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Design and Validation of an Experiential Learning Music Module for Grade 5 Students in Chinese Private Primary Schools

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Abstract

Chinese primary school music classrooms remain dominated by teacher-directed demonstration and imitation, even as national curriculum reforms call for active, student-centred instruction. Prior literature offers little empirical guidance on what a locally grounded experiential learning module should contain or how it can be validated before reaching students. This paper reports the needs analysis and expert-consensus phases of a three-phase design and development research project that produced an Experiential Learning Music Activities Module for Grade 5 classrooms in Henan Province, China. Semi-structured interviews with seven music teachers and systematic observation of three Grade 5 classes across two private primary schools identified five converging needs: broader musical content, a shift from transmission to facilitation, better use of available resources, sustained professional development, and assessment that extends beyond performance accuracy. These needs were translated into a design framework and submitted to a three-round Delphi consultation with fifteen music-education experts (authority coefficient Cr = .923), which retained 59 of 65 candidate items with strengthening coordination (Kendall's W rising from .532 to .602, both $p < .001$). The study offers a replicable, evidence-based model for grounding music-curriculum innovation in classroom realities before implementation is attempted.

Keywords: Delphi Technique, Design And Development Research, Experiential Learning, Music Education, Needs Analysis

Introduction

National curriculum standards for Chinese primary education call for students to participate actively in musical learning rather than absorb it passively (Ministry of Education of the People's Republic of China, 2022), yet the classroom reality in many schools has changed only slowly. Music teaching in Grade 5, the final year of upper primary school before students move to secondary education, is typically organised around teacher demonstration followed

by student imitation, a pattern that leaves limited room for the kind of active, reflective engagement that both the curriculum and the wider research literature associate with durable learning (Yu & Leung, 2019). Student engagement itself is now widely treated as a multidimensional construct spanning behavioural, emotional, and cognitive components, each of which is shaped by how a lesson is taught rather than by musical content alone (Fredricks et al., 2004).

Kolb's (1984) experiential learning cycle, built on the sequence of concrete experience, reflective observation, abstract conceptualisation, and active experimentation, is the theoretical resource most often invoked when researchers argue for a more active model of music instruction. The difficulty is not a shortage of theoretical endorsement but a shortage of locally grounded, empirically validated guidance on what an experiential learning module should actually contain in a Chinese primary classroom. Teachers who want to move away from demonstration-and-imitation teaching are consequently left with a theoretical rationale but no validated instructional resource suited to their own classrooms, class sizes, and curriculum obligations.

This paper addresses that gap by reporting the first two phases of a three-phase Design and Development Research (DDR) project undertaken in Zhengzhou, Henan Province. The project as a whole followed the DDR logic of moving from an empirical needs analysis, through expert-mediated design and validation, to classroom implementation (Richey & Klein, 2014). The present paper is confined to the first two phases: a qualitative needs analysis conducted with practising Grade 5 music teachers and classroom observation, and a three-round Delphi consultation with a panel of fifteen music-education experts that translated the identified needs into a validated design framework for an Experiential Learning Music Activities Module. The subsequent classroom trial of the completed module and its effect on measured student engagement fall outside the scope of this paper and are reported separately; the purpose here is to document, with the level of methodological detail that is often compressed or omitted in intervention studies, how the module's content and structure were established and validated before any lesson was taught.

Three research questions guided this stage of the project. First, what teaching and learning needs should an experiential learning module address in private Grade 5 music classrooms in Henan Province? Second, what module design do music-education experts agree is suitable for Grade 5 music instruction? Third, what changes do experts and practising teachers recommend after reviewing an initial module design? Answering these questions required combining two methods rarely reported together in music-education research: a qualitative needs analysis grounded in teachers' own classrooms, and a structured Delphi consultation capable of converting that qualitative understanding into a framework with demonstrable expert consensus. The remainder of the paper reviews the relevant literature, describes the design and development methodology in detail, reports the findings from both phases, and discusses their implications for music-curriculum innovation in resource-constrained, examination-oriented primary school systems.

Literature Review

Kolb's (1984) experiential learning theory, and the associated cycle of concrete experience, reflective observation, abstract conceptualisation, and active experimentation, has been the

dominant theoretical resource cited in support of active, student-centred music teaching (Kolb & Kolb, 2005). The appeal of the framework for music education is straightforward: musical learning is inherently active, and a cycle that moves learners from doing to reflecting to conceptualising to testing maps naturally onto activities such as performing, discussing, and revising a piece of music. What the framework does not supply on its own is guidance on implementation within a specific institutional context, and Chinese primary classrooms present constraints, among them large class sizes, a 40-minute lesson period, and an examination-oriented curriculum culture, that Western-derived experiential models were not designed to address.

Empirical accounts of Chinese primary music classrooms converge on a consistent picture. Yu and Leung (2019) documented that despite curriculum reforms explicitly emphasising practical, hands-on engagement, day-to-day teaching remained centred on teacher demonstration and theoretical instruction. Zhang, Leung, and Yang (2023) reached a closely related conclusion from a different province, finding that even lessons explicitly designed to demonstrate student-centred pedagogy in Guangdong primary schools retained a predominantly teacher-directed, content-driven structure. Using a large-scale alignment analysis, Yang (2023) added a qualification directly relevant to the present study's target age group: alignment between national music curriculum standards and teachers' actual instructional practice, while generally high, weakened progressively from lower to upper primary grades, the stage to which Grade 5 belongs. Existing module-development work has approached this gap from directions distinct from the one taken here. Gong and Wang (2023) designed and validated a technology-mediated interactive learning environment for Chinese primary and secondary music classes. Their evaluation relied on pre- and post-test comparisons of student knowledge gains rather than a prior needs analysis or expert consensus process, and the environment centred on digital practice and gamified review tools rather than an experiential learning framework grounded in Kolb's cycle. A search of the China National Knowledge Infrastructure database, the principal Chinese-language repository for educational research, located no comprehensive instructional guide or validated module that combined an experiential learning framework with a needs analysis conducted directly with Grade 5 music teachers. Taken together, these observations point to a shortfall more specific than a general absence of student-centred teaching materials: research has established that a persistent gap exists between curriculum intention and classroom practice, more pronounced at the upper primary stage this study addresses, and that experiential learning is theoretically well suited to closing it. However, no validated process combining teacher-grounded needs evidence with expert consensus had yet produced a classroom-ready module addressing that specific gap in this setting.

Design and Development Research offers one such process. DDR treats an educational intervention as something to be developed iteratively, with each phase generating evidence that constrains and informs the next, rather than as something specified once from theory or expert opinion alone (Richey & Klein, 2014; McKenney & Reeves, 2018). Within a DDR project, a needs analysis phase is used to ground module content in the realities of the setting where it will be used, typically through interviews and observation with the practitioners and classrooms most representative of the target context (Merriam, 2009; Patton, 2002). A design and development phase then translates those needs into concrete design decisions, a step at which the Delphi technique has particular value.

The Delphi technique was developed to gather and synthesise expert judgement on questions where empirical evidence is incomplete, using anonymous, iterative rounds of consultation to build consensus while avoiding the status effects and social pressure that can distort face-to-face expert panels (Dalkey & Helmer, 1963; Linstone & Turoff, 1975). The technique combines structured feedback of group results between rounds, systematic tracking of agreement through measures such as the coefficient of variation and Kendall's coefficient of concordance, and a defined stopping rule for consensus. These mechanics have made it a standard tool for validating curricular and instructional materials before they are trialled (Hsu & Sandford, 2007; Skulmoski et al., 2007). Recent applications illustrate the technique's continued relevance to module development specifically. Mustakim et al. (2023) used a two-round Delphi consultation with eight experts to validate a literacy and numeracy module for elementary students, reporting that all items reached a high level of consensus by the second round. Systematic reviews of Delphi reporting practice have separately promoted standards, including explicit calculation of expert authority and coordination statistics, that education researchers have since adopted (Boulkedid et al., 2011).

A related but distinct line of work has used Fuzzy Delphi consultation to validate cultural-content activity models for Chinese primary music classrooms; Zhang and Ariffin (2025), for instance, evaluated an activity model built around Chinese children's songs with a large panel of practising teachers. That work differs from the present study in three specific respects beyond its narrower cultural-content focus: it validates a single, culturally bounded activity set rather than a full-curriculum experiential learning module spanning multiple content and pedagogical dimensions; its Fuzzy Delphi panel rated a pre-existing model directly rather than rating items generated from a prior classroom-based needs analysis; and it reports panel consensus on the model's usability without an intervening needs-analysis phase linking that content back to specific, teacher-identified classroom problems. What remains largely absent from the literature on experiential music learning in China, including from Zhang and Ariffin's (2025) contribution, is a study that combines these two methods explicitly: a needs analysis conducted with the teachers who will use a module, followed by a Delphi consultation that converts those empirically identified needs into a framework whose consensus level, retention criteria, and round-to-round coordination statistics can each be reported and independently audited. The present study was designed to close that combined gap.

Methodology

Research Design

The Experiential Learning Music Activities Module was developed following a Design and Development Research approach, chosen because it provides a systematic sequence for moving from identified needs to a validated instructional product (Richey & Klein, 2014). Within this approach, the two phases reported here combined qualitative and quantitative evidence in the manner characteristic of mixed-methods research (Creswell & Clark, 2017): qualitative interview and observation data identified the needs a module would need to address, and those needs were then converted into quantitatively rated items whose consensus could be tracked numerically across three Delphi rounds. The wider project followed three phases: a needs analysis, a design and development phase built around expert consultation, and an implementation and evaluation phase in which the completed module was trialled in real classrooms. This paper reports the first two phases in full; the

implementation and evaluation phase, and the measured effect of the module on student engagement, are addressed in a separate report and are not analysed here.

Research Setting

The study was conducted in two private primary schools in Zhengzhou, the capital of Henan Province, in central China. Zhengzhou was selected for its combination of institutional resources and accessibility for sustained, multi-visit fieldwork, and private primary schools were selected because, unlike most public schools in the region, they had dedicated music classrooms, employed specialist music teachers, and were able to commit to the extended engagement the wider project required across all three phases.

Needs Analysis: Sampling and Data Collection

School selection followed criterion-based purposive sampling (Patton, 2002). The research team selected two schools from an initial pool of eight private primary schools identified through the Zhengzhou Education Bureau; both enrolled at least 500 students across Grades 1 to 6, employed specialist rather than generalist music teachers, and had administrators willing to support the full multi-phase research process.

Teacher participants were recruited using criterion-based purposive sampling combined with maximum variation sampling, so that the sample would span a useful range of experience and training rather than a narrow band of similar perspectives. From an initial pool of twelve eligible teachers across the two schools, seven were selected (five female, two male), with teaching experience ranging from five to fifteen years and educational backgrounds in either Music Education or Music Performance at Bachelor's or Master's level; one participant held an administrative role in her school's Office of Academic Affairs in addition to teaching duties. Each teacher took part in a semi-structured interview lasting 45 to 60 minutes, conducted in Mandarin Chinese and guided by a 14-item protocol that had been reviewed by three subject-matter experts and piloted with two music teachers before use; the semi-structured format was chosen to allow follow-up probing while keeping responses comparable across participants (Rubin & Rubin, 2012).

Classroom observation used a typical-case selection strategy (Patton, 2002) to capture ordinary rather than exceptional teaching. Three Grade 5 music classes, two from one school and one from the other, were observed across three full 40-minute lessons each, using a consistent checklist covering the physical setting, lesson structure, teacher-student interaction, and student engagement. The researcher adopted an observer-as-participant role, taking field notes and, with the consent of schools, teachers, and parents, video recordings.

Needs Analysis: Data Analysis

Interview transcripts, totalling 98 pages, and observation field notes were analysed using Braun and Clarke's (2006) six-phase thematic analysis procedure: familiarisation, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the final analysis. Coding was performed manually; the researcher generated 156 initial codes, which were organised into 38 categories and subsequently consolidated into five overarching themes. To assess reliability, two independent coders applied the resulting codebook to 20% of the data (140 segments), achieving strong inter-rater agreement (Cohen's

kappa = .82). Three participating teachers subsequently reviewed the preliminary themes and confirmed that they accurately reflected the needs and challenges they had described.

Design and Development: Delphi Expert Panel

The design and development phase used the Delphi technique to establish and validate the module's content through iterative, anonymous expert consultation (Dalkey & Helmer, 1963; Hsu & Sandford, 2007). Criterion sampling (Hasson et al., 2000) was used to select the expert panel: an individual qualified as an expert by holding at least ten years of documented experience in one of five relevant domains, namely music-curriculum development, educational technology with a focus on experiential learning, primary curriculum development, experiential learning research, or primary school music teaching or administration, and by agreeing to participate across all three consultation rounds.

Working with the Henan Provincial Education Bureau and Zhengzhou Teachers' College, the research team nominated 28 potential experts, of whom 16 initially agreed to participate; one withdrew after the first round, leaving a final panel of 15 experts who completed all three rounds, a 100% retention rate. The panel comprised seven male and eight female experts, nine with doctoral degrees and six with master's degrees, with 13 to 22 years of relevant experience (M = 16.33, SD = 2.55). Institutionally, panel members were drawn from higher normal colleges (n = 7), a higher music college (n = 1), an educational technology centre (n = 1), education bureaus (n = 2), educational science research institutes (n = 2), and private primary schools (n = 2), spanning professorial, associate professorial, research, senior teaching, and administrative titles. Following established Delphi practice, an expert authority coefficient (Cr) was calculated for the panel as the mean of each expert's self-rated judgement basis and content familiarity; the panel's overall Cr was .923, with individual coefficients ranging from .80 to 1.00, comfortably exceeding the .70 threshold conventionally used to indicate acceptable expert reliability in Delphi research (Hasson et al., 2000).

Design and Development: Delphi Procedure and Analysis

The Delphi consultation proceeded in three rounds. Round 1 used face-to-face semi-structured interviews with all fifteen experts, organised around seven questions addressing the value of experiential learning for Grade 5 music education, essential module components, appropriate activity types, activity sequencing, assessment approaches, anticipated implementation challenges, and cultural considerations specific to Chinese primary education. Face-to-face interviews were used for this initial round, rather than a written instrument, to build rapport and allow follow-up probing; twelve of the fifteen experts (80%) volunteered additional written comments beyond the structured questions. Round 1 transcripts were analysed thematically, following the same Braun and Clarke (2006) procedure used in the needs analysis, yielding five thematic dimensions, theoretical framework, module structure, content design, teaching methods, and assessment strategies, that were then operationalised into 65 Likert-scale items for Round 2.

Round 2 and Round 3 were conducted anonymously by email, consistent with a modified Delphi design in which only the first round is conducted face-to-face (Linstone & Turoff, 1975). In each round, experts rated the importance of each item on a five-point scale and could add written comments recommending retention, revision, or deletion. Both rounds achieved a 100% response rate, and 10 experts (66.7%) submitted written comments in Round 2.

Between rounds, experts received summary feedback showing the group's mean rating, standard deviation, and coefficient of variation for each item, allowing them to reconsider items in light of the panel's collective judgement while retaining the freedom to keep a minority position.

Consensus was evaluated using four indicators standard in Delphi research (Hsu & Sandford, 2007; Skulmoski et al., 2007): the mean importance rating for each item, the coefficient of variation (CV, calculated as the standard deviation divided by the mean, with .25 as the threshold for acceptable agreement), Kendall's coefficient of concordance (W) as an overall measure of agreement across the panel, tested for statistical significance using chi-square, and the Wilcoxon signed-ranks test to identify statistically significant shifts in item ratings between Round 2 and Round 3. An item was retained in the final framework if it met four criteria across both rounds: a mean rating of at least 4.00, a coefficient of variation no greater than .25, a non-significant Wilcoxon result indicating stable rather than volatile judgement, and qualitative confirmation from expert comments that the item was feasible to implement in Chinese primary school contexts.

Following the three Delphi rounds, the resulting draft module underwent a further validation step: review by a subset of expert panel members together with experienced Grade 5 music teachers, structured around written questionnaires followed by clarifying interviews. This step assessed the module's practical feasibility for a full class of Grade 5 students within a standard 40-minute lesson period, a question the Delphi rounds, which had already established the module's theoretical soundness, were not designed to answer.

Results

Needs Analysis Findings

Analysis of the interview and observation data produced five interconnected themes describing the needs an experiential learning module would need to address in Grade 5 music classrooms.

The first theme concerned curriculum content. All seven teachers described a curriculum weighted heavily toward Western classical repertoire and standard Chinese folk songs, with limited representation of contemporary genres, regional traditions, or non-vocal musical activity. One teacher observed that provincial musical heritage such as Henan opera received minimal curricular attention despite being actively performed in local theatres, while another argued that the curriculum's emphasis on singing left instrumental playing, composition, and movement-based activity largely absent from Grade 5 lessons.

The second theme concerned pedagogical approach. Teachers consistently recognised that the prevailing demonstration-and-imitation model constrained student creativity and agency, but their accounts also revealed the practical difficulty of changing that model. One teacher, trained primarily as a performer, described feeling well prepared to demonstrate musical skill but poorly prepared to facilitate open-ended student exploration; another noted that philosophical support for student-centred teaching did not translate easily into a workable plan for organising group work with close to 40 students in a 40-minute period.

The third theme concerned resources and facilities. Teachers reported that available instruments, space, and technology were adequate for demonstration-based teaching but insufficient for the more materials-intensive activities that experiential approaches typically require, and that resource availability varied considerably between the two participating schools depending on tuition levels and institutional priorities.

The fourth theme concerned professional development. All seven teachers expressed a need for sustained, practice-embedded learning opportunities rather than occasional information-delivery workshops, with several noting that their own professional preparation, particularly for teachers trained primarily in music performance, had left them under-equipped for the facilitation, reflection-guidance, and classroom-management demands of active teaching methods.

The fifth theme concerned assessment. Teachers described current assessment as centred on singing accuracy and factual recall, which they saw as fundamentally mismatched to the creative, collaborative, and reflective outcomes that an experiential approach aims to produce, while also acknowledging the practical difficulty of introducing more comprehensive assessment without adding unsustainable workload across the roughly 150 students many of them taught each week.

Classroom observation provided a quantitative complement to these interview findings. Across three observed lessons in classes of 36 to 40 students, teachers spent an average of 70% of instructional time on direct explanation and demonstration, 15% on whole-class practice, and effectively no time, less than 2% combined, on small-group collaborative work, individual exploration, or student discussion and reflection. In the most extreme case, a listening-focused lesson allocated 95% of the 40-minute period to teacher presentation and only 5% to any form of student verbal participation. Field notes from an instrument-based lesson illustrate how this pattern operated in practice: "Only eight students (20% of the 40-student class) received opportunities to play percussion instruments during the designated instrument practice segment. The remaining 32 students watched their classmates or waited for turns that never came." These patterns were consistent across the three lessons regardless of specific musical content, with fixed seating arrangements and limited instrument access further constraining opportunities for active participation.

The convergence between teachers' self-reported experiences and the observed classroom patterns is summarised in Table 1, which lists the specific needs identified within each of the five thematic categories.

Table 1
Needs Identified for the Experiential Learning Music Activities Module

Category	Identified Needs
Module Content	Diverse music activities beyond singing; balance between theory and practice; cultural diversity in musical content; age-appropriate activities for Grade 5 students; sequential, progressive learning experiences; integration of traditional and contemporary music
Pedagogical Approaches	Student-centred, experiential learning methods; collaborative and cooperative learning opportunities; creative expression through composition and improvisation; integration of movement and body percussion; multisensory learning experiences; reflective practices
Implementation Guidelines	Clear instructions for teachers; activities adaptable to different resource levels; time-management guidance for 40-minute classes; classroom-management strategies for active learning; alternative approaches for different learning styles; assessment strategies aligned with experiential learning
Supporting Resources	Activity sheets and student materials; audio and visual resources; suggestions for using common classroom materials; low-cost technology integration ideas; cultural context information; extension activities for differentiated learning

These five need categories, and the specific items within them, formed the empirical starting point for the design and development phase.

Delphi Consultation Findings

Round 1 of the Delphi consultation established the theoretical and structural foundations for the module. All fifteen experts endorsed Kolb's (1984) four-stage cycle as the necessary theoretical core, while consistently qualifying that endorsement with the observation that the cycle would require adaptation, rather than direct adoption, for Chinese classroom conditions. Experts recommended complementing the Kolb framework with attention to the social and cultural dimensions of classroom learning and with established music-pedagogy traditions such as Orff and Kodály methods, and argued that cultural content needed to be integrated meaningfully into musical activities rather than added as a separate unit. These qualitative recommendations were operationalised into 65 items spanning five thematic dimensions: theoretical framework, module structure, content design, teaching methods, and assessment strategies.

In Round 2, the fifteen experts rated all 65 items, achieving a 100% response rate, with item means ranging from 2.93 to 5.00 (grand mean = 4.30) and coefficients of variation ranging from .00 to .27 (mean = .10). Applying the retention criteria of a mean rating of at least 4.00 and a coefficient of variation no greater than .25, six items failed to reach consensus and were removed before Round 3. These were: extensive use of Western contemporary popular music; a global-music-perspective item, judged premature relative to establishing local and national musical identity first; an item on interdisciplinary connections, judged likely to dilute the module's musical focus; digital music creation, given uneven technology access across

schools; extensive coverage of Chinese music history, judged too abstract for the target age group; and a stand-alone item on parental involvement in assessment, judged to extend beyond what a classroom-based intervention could reasonably influence. Two additional items, addressing explicit attention to student participation and integration of established music-pedagogy methods, were added at experts' recommendation, reflecting concerns raised independently by multiple panel members during Round 1.

Round 3 presented the revised 59-item framework together with each expert's own Round 2 rating and the group's summary statistics, allowing experts to reconsider their judgements in light of the panel's collective view. The overall coordination coefficient rose from Kendall's W = .532 in Round 2 to W = .602 in Round 3, both statistically significant ($p < .001$), indicating that consensus strengthened rather than merely persisted across rounds. Comparative analysis using the Wilcoxon signed-ranks test found that five items showed a statistically significant increase in mean rating between rounds, most items remained statistically stable, and none showed a significant decrease, a pattern consistent with genuine deliberation rather than either forced convergence or unresolved disagreement.

All 59 items in the final framework met the retention criteria of a Round 3 mean rating of at least 4.00 and a coefficient of variation no greater than .25. The five thematic dimensions achieved closely comparable average ratings, ranging from 4.65 to 4.74 on the five-point scale, indicating that expert consensus extended evenly across theoretical grounding, module structure, content design, teaching methods, and assessment strategy rather than concentrating in any single dimension. Table 2 summarises the final framework at the level of these five dimensions.

Table 2
Final Delphi-Validated Framework, Summary by Dimension

Dimension	Items Retained	Round 3 Mean	Round 3 CV
Theoretical Framework	7	4.74	0.08
Module Structure	10	4.65	0.11
Content Design	11	4.67	0.10
Teaching Methods	12	4.67	0.10
Assessment Strategies	12	4.66	0.10
Overall	59	4.68	0.10

Within this framework, six items achieved near-unanimous or unanimous agreement ($M \geq 4.85$, $CV \leq .06$): integration of Kolb's experiential learning cycle ($M = 5.00$, $CV = .00$), scaffolding with progressive complexity across units, integration of Chinese traditional music throughout rather than as a separate unit, use of multiple activity types spanning creation, performance, listening, and movement, positioning the teacher as facilitator rather than transmitter ($M = 4.93$), and authentic, performance-based assessment. A smaller set of five items, covering interdisciplinary connections, technology integration, explicit instruction in collaborative skills, structured peer assessment, and student involvement in developing assessment criteria, achieved moderate-to-high rather than high consensus ($M = 4.33$ to 4.47, $CV = .15$ to

.19), with expert comments indicating that support for these items was conditional on adequate resources or on additional scaffolding for teachers unfamiliar with the associated practices.

The subsequent module and teacher review, conducted with a subset of the expert panel and practising Grade 5 teachers, did not alter the validated framework but refined its translation into concrete lesson materials. Reviewers rated the resulting draft module at an overall 4.1 out of 5.0 across the same five dimensions, with content design rated most highly (4.4) and assessment strategy rated relatively lowest (3.9), and made specific recommendations, including step-by-step implementation guidance for the transition between activity phases within a 40-minute lesson and adjustments to group-activity design for classes with limited instrument access, that were incorporated into the module's final form.

Discussion

The needs analysis findings sit consistently alongside prior descriptions of Chinese primary music education. The 70% average share of instructional time devoted to direct teaching observed in this study is closely in line with Yu and Leung's (2019) finding that curriculum reforms emphasising practical engagement have not translated into a corresponding shift in day-to-day classroom practice. What the present findings add is a systematic account, drawn from teachers' own classrooms rather than from the literature alone, of what a locally responsive module would need to contain: more diverse content, together with explicit support for the pedagogical, resource, professional-development, and assessment dimensions that jointly determine whether a more active teaching approach is workable within Chinese primary schools' existing constraints of large classes, short lesson periods, and examination-oriented assessment expectations.

The Delphi results extend this picture by showing that the same five dimensions, when submitted to a structured expert consultation independent of the teachers who supplied the original needs data, were judged both important and mutually balanced, with no single dimension dominating the final framework. The rise in Kendall's W from .532 to .602 across rounds is particularly informative in this respect: because the increase was accompanied by five statistically significant upward shifts and no significant downward shifts, it indicates that experts revised their judgements toward greater agreement after seeing the panel's collective reasoning, rather than the milder pattern of items simply retaining their initial ratings. The items removed for insufficient consensus (extensive Western popular music, unstructured global-music content, digital music creation, and parental-involvement assessment among them) share a common character: each represents a feature that might strengthen the module in an ideally resourced setting but that experts judged unlikely to be implementable, or likely to dilute the module's core focus, in typical Zhengzhou private primary schools. Their removal illustrates one of the practical values of the Delphi technique in curriculum development: it can filter out theoretically attractive but contextually unrealistic design choices before they reach a classroom trial, a function that aligns with the module-validation role the technique has served in other recent education applications (Mustakim et al., 2023). The unanimous or near-unanimous endorsement of six items, spanning theoretical grounding, structural design, cultural content, activity variety, teacher role, and assessment approach, suggests that these represent points of genuine convergence between Western experiential learning theory and the practical judgement of Chinese music-education experts,

rather than a compromise reached by averaging divergent views. At the same time, the more qualified endorsement of items involving technology, interdisciplinary connection, and peer-oriented assessment practices indicates where implementation is likely to remain uneven across schools with differing resource levels, and where the module's supporting materials needed to offer explicit scaffolding rather than assuming uniform teacher readiness.

Read together, the two phases reported here demonstrate a specific methodological contribution: a needs analysis conducted with practising teachers and an independent Delphi consultation with subject-matter experts converged on a closely overlapping set of priorities, even though the two groups worked from different kinds of evidence and were consulted through different methods. That convergence strengthens confidence in the resulting framework beyond what either method could establish alone, and offers a template other researchers developing context-specific instructional modules, in music education or in other subjects facing a similar gap between curriculum policy and classroom practice, could adapt to their own settings.

Implications

For music-curriculum developers, the clearest practical implication concerns three specific choices validated here: integrating Chinese traditional music throughout a module rather than as an isolated unit, positioning assessment around authentic musical performance rather than accuracy testing, and building in explicit scaffolding for teachers moving from a demonstration role to a facilitation role. These choices can be treated as reasonably well-established starting points for similar modules in comparable Grade 5 classroom settings, rather than as choices that need to be re-derived from first principles in every new project.

For teacher-education and professional-development planning, the needs analysis findings indicate that the primary barrier to more active music teaching in this context is not teachers' musical knowledge but their preparation for facilitation, reflection-guidance, and classroom management under experiential conditions, a distinction that has direct implications for how professional development resources should be allocated. Teachers whose training emphasised performance rather than pedagogy described this gap most acutely, suggesting that in-service support should be differentiated by teachers' initial training background rather than treated uniformly.

Methodologically, the study illustrates a combination, an empirical needs analysis feeding directly into a Delphi consultation with reported authority and coordination statistics, that offers other researchers a way to make the design phase of an instructional intervention auditable rather than opaque. Reporting an expert authority coefficient, coordination coefficients for successive rounds, and explicit retention criteria allows readers to evaluate the credibility of a module's design independently of any later evidence about its classroom effectiveness, and distinguishes the question of whether a module is well designed from the question of whether it works, a distinction that intervention research does not always maintain.

Limitations and Future Research

Several limitations bound the interpretation of these findings. The needs analysis drew on seven teachers and three classes across two private primary schools in a single urban district

of Henan Province; while the maximum-variation sampling strategy captured a useful range of teaching experience and educational background, the findings describe needs within this specific institutional context and should not be generalised to public schools, rural schools, or other provinces without further study. The Delphi panel, similarly, was recruited through Henan-based institutional networks, and while panel members' authority coefficients were individually strong, the panel's geographic concentration means the validated framework reflects expert judgement calibrated to conditions in this region.

The consensus reported here concerns the design of the module, not its classroom effect. A Delphi framework with a high coordination coefficient establishes that experts agree the framework is well designed; it does not by itself establish that implementing the framework changes student engagement or learning outcomes, a question that requires the separate classroom evaluation this paper does not report. Readers should therefore treat the findings as evidence of a rigorously validated design process rather than as evidence of programme effectiveness.

Future research could extend the needs-analysis-to-Delphi model reported here to public school settings, where larger class sizes and more constrained resources may surface a different balance of needs, and to other provinces, where regional musical traditions would likely reshape the content-design dimension of the framework. Comparative Delphi studies across regions could further test whether the six items that achieved unanimous consensus in this panel represent genuinely stable priorities for experiential music education in the Chinese primary context, or priorities specific to the expert composition and institutional setting studied here.

Conclusion

This paper reported the needs analysis and expert-consensus phases of a Design and Development Research project building an Experiential Learning Music Activities Module for Grade 5 classrooms in Henan Province, China. Interviews with seven teachers and observation of three classrooms established five converging needs, spanning curriculum content, pedagogical approach, resources, professional development, and assessment, that a locally suitable module would need to address. A three-round Delphi consultation with fifteen experts, evaluated using an authority coefficient of .923 and coordination coefficients rising from .532 to .602, converted those needs into a 59-item validated framework balanced evenly across five design dimensions. Taken as a whole, the two phases demonstrate a replicable process for grounding music-curriculum innovation in classroom evidence and expert judgement before implementation is attempted, and offer specific, empirically derived design priorities that other researchers and curriculum developers working in similarly constrained instructional settings can build upon.

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