

Long Paper

Tyler-Based Curriculum Design and Undergraduate Students' Piano Performance in Hebei Province, China: A Descriptive-Correlational Study

Shichen Wang

College of Arts, Sciences, and Education,
Trinity University of Asia, Philippines
shichenwang@tua.edu.ph

Hazel Yahweh L. Arce

College of Arts, Sciences, and Education,
Trinity University of Asia, Philippines
hylarce@tua.edu.ph
(corresponding author)

Date received: June 4, 2026

Date received in revised form: September 3, 2026

Date accepted: September 7, 2026

Recommended citation:

Wang, S., & Arce, H. Y. L. (2026). Tyler-based curriculum design and undergraduate students' piano performance in Hebei Province, China: A descriptive-correlational study. *Puissant*, 7, 3482-3508.

Abstract

This descriptive-correlational study examined whether four Tyler-based curriculum-design components - Curriculum Objectives, Selection of Learning Experiences, Organization of Learning Experiences, and Evaluation System - were differentially associated with piano performance among 303 undergraduate piano students from three selected universities in Hebei Province, China. The analysis used the retained case-level doctoral-study dataset, including 40 item-level questionnaire responses, four 10-item composite scores, and a 100-point institutional piano-performance score. Descriptive statistics, group-difference procedures, direct Cronbach's alpha estimation, Pearson correlations, and case-level assumption and robustness checks were conducted. Students rated all four curriculum dimensions positively ($M = 4.23-4.28$), and mean piano performance was 94.2. Internal consistency across the four curriculum dimensions ranged from $\alpha = .647$ to $.713$. Evaluation System showed the strongest positive association with piano performance ($r = .609$, $p < .001$), whereas Organization of Learning Experiences showed a weak but significant association ($r = .145$, $p = .012$). Curriculum Objectives ($r = .088$, $p = .128$) and Selection of Learning Experiences ($r = .028$, $p = .629$) were not significantly associated with performance. Rank-based sensitivity analyses reproduced the same



substantive pattern. The findings support a contextual refinement of Tyler's model: the four components remain analytically useful but need not be equally proximal to performance outcomes in performance-based arts education. Interpret the findings within the three-university regional sample, the narrow performance-score range, the modest internal consistency of several subscales, and the non-causal design. The study recommends prioritizing transparent assessment criteria, timely actionable feedback, process-oriented evaluation, and guided self-assessment while maintaining alignment among objectives, learning experiences, organization, and evaluation.

Keywords – curriculum design, piano performance, Tyler Model, evaluation system, higher music education

INTRODUCTION

Piano education involves more than acquiring technique and repertoire. Undergraduate piano students are expected to develop technical fluency, interpretive understanding, expressive control, performance confidence (McPherson & McCormick, 2006), and the capacity to use feedback productively. These outcomes are partly shaped by how a curriculum connects objectives, learning experiences, organization, and evaluation within a coherent educational structure. Tyler's curriculum rationale remains relevant to this study because it distinguishes four core curriculum functions: defining educational purposes, selecting learning experiences, organizing those experiences, and evaluating the attainment of intended outcomes (Tyler, 1949).

Higher music education in China has increasingly emphasized employability, cultural positioning, professional preparation, and modernizing teaching. A systematic review of Chinese music-education research found that curriculum concerns are closely connected to changing institutional expectations, cultural identity, and student development (Yang & Welch, 2023). Research on music majors' employability also suggests that higher music curricula should connect performance training with broader professional preparation (Wang & Wang, 2024). This issue is especially salient in piano education, where student performance is judged through both technical and artistic criteria. Against this background, the present study examines the relationship between Tyler-based curriculum design and the piano performance of undergraduate students from selected universities in Hebei Province.

Although the empirical sample is located in China, the study is relevant to Philippine readers as a comparative curriculum case rather than as evidence intended for direct generalization to Philippine institutions. Philippine music-education scholarship likewise treats assessment as central to musical learning and performance, including using assessment techniques to clarify learning and support skill development (Tabuena et al., 2021). Comparative work on Chinese and Filipino piano education also indicates that institutional and cultural contexts shape how piano learning is organized and evaluated (Bao, 2024). The transferable question for Philippine higher music education is therefore whether curriculum objectives, learning experiences, organization, and evaluation are

equally close to performance outcomes in a performance-based program. Any application to Philippine institutions should be treated as contextual reflection, not as direct empirical generalization from the Hebei sample.

The article does not treat curriculum design as a single undifferentiated construct. Instead, it asks whether Tyler's four components show different levels of empirical association with piano performance in a performance-based higher music-education context. The problem addressed is that curriculum design is often discussed as a general concept even though its constituent functions may not be equally proximal to an observable performance outcome. Objectives, learning experiences, and organization may be well specified. However, performance development may be more directly tied to how standards are communicated, how performance is evaluated, and how feedback informs subsequent practice. This expectation is consistent with formative-assessment literature, which emphasizes that assessment becomes educationally useful when it clarifies standards, reveals gaps, and guides the learner's next actions (Black & Wiliam, 1998).

The study therefore analyzes the relationships between the four Tyler-based curriculum components and students' piano performance using the source-study dataset. Its claim boundary is explicitly associational rather than causal. Because the design is descriptive-correlational, the article does not claim that any curriculum component causes changes in performance. Its contribution lies in identifying the relative empirical relevance of Tyler's components in performance-based music education, particularly whether the Evaluation System is more performance-proximal than the other curriculum components in the selected context.

LITERATURE REVIEW

Tyler-based curriculum design and curriculum alignment

Curriculum design involves the coordinated specification of educational objectives, learning experiences, their organization, and evaluation. This study uses Tyler's model as an analytical framework rather than claiming it is universally superior to later curriculum models. Its fit is specific to the present study: the questionnaire is organized around the same four curriculum functions, and the research question requires examining those functions separately in relation to a performance outcome (Tyler, 1949). This decomposition makes the Tyler framework useful for determining whether particular curriculum components are empirically more performance-proximal than others. Constructive alignment serves as a contemporary interpretive complement because it also emphasizes coherence among intended learning outcomes, learning activities, and assessment tasks (Biggs, 1996). In this article, Tyler provides the component structure, whereas constructive alignment helps interpret the relationships among those components.

Alignment functions as both a design principle and a quality-control principle in university teaching because students often organize their effort around what is assessed (Biggs, 2014). This issue matters especially in higher piano education, where goals, repertoire, practice tasks, feedback, and performance evaluation must work together. If

interpretive development is stated as a goal but assessment emphasizes only technical accuracy, students receive inconsistent curricular signals. Likewise, broad learning experiences may add exposure without necessarily making performance standards visible.

At the same time, the Tyler rationale has long been criticized when it is interpreted as a rigidly sequential, objective-driven procedure. Kliebard (1970) challenged its step-wise logic and portrayed it as a production-oriented model of curriculum development; when applied mechanically, this reading can reduce adaptability and leave too little room for emergent teacher or learner judgment. Historical reappraisals, however, caution against reducing Tyler to a simplistic linear or teacher-centered recipe. Wraga (2017) shows that the broader rationale also treated education as experience, evaluation as more than measurement, curriculum development as a problem-solving process, and teachers as participants in curriculum development. The present study therefore adopts a bounded use of Tyler: the four components serve as an analytical scaffold rather than a prescriptive sequence, and their empirical relevance is interpreted alongside scholarship on alignment, feedback, and learner evaluation.

Chinese higher piano education and curriculum modernization

The study is situated within Chinese higher music education. Research in this field depicts a curriculum landscape that combines traditional skill development, cultural identity, professional readiness, and continuing curriculum reform (Yang & Welch, 2023). Music majors' employability has also become a curriculum concern as higher music programs are expected to prepare students for performance, teaching, and diversified professional pathways (Wang & Wang, 2024).

Research on Chinese piano education has addressed curriculum reform, teaching models, and the relationship between teaching design and student development. Comparative work on piano education in China and the Philippines suggests that cultural and institutional contexts shape how piano learning is organized and evaluated (Bao, 2024). Reform-oriented studies in applied universities likewise call for stronger connections between piano instruction, artistic practice, and curriculum innovation (Jin & Zhang, 2023).

Other Chinese studies focus on differentiated organization and outcome-based reform. Dynamic stratified piano teaching is suggested to be a strategy to address learners' uneven preparation and skill levels (Dong, 2024). The concept of "outcome" in university music education holds that music education curriculum reform should clarify expected learning outcomes and align teaching activities with them (Guo, 2024). These studies support the study's assumption that curriculum design should be viewed as a multifaceted variable, not a single variable. Current research on undergraduate piano teaching models in China also shows that implementing teaching models requires combining nationalized piano teaching, institutional teaching, and student cultivation (Zou et al., 2024).

Collectively, these studies position the present article as a context-specific case of Chinese higher piano education rather than as a claim about higher music education in general. The value of the case lies in testing whether analytically distinct curriculum components relate differently to performance in this setting.

Curriculum objectives, learning experiences, and piano performance

Curriculum objectives provide direction for piano learning by articulating what students are expected to learn. For piano students, goals can include technique, repertoire, interpretation, expression, practice discipline, and readiness for performance. Objectives can help students link day-to-day practice to broader development, but without appropriate learning experiences and evaluative feedback, objectives may be too abstract (Jørgensen, 2000).

The selection of learning experiences relates to what the curriculum teaches and the activities in which students are engaged. Piano students may have learning experiences in the following areas: solo repertoire, technical exercises, ensemble/ collaborative performance, performance analysis, technology-supported learning, and public performance opportunities. Music learning is enhanced when students can experience a range of activities that foster personal, social, and artistic growth (Hallam, 2010).

However, diverse learning experiences do not, by themselves, ensure performance development. Research on musical achievement emphasizes the quality of practice, self-regulation, and deliberate improvement rather than exposure alone (Bonneville-Roussy & Bouffard, 2015; McPherson & Renwick, 2001). A broad curriculum therefore requires purposeful practice structures and feedback if selected experiences are to contribute to performance readiness. Research on musical expertise similarly highlights psychological preparation, practice strategies, and managing performance demands (Lehmann et al., 2007).

High-level musical performance likewise develops through sustained training, reflective practice, and repeated engagement with performance conditions rather than through content exposure alone (Williamon, 2004).

Organization of learning experiences and instructional implementation

Organization of Learning Experiences refers to how learning tasks are sequenced, connected, and implemented. Sequence is especially important in instrumental learning because technique, interpretation, and performance stability typically develop through repeated cycles of practice, correction, and application. Research in higher instrumental education also shows that responsibility for learning is distributed across teacher guidance, student self-regulation, and institutional learning arrangements (Jørgensen, 2000).

Organizing a piano curriculum also involves balancing traditional repertoire, contemporary resources, collaborative performance, and technology-supported instruction. Practice-based teaching models in music teacher education emphasize linking objectives, organized content, and learning activities (Cheng, 2024). Chinese piano-curriculum reform research likewise argues for flexible organization that responds to learner differences while preserving curricular coherence (Dong, 2024).

In performance learning, organization is more than timetable arrangement; it concerns whether learning activities form a coherent developmental sequence. If technical exercises, repertoire interpretation, ensemble work, and performance assessment are disconnected,

students may experience the curriculum as fragmented. Learning experiences are more likely to support performance readiness when they are organized around progressive goals and feedback cycles.

Evaluation system, feedback, and performance assessment

The fourth component of the study framework is the Evaluation System. It includes assessment standards, assessment methods, feedback, process evaluation, student reflection, and using assessment information to adjust teaching. Evaluation is treated as part of curriculum design, consistent with Tyler's original rationale (Tyler, 1949). Formative-assessment theory helps explain why this component may be especially relevant in performance learning. Sadler (1989) argues that learners need to understand quality standards, compare current performance with those standards, and take action to close the gap. Hattie and Timperley (2007) similarly describe effective feedback as information about goals, current progress, and next steps.

Feedback is useful only when students can understand and act on it. Nicol and Macfarlane-Dick (2006) connect formative assessment with self-regulated learning, while Carless and Boud (2018) emphasize feedback literacy as a condition for productive feedback use. In piano study, this means learning to interpret comments on tone, rhythm, phrasing, accuracy, and expression and to translate those comments into practice decisions. Long-term assessment should therefore help learners develop judgment that extends beyond a single course or examination (Boud & Falchikov, 2006; Tai et al., 2018).

Feedback design is therefore a learning-design issue rather than a one-way transmission of information (Boud & Molloy, 2013). Students may misunderstand, disregard, or be unable to act on feedback, even when it is available (Evans, 2013). Higher-education research consequently emphasizes feedback that is comprehensible, actionable, and connected to subsequent learning tasks (Henderson et al., 2019). Assessment also requires criteria and judgment. Well-designed rubrics can clarify expectations without reducing performance to mechanical scoring (Brookhart, 2018). In music education, assessment criteria need to encompass technical accuracy, interpretive quality, expression, preparation, and communication (Fautley, 2010), and systematic review evidence confirms that solo-performance judgment is multidimensional (Moura et al., 2024).

Music-performance criteria need sufficient specificity to guide learning while retaining room for artistic judgment. Performance-specific rubrics can improve transparency when descriptors link to the qualities being assessed rather than generic grading language (Wesolowski, 2012). Assessment for learning also requires time, opportunity, and motivation for students to use feedback in subsequent work (Gibbs & Simpson, 2004). More broadly, formative assessment should be integrated into learning activities rather than added as an administrative requirement (Yorke, 2003). These concerns are particularly relevant to piano performance because students must coordinate accuracy, interpretation, tone quality, expression, stability, and stage confidence.

Research on piano-performance assessment emphasizes the need to consider both technical and artistic dimensions in assessment criteria (Kizilay, 2025). Studies of self- and

peer-judgment further suggest that students' evaluative awareness shapes how they understand quality and improvement (Morijiri & Welch, 2022). This literature provides a theoretical basis for examining whether the Evaluation System dimension is associated with piano performance, while leaving the direction and magnitude of that association to the empirical analysis.

Research questions and hypotheses

The article follows a descriptive-correlational rather than causal structural logic. The research questions are: (1) What is the demographic profile of the respondents? (2) How do students evaluate curriculum design in terms of Curriculum Objectives, Selection of Learning Experiences, Organization of Learning Experiences, and Evaluation System? (3) Do students' evaluations of curriculum design differ significantly across demographic groups? (4) What is the level of students' piano performance? (5) Are the four curriculum-design dimensions significantly associated with students' piano performance?

Consistent with the descriptive-correlational design, this study examines two null-hypothesis families. H01 states that students' evaluations of curriculum design do not differ significantly across the demographic groups analyzed. H02 states that the curriculum-design dimensions are not significantly associated with students' piano performance; the Results report the four dimension-level correlations separately. These hypotheses concern group differences and associations, not causal pathways or indirect effects.

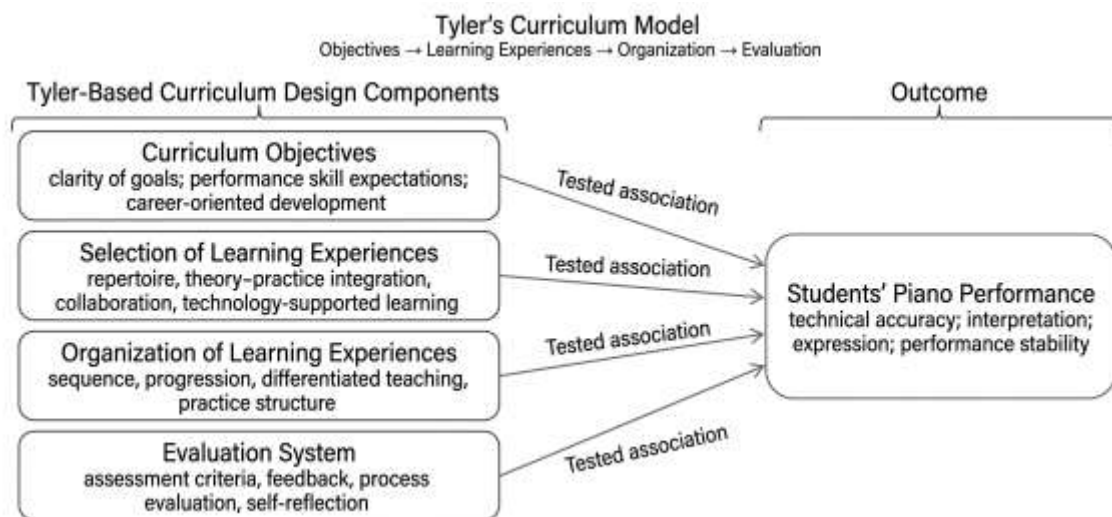


Figure 1. Tyler-Based Conceptual Framework of Curriculum Design and Students' Piano Performance.

Note. The arrows indicate tested correlational relationships between Tyler-based curriculum design dimensions and students' piano performance. The framework does not imply causal effects.

METHODOLOGY

Research Design

The study used a quantitative descriptive-correlational design to describe students' evaluations of curriculum design and examine statistical associations with piano performance. The design did not manipulate instructional conditions and therefore does not support causal inference. Correlation coefficients measure the strength and direction of association rather than evidence that a curriculum component caused a change in performance (Cohen, 1988). The analysis is limited to descriptive statistics, group-difference testing, reliability review, and Pearson correlations; it introduces no causal modeling procedures beyond the evidence available in the source study.

Population, Sample, and Sampling Technique

A total of 303 undergraduate piano students from three universities in Hebei Province - Hebei Normal University, Hebei University of Media and Communication, and Hengshui University - constituted the analytic sample reported in the source doctoral study. The study used stratified sampling to ensure representation across participating institutions and year levels, and the unit of analysis was the individual undergraduate piano student. The source dissertation records that participation was voluntary and limited to officially registered undergraduate piano majors during the 2024-2025 academic year. It also reports that the authors screened out incomplete or clearly invalid returned questionnaires before assembling the retained analytic dataset. The case-level file available for this article contains 303 unique IDs and complete values across the demographic variables used here, all 40 questionnaire items, the four composite curriculum scores, and the piano-performance score. Because the retained analytic file does not preserve the full pre-retention case-disposition counts, the exact number and reasons for exclusions before the 303-case dataset was finalized cannot be reconstructed and are not inferred. The findings should therefore be interpreted as evidence from the selected institutional and regional context rather than as an estimate of Chinese higher piano education as a whole.

A retrospective sensitivity check was used to assess the adequacy of the retained sample for the bivariate correlation analyses. With $N = 303$, a two-sided test at $\alpha = .05$ has approximately 80% power to detect an association of $|r|$ about .16 and approximately 90% power to detect $|r|$ about .185 using a Fisher z approximation. Thus, the retained sample is sufficiently sensitive to small-to-moderate bivariate associations. This is an adequacy assessment of the available sample, not a claim that the original doctoral study used an a priori power calculation.

Research Instrument and Variables

The curriculum-design questionnaire comprised 40 items rated on a 5-point Likert scale. It contained four 10-item dimensions corresponding to Tyler's curriculum functions: Curriculum Objectives, Selection of Learning Experiences, Organization of Learning Experiences, and Evaluation System (Tyler, 1949). The authors analyzed these dimensions separately rather than combining them into a single curriculum-design score.

Students' piano performance was the outcome variable and was represented by the institutional performance score reported in the source study, not by students' self-assessments of their own performance. This distinction reduces direct same-source overlap between the curriculum-evaluation questionnaire and the performance outcome, although self-report curriculum evaluations remain subject to response-bias and common-method concerns (Podsakoff et al., 2003).

Accordingly, the questionnaire reflects students' evaluations of curriculum design rather than a direct measure of objective curriculum quality. The Instrument Reliability and Measurement Structure subsection reports the instrument structure and available internal-consistency evidence.

Piano Performance Score Measurement Procedure

The piano-performance variable was the 100-point performance score reported in the source study, with higher values indicating higher assessed performance. It is treated as institutionally reported performance evidence rather than a self-report outcome. The source documentation describes performance in domains typically used in piano assessment, including technical accuracy, rhythmic stability, tone quality, interpretation, expressiveness, preparation, and performance control.

The retained cases were reported on a common 100-point scale, which provides a common numerical metric for descriptive and correlational analysis within the selected sample. However, the source-study documentation available for this article does not include individual adjudicator sheets, rater identities, or interrater-reliability statistics. The article therefore does not claim that all three institutions used an identical independent rubric.

Accordingly, the performance variable is treated as source-study institutional performance evidence comparable across the bounded analyses reported here, not as a nationally standardized or independently re-rated piano-performance examination.

Instrument Reliability and Measurement Structure

Table 1 reports the instrument structure and internal-consistency evidence calculated directly from the 303 case-level item responses. Cronbach's alpha was .713 for Curriculum Objectives, .647 for Selection of Learning Experiences, .670 for Organization of Learning Experiences, and .654 for Evaluation System. These coefficients indicate modest internal consistency for several subscales, so relationships involving those dimensions are interpreted cautiously. All 10 items in each dimension were retained to preserve the source instrument structure; no items were deleted post hoc solely to increase reliability. The four composite scores were arithmetic means of their corresponding 10 items.

Table 1. Instrument Structure and Raw-Data Internal-Consistency Evidence

Dimension	Item count	Sample item	Cronbach's alpha
Curriculum objectives	10	Course goals are clear and specific and guide students' learning directions.	.713
Selection of learning experiences	10	The piano course is rich and diverse in content across styles and periods.	.647
Organization of learning experiences	10	The piano course content is well organized and logically clear.	.670
Evaluation system	10	Assessment feedback is timely and specific and helps students improve.	.654

Note. Cronbach's alpha coefficients were calculated directly from the 303 case-level item responses. Each composite score is the mean of its 10 corresponding items. No post hoc item deletion was performed solely to increase alpha.

Data Analysis

Respondent profile variables were summarized using frequencies and percentages. Means and standard deviations described students' evaluations of curriculum design and piano performance. Group-difference tests examined whether curriculum-design evaluations varied across age, sex, school, and year level. Independent-samples *t* tests were used for the two-group age and sex comparisons, while Welch ANOVA was used for school and year-level comparisons because group sizes were unequal. Because 16 profile comparisons were examined, a Benjamini-Hochberg false-discovery-rate correction was added as a sensitivity check; unadjusted results are reported transparently, and the corrected interpretation is stated separately.

Pearson correlations were recomputed from the 303 retained case-level observations. The analytic variables contained no missing values. Strict univariate normality was not supported by Shapiro-Wilk tests for the four composite curriculum scores and piano performance (all $p \leq .001$ when rounded to three decimals), although absolute skewness was small ($\leq .35$). Scatterplots showed approximately linear patterns, and adding a quadratic term did not indicate meaningful curvature for any of the four curriculum-performance pairs (quadratic-term $p = .574-.941$). Influence screening found no cases with Cook's distance approaching conventional high-influence levels; one studentized residual slightly exceeded $|3|$ in the Evaluation System model, but removing that case changed the Pearson correlation only from $r = .609$ to $r = .620$ and did not alter the inference. Because strict normality was imperfect, Spearman rank correlations were also computed as a sensitivity analysis. The rank-based results reproduced the same significance pattern and relative ordering as the Pearson correlations. Accordingly, Pearson coefficients are retained as the primary descriptive-correlational estimates and are interpreted as associations rather than causal effects.

Analytic relationship to the source doctoral study. This article uses the same three study sites, four predefined Tyler-based curriculum dimensions, 303 retained respondents, questionnaire items, and institutional piano-performance variable as the doctoral study. The dissertation preserves the statistical outputs generated during the original doctoral analysis. For publication, we recomputed selected analyses directly from the same retained case-level dataset under a standardized protocol, including direct internal-consistency estimation, uniform group-comparison rules, Pearson correlations, false-discovery-rate sensitivity checks, and case-level robustness analyses. No respondents, study sites, or substantive research variables were added. Accordingly, where selected estimates in this article differ from archived dissertation outputs, the differences reflect analytic specification and reporting refinement rather than changes in the underlying sample, variables, or research setting.

RESULTS

The Results are presented as an evidence chain. The respondent profile first establishes the sample context, followed by descriptive statistics for the four curriculum-design dimensions, group-difference tests, the piano-performance distribution, and finally the bivariate correlations between each curriculum dimension and piano performance. Interpretation against theory and prior literature is reserved for the Discussion.

Respondent Profile

Table 2 summarizes the demographic characteristics of the 303 respondents and establishes the composition of the selected three-university sample.

Table 2. Respondent profile

Variable	Category	n	%
Age group	18-20 years old	172	56.8%
Age group	21-23 years old	131	43.2%
Sex	Male	126	41.6%
Sex	Female	177	58.4%
School	School A	81	26.7%
School	School B	92	30.4%
School	School C	130	42.9%
Year level	Freshman	172	56.8%
Year level	Sophomore	48	15.8%
Year level	Junior	66	21.8%
Year level	Senior	17	5.6%

Note. Data are based on the source study table results, N = 303.

The sample comprised 172 students aged 18-20 years (56.8%) and 131 aged 21-23 years (43.2%). Female students represented 58.4% of the sample and male students 41.6%. School C contributed 130 students (42.9%), School B 92 (30.4%), and School A 81 (26.7%). By year level, 172 students were freshmen (56.8%), 48 sophomores (15.8%), 66 juniors (21.8%), and 17 seniors (5.6%).

These statistics describe the composition of the selected three-university sample. They are reported to contextualize the subsequent analyses and are not treated as evidence for national generalization.

Descriptive Results of Curriculum Design Dimensions

The next four tables (Table 3 to Table 6) report students' ratings of the Tyler-based curriculum design dimensions. These descriptive results serve as a basis for the study to determine whether the dimensions correlated with piano performance.

Table 3. Curriculum Objectives

Code	Item / Dimension	Mean	Interpretation	SD
O1	Course goals are clear and specific and guide students' learning directions.	4.24	Strongly Agree	0.85
O2	Course goals reflect the core requirements of piano performance skills.	4.29	Strongly Agree	0.75
O3	Course goals enhance playing skills, theoretical knowledge, and musical expressiveness.	4.26	Strongly Agree	0.81
O4	Course goals cultivate innovative abilities and artistic cultivation.	4.30	Strongly Agree	0.72
O5	Course goals consider development trends and market demands of piano education.	4.25	Strongly Agree	0.79
O6	Course goals help students form personalized learning paths and career plans.	4.30	Strongly Agree	0.72
O7	Course goals are reasonable and match students' levels and development potential.	4.30	Strongly Agree	0.68
O8	Course goals guide extracurricular music activities and competitions.	4.32	Strongly Agree	0.67
O9	Course goals reflect humanistic care and the social value of piano education.	4.20	Agree	0.90
O10	Course goals address continuous development in students' future careers.	4.17	Agree	0.89
Overall	Curriculum objectives	4.26	Very Good	0.412

Curriculum Objectives received an overall mean of 4.26 (SD = 0.412). The highest-rated item concerned using course goals to guide extracurricular music activities and

competitions ($M = 4.32$), while the lowest-rated item concerned continuous development in students' future careers ($M = 4.17$).

These descriptive results indicate generally positive student evaluations of the curriculum objectives. Section 4.5 reports their statistical relationship with piano performance separately.

Table 4. Selection of Learning Experiences

Code	Item / Dimension	Mean	Interpretation	SD
S1	The piano course is rich and diverse in content across styles and periods.	4.28	Strongly Agree	0.75
S2	Course content combines theory and practice and provides sufficient practical opportunities.	4.29	Strongly Agree	0.77
S3	Course content is updated and reflects research achievements and teaching concepts.	4.27	Strongly Agree	0.79
S4	Course content considers students' interests and professional directions.	4.27	Strongly Agree	0.79
S5	The course includes interdisciplinary content that broadens students' knowledge horizons.	4.30	Strongly Agree	0.74
S6	Practical sections are reasonable and support performance skills and expressiveness.	4.29	Strongly Agree	0.73
S7	Course content emphasizes musical literacy and aesthetic abilities.	4.25	Strongly Agree	0.77
S8	Analysis of works is in-depth and supports musical comprehension.	4.31	Strongly Agree	0.80
S9	Cooperative performance sections cultivate teamwork and social skills.	4.32	Strongly Agree	0.77
S10	Course content incorporates modern music and technology elements.	4.24	Strongly Agree	0.84
Overall	Selection of learning experiences	4.28	Very Good	0.379

Selection of Learning Experiences had the highest overall mean among the four dimensions ($M = 4.28$, $SD = 0.379$). Cooperative performance was the highest-rated item ($M = 4.32$), while incorporation of modern music and technology elements was the lowest-rated item ($M = 4.24$).

The item means were tightly clustered within a positive range. No theoretical explanation is attached to these descriptive differences in the Results; Section 4.5 addresses their relationship with performance, and the Discussion interprets them.

Table 5. Organization of Learning Experiences

Code	Item / Dimension	Mean	Interpretation	SD
G1	The piano course content is well organized and logically clear.	4.29	Strongly Agree	0.72
G2	The schedule balances theory, practice, traditional and modern elements, and Eastern and Western content.	4.29	Strongly Agree	0.72
G3	Teaching methods are diverse and stimulate students' interest and initiative.	4.27	Strongly Agree	0.80
G4	Teachers flexibly adjust teaching plans according to students' situations and progress.	4.24	Strongly Agree	0.85
G5	The course includes autonomous and inquiry learning sections.	4.29	Strongly Agree	0.73
G6	Course organization emphasizes innovative thinking and problem-solving abilities.	4.22	Strongly Agree	0.87
G7	Group cooperation and discussion promote communication and cooperation.	4.26	Strongly Agree	0.76
G8	Teachers use modern technology in teaching.	4.32	Strongly Agree	0.67
G9	Course evaluation methods comprehensively reflect outcomes and progress.	4.32	Strongly Agree	0.79
G10	Course organization connects with community, industry, and society.	4.21	Strongly Agree	0.95
Overall	Organization of learning experiences	4.27	Very Good	0.397

Organization of Learning Experiences had an overall mean of 4.27 (SD = 0.397). The highest-rated items were teachers' use of modern technological means and the comprehensiveness of course-evaluation methods (both $M = 4.32$). The lowest-rated item concerned connections with community, industry, and society ($M = 4.21$).

These values indicate positive student evaluations of internal course organization, with comparatively lower ratings for outward-facing community and industry connection. The Discussion interprets the significance of this pattern.

Table 6. Evaluation System

Code	Item / Dimension	Mean	Interpretation	SD
E1	The assessment system reflects students' learning situations and achievement of course objectives.	4.22	Strongly Agree	0.85
E2	Assessment standards are clear, reasonable, fair, and objective.	4.28	Strongly Agree	0.77
E3	Assessment methods are diverse, including performance assessment, tests, and project assignments.	4.30	Strongly Agree	0.73
E4	Assessment feedback is timely and specific and helps students improve.	4.32	Strongly Agree	0.75
E5	The assessment system focuses on process evaluation.	4.20	Agree	0.93
E6	The assessment system cultivates self-evaluation and reflection ability.	4.11	Agree	0.92
E7	Assessment results help teachers adjust teaching plans and methods.	4.20	Agree	0.87
E8	The assessment system motivates students to participate and improve piano performance.	4.30	Strongly Agree	0.81
E9	The assessment system connects with industry standards and market demands.	4.23	Strongly Agree	0.92
E10	The assessment system respects students' individuality and differences.	4.16	Agree	0.90
Overall	Evaluation system	4.23	Very Good	0.418

The evaluation system had an overall mean of 4.23 (SD = 0.418), slightly lower than the other curriculum dimensions but still positive. Timely and specific assessment feedback was the highest-rated item ($M = 4.32$), followed by diverse assessment methods and the motivational function of assessment (both $M = 4.30$). Student self-evaluation and reflective ability was the lowest-rated item ($M = 4.11$).

The descriptive pattern therefore shows a comparatively stronger rating for teacher-provided feedback and a lower rating for student self-evaluation. Interpretation of this difference is reserved for the Discussion.

Group-difference Results

Table 7 summarizes the final group-difference tests retained for journal-style reporting. The table shows the final decision test for each grouping variable and curriculum dimension to avoid duplicating uncorrected and variance-corrected procedures for the same comparison.

Table 7. Group-Difference Results by Student Profile

Grouping variable	Dimension	Final test reported	Statistic	Decision
Age group	Curriculum Objectives	Independent-samples t-test	$t = 2.117, df = 301, p = .035$	Significant (unadjusted)
Age group	Selection of Learning Experiences	Independent-samples t-test	$t = -1.341, df = 301, p = .181$	Not significant
Age group	Organization of Learning Experiences	Independent-samples t-test	$t = -0.155, df = 301, p = .877$	Not significant
Age group	Evaluation System	Independent-samples t-test	$t = 0.125, df = 301, p = .901$	Not significant
Sex	Curriculum Objectives	Independent-samples t-test	$t = 0.122, df = 301, p = .903$	Not significant
Sex	Selection of Learning Experiences	Independent-samples t-test	$t = 2.508, df = 301, p = .013$	Significant (unadjusted)
Sex	Organization of Learning Experiences	Independent-samples t-test	$t = 0.762, df = 301, p = .447$	Not significant
Sex	Evaluation System	Independent-samples t-test	$t = 0.615, df = 301, p = .539$	Not significant
School	Curriculum Objectives	Welch ANOVA	$F = 0.822, df_1 = 2, df_2 = 183.8, p = .441$	Not significant
School	Selection of Learning Experiences	Welch ANOVA	$F = 2.321, df_1 = 2, df_2 = 183.2, p = .101$	Not significant
School	Organization of Learning Experiences	Welch ANOVA	$F = 0.095, df_1 = 2, df_2 = 181.0, p = .909$	Not significant
School	Evaluation System	Welch ANOVA	$F = 1.821, df_1 = 2, df_2 = 184.8, p = .165$	Not significant
Year level	Curriculum Objectives	Welch ANOVA	$F = 1.658, df_1 = 3, df_2 = 60.8, p = .185$	Not significant
Year level	Selection of Learning Experiences	Welch ANOVA	$F = 2.423, df_1 = 3, df_2 = 64.0, p = .074$	Not significant
Year level	Organization of Learning Experiences	Welch ANOVA	$F = 0.166, df_1 = 3, df_2 = 61.2, p = .919$	Not significant
Year level	Evaluation System	Welch ANOVA	$F = 1.014, df_1 = 3, df_2 = 62.6, p = .393$	Not significant

Note. Independent-samples t tests were used for age and sex comparisons. Welch ANOVA was used for school and year-level comparisons. Decisions in the table are based on unadjusted p-values; the text reports a Benjamini-Hochberg false-discovery-rate sensitivity correction across the 16 profile comparisons.

Case-level reanalysis identified two unadjusted demographic differences at the .05 level. Students aged 18-20 years rated Curriculum Objectives higher ($M = 4.31$) than those aged 21-23 years ($M = 4.21$), $t(301) = 2.117$, $p = .035$. Male students rated Selection of Learning Experiences higher ($M = 4.35$) than female students ($M = 4.24$), $t(301) = 2.508$, $p = .013$. All other age- and sex-based comparisons and all school- and year-level Welch ANOVAs were non-significant at the unadjusted .05 level.

Because we examined 16 demographic comparisons, we also applied a Benjamini-Hochberg false-discovery-rate sensitivity correction. Neither unadjusted finding remained significant after this correction (adjusted $p = .281$ for the age difference in Curriculum Objectives and adjusted $p = .203$ for the sex difference in Selection of Learning Experiences). The demographic results are therefore treated as exploratory rather than as evidence of stable subgroup effects.

Students' Piano Performance

Table 8 presents the descriptive statistics for students' piano performance. This table establishes the outcome profile before interpreting the correlation results.

Table 8. Descriptive Statistics for Students' Piano Performance

Statistic	Value
N	303
Mean	94.2
Median	94
Mode	92
Standard deviation	2.49
Minimum	89
Maximum	99

Students' piano performance had a mean of 94.2 ($SD = 2.49$), a median of 94, and a mode of 92. Scores ranged from 89 to 99. The sample therefore showed a high average performance level and a relatively narrow observed range of 10 points.

The narrow score range is an empirical feature of the outcome distribution and remains a limitation when interpreting the correlations.

No theoretical or psychological explanation is inferred from the descriptive performance statistics alone.

Correlation between Curriculum Design Dimensions and Students' Piano Performance

Table 9 presents the article's core empirical result. It identifies which Tyler-based curriculum design dimensions were statistically related to students' piano performance. The four curriculum-design dimensions were not equally associated with piano performance. Evaluation System showed the strongest positive association ($r = .609$, $p < .001$). Organization of Learning Experiences showed a weak but significant positive association ($r = .145$, $p = .012$). Curriculum Objectives ($r = .088$, $p = .128$) and Selection of

Learning Experiences ($r = .028$, $p = .629$) were not significantly associated with piano performance.

Table 9. Correlation Between Curriculum Design Dimensions and Students' Piano Performance

Curriculum design dimension	Pearson r	p-value	Interpretation
Curriculum objectives	0.088	0.128	Not significant
Selection of learning experiences	0.028	0.629	Not significant
Organization of learning experiences	0.145*	0.012	Significant at $p < .05$
Evaluation system	0.609***	$< .001$	Significant at $p < .001$

Note. * $p < .05$. *** $p < .001$. Pearson coefficients were recomputed from the 303 retained case-level observations. Rank-based sensitivity results are reported in the text.

As a robustness check, Spearman rank correlations reproduced the same substantive pattern: Curriculum Objectives ($\rho = .092$, $p = .110$) and Selection of Learning Experiences ($\rho = .020$, $p = .724$) remained non-significant; Organization of Learning Experiences remained weak but significant ($\rho = .136$, $p = .018$); and Evaluation System remained the strongest association ($\rho = .592$, $p < .001$). The agreement between Pearson and Spearman estimates reduces concern that the main conclusions depend on strict normality.

Because the analysis is descriptive-correlational, the relative magnitudes in Table 9 are treated as associations within the selected sample and not as evidence of differential causal effects.

DISCUSSION

Curriculum Design Components are not Equally Associated with Students' Piano Performance.

The findings indicate that curriculum design should not be treated as uniformly related to piano performance. Students evaluated all four dimensions positively, but the correlation pattern differed substantially across dimensions: Evaluation System showed a strong association, Organization of Learning Experiences a weak association, and Curriculum Objectives and Selection of Learning Experiences no significant association. This pattern provides a context-specific empirical differentiation within the Tyler framework rather than evidence that some curriculum components are universally more important than others. The demographic comparisons were secondary to the curriculum-performance analysis. Although two unadjusted profile comparisons reached $p < .05$, neither survived false-discovery-rate correction across the 16 exploratory tests. This pattern argues against treating the curriculum findings as strongly differentiated by the measured student-profile categories.

Tyler's model treats objectives, learning experiences, organization, and evaluation as interrelated curriculum functions (Tyler, 1949). In the selected higher piano-education context, however, the present results suggest that these functions are not equally

proximal to a performance score. The Evaluation System was the most performance-proximal dimension. This does not make objectives or learning experiences unimportant; rather, it suggests that their relevance to performance may depend on how effectively they are translated into organized practice, criteria, feedback, and opportunities for improvement.

Evaluation System as the Strongest Associated Dimension

The strongest empirical finding was the association between Evaluation System and piano performance. This pattern is theoretically consistent with formative-assessment and feedback scholarship. Sadler (1989) emphasizes that learners need to understand quality standards and the gap between current and desired performance, while Hattie and Timperley (2007) describe effective feedback in terms of goals, current progress, and next steps. In piano learning, these functions are directly relevant to iterative cycles of performance, critique, correction, and re-performance.

Feedback should address students' technical accuracy, rhythm, tone, phrasing, interpretation, preparation, and performance stability. These expectations can be clarified with rubrics and assessment criteria, but they must guide judgment rather than reduce music performance to mechanical scoring (Brookhart, 2018). Furthermore, music performance assessment literature indicates that assessment criteria are multidimensional, meaning students need clear guidance on what quality looks like in practice when assessing themselves (Moura et al., 2024).

The Evaluation System finding is therefore the article's primary empirical contribution, but its meaning must remain bounded. The study does not establish that evaluation causes higher performance. It shows that, among the four Tyler-based dimensions measured in this sample, Evaluation System had the strongest observed association with the institutional piano-performance score.

Why Selection of Learning Experiences was not Significantly Associated with Performance

Selection of Learning Experiences was positively rated but was not significantly associated with piano performance. This result is noteworthy because repertoire, practice activities, collaboration, and technology are all important aspects of piano education. The non-significant association suggests, however, that the availability or diversity of learning experiences alone may be insufficient to distinguish performance levels within this sample. Learning experiences may need to be deliberately organized, practiced, evaluated, and refined before they are reflected in performance outcomes.

This aligns with studies of musical achievement, where the quality of practice and self-regulation are key to performance development (Bonneville-Roussy & Bouffard, 2015). It also aligns with the Chinese curriculum reform context, where introducing new course content or technology is not enough; these must be incorporated into a systematic course framework and evaluation system (Guo, 2024).

Organization of Learning Experiences Showed a Weak but Significant Association.

A weak but significant relationship existed between the organization of learning experiences and performance. This means sequence and structure matter, but the association between these and performance was considerably weaker than the evaluation system relationship. The organization can provide a developmental sequence that guides students from simple to complex tasks, but students must receive feedback to know how well they are doing.

The finding is consistent with literature on higher instrumental learning, where student development reflects an interplay between instructional structure and learner responsibility (Jørgensen, 2000). It also aligns with the view that piano curricula should organize course sequences around performance tasks and differentiated learning needs (Cheng, 2024). Organization may therefore provide a facilitating structure, whereas evaluation more directly communicates standards and feedback within that structure.

Curriculum Objectives were Positively Perceived but not Significantly Associated with Performance.

Curriculum Objectives were rated positively but were not significantly associated with piano performance. Students may therefore understand and value course goals without those goals being directly reflected in performance scores. Objectives can orient learning, but their practical relevance depends on how they are translated into teaching, practice, assessment, and feedback.

This pattern is consistent with constructive alignment. Objectives become functionally important when they are connected to learning activities and assessment tasks rather than remaining formal statements of intent (Biggs, 1996). In higher piano education, curriculum goals should therefore be expressed in ways that translate into observable performance capacities, structured practice, and aligned assessment.

Differential Empirical Relevance within Tyler's Curriculum Model

The theoretical contribution is best described as a contextual refinement rather than a replacement of Tyler's model. First, the findings support the continuing analytical usefulness of Tyler's distinction among objectives, learning experiences, organization, and evaluation because the four components did not behave as an undifferentiated curriculum construct. Second, the findings refine the framework for performance-based arts education by showing that the components may differ in empirical proximity to a performance outcome; in this sample, the Evaluation System was the most performance-proximal component. Third, this refinement is consistent with contemporary alignment and formative-assessment perspectives: curriculum components matter not only as a sequence of planning decisions but also through the coherence of goals, activities, criteria, feedback, and learner response (Biggs, 1996; Wiliam, 2011). This interpretation also addresses a major criticism of rigid readings of Tyler. The model serves as a flexible

analytical scaffold, not a claim that curriculum development must follow a fixed linear order (Kliebard, 1970; Wraga, 2017).

Limitations and Future Research

Several limitations define the boundary of the findings. First, the sample comprised 303 undergraduate piano students from three selected universities in Hebei Province; therefore, the results should be interpreted within this regional and institutional context. Second, the descriptive-correlational design identifies associations rather than causal effects. Third, the piano-performance variable was drawn from a 100-point institutional score reported in the source study and may reflect local scoring practices.

Although all retained cases used the same 100-point metric, the source documentation did not provide individual adjudicator sheets, rater identities, or evidence of cross-institutional interrater reliability. The performance outcome should therefore not be interpreted as a nationally standardized or independently re-rated examination. In addition, the observed performance range was narrow (89-99), which may reduce correlations' ability to capture relationships across a broader spectrum of performance.

Fourth, the curriculum-design measures reflect students' evaluations and therefore do not fully capture how curriculum practices operate in classrooms, studios, and recital settings. Future studies should triangulate survey evidence with teacher interviews, classroom observation, rubric analysis, portfolios, and independently evaluated performance recordings. Such designs could also distinguish the feedback teachers provide from the feedback students actually understand and use (Dawson et al., 2019; Winstone et al., 2017).

Fifth, direct raw-data reliability analysis showed Cronbach's alpha values ranging from .647 to .713 across the four 10-item curriculum dimensions. The comparatively modest internal consistency of several subscales may attenuate observed associations and should be considered when interpreting dimension-level results. Strict univariate normality was also not supported by Shapiro-Wilk tests; however, skewness was small, the observed relationships were approximately linear, influence diagnostics did not indicate a materially influential case, and Spearman sensitivity analyses reproduced the Pearson pattern. Future studies should further refine the measurement structure, preserve full recruitment and case-disposition records, and use longitudinal or otherwise stronger designs if the goal is to examine temporal or causal mechanisms. Finally, assessment systems themselves can become overly confirmative when they emphasize compliance rather than learning transformation, which remains an important boundary for any recommendation that increases the role of evaluation (Torrance, 2012).

CONCLUSIONS AND RECOMMENDATIONS

The present study examined the descriptive-correlational relationships between four Tyler-based curriculum-design components and piano performance in a 303-case sample of undergraduate piano students. All four curriculum dimensions were evaluated positively, but only Evaluation System and Organization of Learning Experiences were significantly associated with the performance score.

Evaluation System showed the strongest association by far. The finding does not establish a causal mechanism; instead, it indicates that evaluation was the most performance-proximal Tyler component in the selected context. Clear assessment criteria, timely feedback, process evaluation, and reflective assessment therefore emerge as especially salient curriculum features for further investigation and improvement.

Overall, the study supports a contextual refinement of Tyler's model for performance-based higher music education: objectives, learning experiences, organization, and evaluation remain analytically distinct and interrelated, but they may not be equally proximal to performance outcomes. Curriculum reform should therefore strengthen evaluation and feedback while preserving alignment with objectives and learning experiences, and any cross-context application - including to Philippine higher music education - should be locally validated.

Table 10. Action-oriented recommendations for piano curriculum improvement

Recommendation area	Action	Evidence base from study results
Assessment clarity	Develop clearer piano performance rubrics for technical, interpretive, expressive, and stability criteria.	The evaluation system had the strongest correlation with performance.
Feedback quality	Provide timely, specific, and actionable feedback after class assessment, recital, and practice checks.	Feedback was the highest evaluation-system item.
Self-assessment	Introduce reflective logs, guided listening tasks, and student self-evaluation forms.	Self-evaluation and reflection were the lowest evaluation-system item.
Organization-assessment link	Connect learning sequence with formative checkpoints and performance evidence.	Organization showed a weak but significant correlation.
Learning experience review	Ensure repertoire, collaboration, and technology activities are linked to assessed performance competencies.	Selection was rated positively but did not significantly correlate with performance.
Institutional curriculum review	Use curriculum committees to periodically review objectives, teaching processes, assessment standards, and performance evidence.	The study was designed to support action planning.

Note. Recommendations are derived from the descriptive and correlational findings and should be interpreted as curriculum-improvement implications rather than causal prescriptions.

Action-Oriented Recommendations

Practically, the findings suggest that piano-curriculum review should focus on assessment clarity, timely and actionable feedback, process-oriented evaluation, and opportunities for student reflection. The low rating for self-evaluation and reflective ability indicates a specific area for improvement (Andrade, 2019), while the weak association for Organization of Learning Experiences suggests that sequencing and practice structures should be more visibly connected to formative checkpoints. Table 10 summarizes these recommendations as curriculum-improvement implications derived from association patterns, not causal prescriptions (Andrade & Valtcheva, 2009; Panadero et al., 2017).

IMPLICATIONS

The theoretical implication is that Tyler's model remains useful for analyzing piano curriculum design, but its four components should not be assumed to have equal descriptive-correlational relevance to performance. The present evidence supports Tyler's inclusion of evaluation as a core curriculum function while refining the framework by identifying differential empirical proximity among the components in a performance-based arts context. The study therefore connects curriculum theory with constructive alignment and assessment-for-learning rather than treating Tyler as an isolated or universally superior model (Biggs, 1996; Wiliam, 2011).

For Philippine readers, the implication is comparative rather than prescriptive. Philippine music-education research also emphasizes assessment as a way to clarify musical learning and performance expectations (Tabuena et al., 2021). The Hebei findings therefore offer a curriculum question that Philippine higher music programs can examine within their own evidence: whether assessment and feedback are sufficiently aligned with stated objectives and learning experiences. Local validation would be required before transferring any specific relationship or recommendation.

ACKNOWLEDGEMENT

The authors sincerely thank the 303 undergraduate piano students from the three participating universities in Hebei Province, China, for their time, cooperation, and valuable participation in this study.

FUNDING

The authors declare that this study received no specific funding.

DECLARATIONS

Conflict of Interest

The authors declare no conflict of interest.

Informed Consent

The source doctoral study reports that participants were informed about the study, participated voluntarily, and provided written informed consent before participation. Participants were informed of their right to decline questions or withdraw without penalty.

Ethics Approval

The Institutional Ethics Review Committee of Trinity University of Asia granted ethics approval under the TUA-IERC (Protocol code 2025-2nd-CASE-Wang-V1).

REFERENCES

- Andrade, H. (2019). A critical review of research on student self-assessment. *Frontiers in Education*, 4, Article 87. <https://doi.org/10.3389/feduc.2019.00087>
- Andrade, H., & Valtcheva, A. (2009). Promoting learning and achievement through self-assessment. *Theory Into Practice*, 48(1), 12–19. <https://doi.org/10.1080/00405840802577544>
- Bao, X. N. (2024). Comparative analysis of piano education for Chinese and Filipino teenagers [中菲青少年钢琴教育的比较分析]. *Journal of Anshan Normal University*, 26(4), 109–112.
- Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, 32, 347–364. <https://doi.org/10.1007/BF00138871>
- Biggs, J. (2014). Constructive alignment in university teaching. *HERDSA Review of Higher Education*, 1, 5–22.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7–74. <https://doi.org/10.1080/0969595980050102>
- Bonneville-Roussy, A., & Bouffard, T. (2015). When quantity is not enough: Disentangling the roles of practice time, self-regulation and deliberate practice in musical achievement. *Psychology of Music*, 43(5), 686–704. <https://doi.org/10.1177/0305735614534910>
- Boud, D., & Falchikov, N. (2006). Aligning assessment with long-term learning. *Assessment & Evaluation in Higher Education*, 31(4), 399–413. <https://doi.org/10.1080/02602930600679050>
- Boud, D., & Molloy, E. (2013). Rethinking models of feedback for learning: The challenge of design. *Assessment & Evaluation in Higher Education*, 38(6), 698–712. <https://doi.org/10.1080/02602938.2012.691462>
- Brookhart, S. M. (2018). Appropriate criteria: Key to effective rubrics. *Frontiers in Education*, 3, Article 22. <https://doi.org/10.3389/feduc.2018.00022>
- Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 43(8), 1315–1325. <https://doi.org/10.1080/02602938.2018.1463354>
- Cheng, C. (2024). Construction of "T-O-P" teaching model in music normal professional colleges and universities [音乐师范类院校“T-O-P”教学模式的构建] (Doctoral

- dissertation, Northeast Normal University).
<https://doi.org/10.27011/d.cnki.gdbsu.2024.000196>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates. <https://doi.org/10.4324/9780203771587>
- Dawson, P., Henderson, M., Mahoney, P., Phillips, M., Ryan, T., Boud, D., & Molloy, E. (2019). What makes for effective feedback: Staff and student perspectives. *Assessment & Evaluation in Higher Education*, 44(1), 25–36. <https://doi.org/10.1080/02602938.2018.1467877>
- Dong, J. J. (2024). Exploring dynamic stratified teaching methods in piano courses under the background of "three teaching reforms" ["三教改革"背景下钢琴课程动态分层教学法探索]. *Journal of Tianjin Vocational Institutes*, 26(8), 38–42.
- Evans, C. (2013). Making sense of assessment feedback in higher education. *Review of Educational Research*, 83(1), 70–120. <https://doi.org/10.3102/0034654312474350>
- Fautley, M. (2010). *Assessment in music education*. Oxford University Press.
- Gibbs, G., & Simpson, C. (2004). Conditions under which assessment supports students' learning. *Learning and Teaching in Higher Education*, 1, 3–31.
- Guo, S. Y. (2024). Exploring the reform of piano teaching in music education majors in colleges and universities under the OBE concept [OBE 理念下高校音乐教育专业钢琴教学改革探究]. *Chinese Multimedia and Network Teaching Journal (Monthly Edition)*, (12), 61–64.
- Hallam, S. (2010). The power of music: Its impact on the intellectual, social and personal development of children and young people. *International Journal of Music Education*, 28(3), 269–289. <https://doi.org/10.1177/0255761410370658>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Henderson, M., Ryan, T., & Phillips, M. (2019). The challenges of feedback in higher education. *Assessment & Evaluation in Higher Education*, 44(8), 1237–1252. <https://doi.org/10.1080/02602938.2019.1599815>
- Jin, X., & Zhang, Y. F. (2023). Exploration of the reform and innovation of teaching models in musicology major in applied comprehensive colleges and universities: Taking the "Piano" course in Bengbu University as an example [应用型综合院校音乐学专业教学模式改革与创新探析——以蚌埠学院“钢琴”课程为例]. *Journal of Chifeng University (Philosophy and Social Sciences Edition)*, 44(4), 112–115. <https://doi.org/10.13398/j.cnki.issn1673-2596.2023.04.009>
- Jørgensen, H. (2000). Student learning in higher instrumental education: Who is responsible? *British Journal of Music Education*, 17(1), 67–77. <https://doi.org/10.1017/S0265051700000164>
- Kizilay, M. O. (2025). An examination of the evaluation criteria for piano performances. *Pegem Journal of Education and Instruction*, 15(3), 18–24. <https://doi.org/10.47750/pegegog.15.03.03>

- Kliebard, H. M. (1970). The Tyler rationale. *The School Review*, 78(2), 259–272. <https://doi.org/10.1086/442905>
- Lehmann, A. C., Sloboda, J. A., & Woody, R. H. (2007). *Psychology for musicians: Understanding and acquiring the skills*. Oxford University Press.
- McPherson, G. E., & McCormick, J. (2006). Self-efficacy and music performance. *Psychology of Music*, 34(3), 322–336. <https://doi.org/10.1177/0305735606064841>
- McPherson, G. E., & Renwick, J. M. (2001). A longitudinal study of self-regulation in children's musical practice. *Music Education Research*, 3(2), 169–186. <https://doi.org/10.1080/14613800120089232>
- Morijiri, Y., & Welch, G. F. (2022). Decisions on the quality of piano performance: Evaluation of self and others. *Frontiers in Psychology*, 13, Article 954261. <https://doi.org/10.3389/fpsyg.2022.954261>
- Moura, N., Dias, P., Veríssimo, L., Oliveira-Silva, P., & Serra, S. (2024). Solo music performance assessment criteria: A systematic review. *Frontiers in Psychology*, 15, Article 1467434. <https://doi.org/10.3389/fpsyg.2024.1467434>
- Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199–218. <https://doi.org/10.1080/03075070600572090>
- Panadero, E., Jonsson, A., & Botella, J. (2017). Effects of self-assessment on self-regulated learning and self-efficacy: Four meta-analyses. *Educational Research Review*, 22, 74–98. <https://doi.org/10.1016/j.edurev.2017.08.004>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18, 119–144. <https://doi.org/10.1007/BF00117714>
- Tabuena, A. C., Morales, G. S., & Pérez, M. L. A. C. (2021). Music assessment techniques for evaluating the students' musical learning and performance in the Philippine K–12 basic education curriculum. *Harmonia: Journal of Arts Research and Education*, 21(2), 192–203. <https://doi.org/10.15294/harmonia.v21i2.32872>
- Tai, J., Ajjawi, R., Boud, D., Dawson, P., & Panadero, E. (2018). Developing evaluative judgement: Enabling students to make decisions about the quality of work. *Higher Education*, 76(3), 467–481. <https://doi.org/10.1007/s10734-017-0220-3>
- Torrance, H. (2012). Formative assessment at the crossroads: Conformative, deformative and transformative assessment. *Oxford Review of Education*, 38(3), 323–342. <https://doi.org/10.1080/03054985.2012.689693>
- Tyler, R. W. (1949). *Basic principles of curriculum and instruction*. University of Chicago Press.
- Wang, Y. G., & Wang, I. T. (2024). Music major students' perception toward Chinese higher education curriculum in employability preparation. *Education + Training*, 66(1), 35–53. <https://doi.org/10.1108/ET-05-2023-0171>

- Wesolowski, B. C. (2012). Understanding and developing rubrics for music performance assessment. *Music Educators Journal*, 98(3), 36–42. <https://doi.org/10.1177/0027432111432524>
- William, D. (2011). *Embedded formative assessment*. Solution Tree Press.
- Williamon, A. (Ed.). (2004). *Musical excellence: Strategies and techniques to enhance performance*. Oxford University Press.
- Winstone, N. E., Nash, R. A., Parker, M., & Rowntree, J. (2017). Supporting learners' agentic engagement with feedback: A systematic review and a taxonomy of reciprocity processes. *Educational Psychologist*, 52(1), 17–37. <https://doi.org/10.1080/00461520.2016.1207538>
- Wraga, W. G. (2017). Understanding the Tyler rationale: Basic principles of curriculum and instruction in historical context. *Espacio, Tiempo y Educación*, 4(2), 227–252. <https://doi.org/10.14516/ete.156>
- Yang, Y., & Welch, G. (2023). A systematic literature review of Chinese music education studies during 2007 to 2019. *International Journal of Music Education*, 41(2), 175–198. <https://doi.org/10.1177/02557614221096150>
- Yorke, M. (2003). Formative assessment in higher education: Moves towards theory and the enhancement of pedagogic practice. *Higher Education*, 45, 477–501. <https://doi.org/10.1023/A:1023967026413>
- Zou, W., Hin-on, T., & Sapaso, P. (2024). Implementing practices for the Chinese Nationalized Piano teaching model in undergraduate music education. *Cogent Education*, 11(1), Article 2374173. <https://doi.org/10.1080/2331186X.2024.2374173>

Author's Biography

Shichen Wang is a doctoral student in Educational Management at Trinity University of Asia and holds a master's degree in Music from the Conservatorio di Avellino. His academic interests include music education, piano pedagogy, curriculum design, and the application of educational management principles in arts education. His current work focuses on curriculum design and assessment practices in higher music education.

Hazel Yahweh L. Arce is affiliated with the College of Arts, Sciences, and Education, Trinity University of Asia. Her academic and professional work is situated in higher education, educational research, curriculum planning, and student development. She has experience in academic supervision, curriculum design, and educational administration.