the overall quality of ethnographic fieldwork. As shown in Table 3, all three predictors demonstrated statistically significant and positive effects on the dependent variable.

Table 3 Multiple Linear Regression Predicting Overall Fieldwork Quality

Predictor Variable	β (Standardized Coefficient)	T	p-value	Significance
Fieldwork Safety	0.34	5.92	< .001	***
Data Reliability	0.41	6.78	< .001	***
Research Diversity	0.29	5.21	< .001	***
R ²	0.296			
Adjusted R ²	0.289			
F (3, 298)	42.61			
Model Significance	< .001			

Note: * p < .05, ** p < .01, *** p < .001

Specifically, perceived fieldwork safety was a strong predictor ($\beta = 0.34$, $t = 5.92$, $p < .001$), suggesting that students who felt safer during their fieldwork were more likely to achieve higher research quality. In contrast to safety, data reliability had the highest standardized coefficient ($\beta = 0.41$, $t = 6.78$, $p < .001$), indicating that accurate and consistent data collection played a central role in producing strong fieldwork outcomes. Research topic diversity also contributed significantly to the model ($\beta = 0.29$, $t = 5.21$, $p < .001$), which supports the idea that exploring underrepresented or varied research topics helped enrich the depth and relevance of student research.

Together, the model explained 29.6% of the variance in overall fieldwork quality (Adjusted $R^2 = 0.289$, $F(3, 298) = 42.61$, $p < .001$). This suggests that while other factors may also play a role, the three examined variables accounted for a meaningful portion of students’ fieldwork success.

In summary, the findings supported all three hypotheses. H1 was confirmed by the positive influence of perceived safety; H2 was strongly supported by the predictive strength of data reliability; and H3 was validated through the impact of research diversity on fieldwork outcomes.

2. RQ2: How The Core Challenges In Ethnographic Fieldwork Could Be Translated Into Measurable Criteria For Assessing Students' Fieldwork Readiness

Research Question 2 aimed to explore how the core challenges in ethnographic fieldwork—namely, safety, data reliability, and research diversity—could be translated into measurable criteria for assessing students' fieldwork readiness. To address this question, the study combined theoretical insight with empirical validation, resulting in the development of a preliminary set of assessment indicators.

First, the construction of the measurement framework was grounded in a systematic review of the literature, insights from questionnaire results. Each of the three dimensions was broken down into practical subcomponents. For instance, the safety dimension included students' ability to recognize field risks, access to pre-field training, availability of emergency resources, and communication with instructors. The data reliability dimension focused on proficiency in data collection methods, adherence to documentation standards, and awareness of validation processes. Meanwhile, research diversity referred to the breadth of topic selection, the variety of field locations, and the ability to navigate linguistic and cultural differences.

Second, to test the effectiveness of these criteria, the study conducted a multiple regression analysis based on student questionnaire data. The results showed that all three dimensions significantly predicted overall fieldwork quality ($R^2 = .296$, $p < .001$). Among them, data reliability had the strongest predictive power, followed by safety and then diversity. This suggests that the proposed indicators not only aligned with theoretical expectations but also demonstrated statistical value in distinguishing between different levels of student preparedness.

In sum, this study successfully translated theoretical fieldwork challenges into operational assessment indicators. These indicators were shown to be measurable and relevant through both conceptual design and quantitative analysis, providing a strong empirical foundation for the development of a future diagnostic tool in ethnomusicology education.

3. RQ3: Evaluating the Feasibility and Pedagogical Value of the Ethnomusicology Test

To address Research Question 3—namely, whether the ethnomusicology fieldwork readiness test was feasible and pedagogically effective—semi-structured interviews were conducted with ten students and four instructors. The interviews explored participants' experiences with the test, including its content, structure, task design, and instructional applicability. A thematic analysis (Table 4) of their responses revealed several core insights into the tool's effectiveness, diagnostic function, and areas for refinement.

Table 4 Thematic Analysis of Feedback on the Ethnomusicology Test

Code	Frequency	Category	Theme
The test enhanced students' awareness of safety	10	Reinforced Risk Awareness	Effectiveness in Field Preparation
The test helped students identify ethical concerns	6	Reinforced Risk Awareness	
The test reflected realistic fieldwork scenarios	9	Authentic Content Design	
The test covered typical safety and diversity issues	7	Authentic Content Design	
The test revealed lack of methodological skills	8	Diagnostic Function	Technical Skill Identification
The test exposed weak understanding of triangulation	5	Diagnostic Function	
Test results supported development of tailored support plans	6	Pedagogical Utility of Feedback	Tool Usability and Structural Refinement
The test created time management difficulties	4	Operational Experience Feedback	
Some items lacked critical thinking requirements	3	Item Quality Feedback	
Suggest adding hands-on simulation elements	5	Content Improvement Suggestions	
Suggest including region-specific case studies	4	Content Improvement Suggestions	
Recommend a pre-test orientation session	5	Pedagogical Integration Advice	

Interview feedback indicated that the test significantly improved students' awareness of fieldwork risks and ethical issues. Both students and instructors noted that scenario-based items helped anticipate real-world challenges and highlighted unconscious bias in data collection.

The test also demonstrated strong diagnostic value by revealing gaps in students' technical skills. Participants reported struggles with triangulation and documentation, emphasizing the need for clearer methodological training. Instructors observed that the test effectively identified weak areas such as validation and data handling.

Moreover, respondents emphasized the test's instructional utility. Teachers suggested using test results to tailor preparatory activities, while students appreciated the opportunity to reflect on their weaknesses before entering the field.

Feedback also covered usability. Some students reported time pressure and item clarity issues, recommending more reasoning-based questions. Teachers proposed adding orientation modules, and students suggested including role-play scenarios to better simulate fieldwork settings.

Overall, the interviews confirmed the test's pedagogical relevance. It raised risk awareness, diagnosed skill gaps, and informed instructional planning, positioning it as a practical tool in fieldwork education.

CONCLUSION AND DISCUSSION

Conclusion

1. Research Objective 1: To identify and analyze the key challenges faced by ethnomusicology students in fieldwork, particularly those related to safety, data reliability, and research diversity

The first objective of this study was to identify and analyze the main challenges encountered by ethnomusicology students during fieldwork, mainly related to safety, data reliability, and research diversity. This was achieved through literature review, teaching reflections, and student feedback collected during the study.

Findings revealed that students were often underprepared for field-based risks, including emergencies and ethical dilemmas, due to limited training in risk awareness and crisis response. Regarding data reliability, many struggled with documentation techniques and lacked awareness of validation strategies. In terms of research diversity, students tended to focus on similar topics and familiar locations, reducing the variety and depth of their fieldwork.

These issues reflect a broader weakness in ethnomusicology education—insufficient emphasis on structured preparation before field immersion. Unlike approaches that focus solely on outcomes, this study emphasized readiness and foundational competence.

The identification of these three challenges provided a foundation for designing improved educational support systems and informed the following research stages focused on developing tools to assess students' fieldwork preparedness.

2. Research Objective 2: To design an Ethnomusicology Test for evaluating students' readiness for fieldwork, based on the challenges of fieldwork safety, data reliability, and research diversity

The second objective of this study was to design a structured “Ethnomusicology Fieldwork Preparedness Admission Test” to assess students' readiness for ethnographic fieldwork. Grounded in the three core challenges—fieldwork safety, data reliability, and research diversity—the tool aimed to translate these into measurable, diagnostic indicators.

The final version included three sections: “Fieldwork Safety Preparedness,” “Data Reliability and Methodological Awareness,” and “Research Diversity and Inclusive Practice,” with a total score of 100 points. Each section featured multiple-choice, short-answer, case-based, and practical design items to evaluate both knowledge and application of fieldwork strategies.

The safety section assessed students' ability to identify risks, respond to emergencies, and demonstrate cultural sensitivity. The data reliability section examined their methodological training, ethical awareness, and ability to cross-validate information. The research diversity section evaluated exposure to varied topics and communities, and adaptability to linguistic and cultural differences.

The test served as both a diagnostic tool and a pedagogical guide for improving fieldwork preparation. Unlike informal approaches, its structured format enabled more consistent and equitable assessment of student readiness.

3. Research Objective 3: To implement the Ethnomusicology Test and assess its feasibility and instructional value through feedback collected from both students and instructors.

The third objective was to evaluate the feasibility and instructional value of the Ethnomusicology Fieldwork Preparedness Test based on feedback from students and instructors. Results indicated that the test effectively enhanced students' understanding of key fieldwork challenges—especially in safety, data reliability, and research diversity. Many noted that scenario-based items and research design tasks helped them reflect on their preparedness and identify areas for improvement.

Instructors emphasized the strong alignment between the test and real-world fieldwork, highlighting its clarity and logical structure in assessing student readiness. Several suggested improvements, such as including region-specific case studies and offering preparatory workshops to enhance comprehension before testing.

Overall, the test demonstrated both feasibility and pedagogical value. It served not only as a readiness assessment but also as a tool for informing curriculum development and instructional planning in ethnomusicology education. A full version of the test is included in the appendix for reference.

Discussion

This section discussed the study's main findings in relation to existing literature, focusing on the three core dimensions: fieldwork safety, data reliability, and research diversity. Each was analyzed for its pedagogical relevance and implications for ethnomusicology education.

Fieldwork Safety: Educational Implications: While early literature (e.g., Barz & Cooley, 2008) emphasized cultural sensitivity and ethics, recent work has shifted toward practical safety training. Aduonum (2021), for example, introduced “walking pedagogies” to promote physical

awareness and resilience. This study identified measurable safety components—risk recognition, cultural sensitivity, emergency response, and instructor communication—and regression analysis confirmed their predictive value for fieldwork quality. These results underscore the need for structured training in risk management as a core competency in ethnomusicology.

Data Reliability: From Method Training to Verifiable Practice: Traditional ethnomusicology stressed methods such as triangulation and reflexivity (Clifford, 1986; Rice, 1997). More recently, scholars like Hofmann et al. (2021) have advocated FAIR data principles, emphasizing transparency, accessibility, and reusability. In this study, strong predictors of data reliability included documentation skills, validation awareness, and use of digital tools. These findings support the integration of explicit training in digital methods and ethical data management within undergraduate curricula.

Research Diversity: From Cultural Sensitivity to Structural Support: Canonical works (e.g., Nettl, 2005) emphasized cultural representation, but pedagogical support for diversity remains limited. Kölbl (2021) highlighted the role of empathy and self-location in cross-cultural education. This study assessed diversity through topic range, field locations, and linguistic adaptability. Although the beta value for diversity was slightly lower than for the other two factors, it remained significant, reinforcing its educational importance. Embedding diversity training into the curriculum should thus be treated as essential, not optional.

IMPLICATIONS AND RECOMMENDATIONS

Implications

This study contributed to ethnomusicology education by transforming three fieldwork challenges—safety, data reliability, and research diversity—into structured, measurable competencies. These were developed into practical indicators for curriculum design and assessment, addressing gaps previously filled by subjective evaluations. The resulting “Fieldwork Preparedness Admission Test,” validated through regression analysis, emphasized real-world competencies such as field judgment, design, and decision-making. By incorporating FAIR data principles and practice-based learning, the tool aligned with current standards for ethics and cultural sensitivity. Overall, this model offers a research-informed framework for improving training quality and supporting competence-based education for emerging ethnomusicologists.

Recommendations

This study proposed a new framework for assessing ethnomusicology fieldwork readiness. However, several limitations should be acknowledged. The sample came from a single province, which may limit generalizability. Future research should include participants from multiple universities. The reliance on self-reported data may also introduce bias. Combining this tool with instructor evaluations or practical testing could enhance objectivity. In addition, the number of interviewees was small; further qualitative studies may help capture broader perspectives.

It is recommended that the test be refined and piloted in diverse educational settings. Integrating it with training workshops and mentorship programs could enhance its practical value in ethnomusicology education.

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