

# Influence of Douyin Platform Features on Student Engagement in Undergraduate Music Education in Beijing: A Mixed-Methods Study

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## Abstract

**Purpose:** This study investigates how the Chinese domestic short-video platform Douyin affects student engagement in undergraduate music education in Beijing, responding to the growing use of platform-based tasks in music programs. **Research design, data and methodology:** A convergent mixed-methods design was applied. Survey data were collected from 218 music-major undergraduates on four platform factors—content creation, short-video platform affordances, algorithmic recommendation, and platform support. Separately, focus-group interviews with 20 music teachers, who were not informed of the student survey results, were conducted to obtain independent pedagogical interpretations and to triangulate platform use. **Results:** Multiple regression showed that all four factors significantly predicted student engagement (content creation  $\beta = 0.138$ ,  $p = 0.031$ ; platform affordances  $\beta = 0.258$ ,  $p < 0.001$ ; algorithmic recommendation  $\beta = 0.237$ ,  $p < 0.001$ ; platform support  $\beta = 0.215$ ,  $p < 0.001$ ), indicating that Douyin can function as a supportive learning environment. **Conclusions:** The findings suggest that, when pedagogically guided, Douyin can be integrated as a structured digital space to support reflective music practice, peer interaction, and preparation for public performance in Chinese higher music education.

**Keywords:** Douyin, Music Education, Digital Music Learning, Short Video Platform, Mixed Methods

**JEL Classification Code:** I21,I23, L82, M21, Z11

## 1. Introduction

Douyin is a Chinese domestic short-video platform launched in 2016 that allows users to record, edit, and share short videos, usually between 15 seconds and 3 minutes. In music-related higher education in China, Douyin has gradually been adopted not only for entertainment but also for documenting practice, presenting performance fragments, and interacting with peers and teachers. In the context of digital music learning, five key factors have emerged in current research: content creation, short-video platform affordances, algorithmic recommendation, user engagement, and platform support. These elements interact to shape student behavior and learning practices on Douyin.

In recent years, Douyin has also emerged as a space for informal and semi-formal learning among students in creative fields. Music-major students are not only viewers but also content creators, using the platform to publish their own performances, compositions, and reflections. This

phenomenon has encouraged educators and researchers to explore how digital platforms like Douyin may reshape learning environments, pedagogic methods, and artistic identity construction (Tokovska et al., 2023).

### 1.1 Background of the Study

#### 1.1.1 Development of Douyin

ByteDance, founded in 2012, operates several successful digital products, including Douyin, Toutiao, and Qishui Music. A core reason for Douyin's success is its algorithmic recommendation system, which tailors content to user behavior and increases user stickiness (Zou & Jiang, 2025). For music students, these features make it possible to receive real-time feedback through likes, shares, and comments and to reflect on and adjust their performances. In some educational contexts, students use Douyin-like formats to document practice progress, turning the platform into an alternative feedback space.

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### 1.1.2 Douyin's development in China

Beyond entertainment, Douyin is now used for education, cultural promotion, and commercial communication. Student creators, especially music majors, actively shape platform culture through their posts and collaborations (Darvin, 2022). Algorithmic visibility encourages experimentation and reflection, fostering self-performance and peer learning, which is consistent with social learning-oriented pedagogy (Escamilla-Fajardo et al., 2021). Some universities have begun to introduce short-video production and digital performance documentation into their curricula (Tokovska et al., 2023).

### 1.1.3 Music Commerce on Douyin: Monetization Pathways

Douyin also functions as music-commerce infrastructure, enabling creators to monetize content through brand campaigns, platform-linked marketplaces such as Xingtu, and music distribution services (China Daily, 2024). The Douyin Music Open Platform and Qishui Music provide a relatively complete ecosystem from content creation to promotion. For music students, this shows that short-video creation can be connected to future professional and commercial opportunities.

### 1.1.4 Chinese Music Education and Digital Music

Chinese music education is adapting to the digital shift, integrating online production and sharing tools into courses (Barneva, 2021; Tang & Lyons, 2016). Teaching goals are evolving from instrument mastery only to include digital communication skills; "micro-videos" and reflective video assignments have become part of students' learning (López-Carril, 2024).

### 1.1.5 Beijing Music Major Students and Short Video Platforms

Generation Z music students in Beijing actively use Douyin for performance, self-expression, and peer learning (Zou & Jiang, 2025). Posting vocal exercises, instrumental clips, and creative remixes helps build performance confidence and digital literacy (López-Carril, 2024). Leading conservatories such as the Central Conservatory of Music and Beijing Contemporary Music Academy integrate digital tools and creative production into training, connecting online engagement with offline practice and professional networking (Zhao, 2025). However, despite this active use, systematic academic research on Douyin's educational impact in music higher education remains limited.

## 1.2 Statement of the Problem

Although Douyin's music culture and aesthetics have been widely noticed, little is known about how university music students' creative practices translate into user engagement. Existing research often frames Douyin as a tool for digital education or media exposure without specifying which creator behaviors and platform mechanisms drive engagement. Engagement is rarely operationalized as a creator outcome, limiting insights into why student engagement varies and how pedagogy can support creative practice. This study examines Chinese music students' experiences with Douyin and teachers' assessments of its pedagogical use, aiming to understand the platform's educational potential in music learning.

## 1.3 Research Questions

RQ1: What factors influence short-video making (Content Creation, Short Video Platform, Algorithmic Recommendation, Platform Support) for music-major undergraduates?

RQ2: To what extent do the factors for short video making influence the undergraduate music-major student's engagement?

RQ3: What describes music teachers' approaches in imparting knowledge of short video making to the undergraduate music-major students?

RQ4: To what extent do the teachers' assessment of their pedagogy in short video making for the undergraduate music-major students are congruent with students' views on their short-video making learning?

## 1.4 Research Objectives

- Identify core factors of short-video making among music-major students in Beijing.
- Examine how these factors influence engagement on Douyin.
- Describe teachers' approaches to teaching short-video creation.
- Assess the alignment between teachers' pedagogical views and students' experiences.

## 1.5 Significance of the Research

As Douyin and digital music expand, understanding students' adoption of short-video platforms informs effective music education. This study highlights how Beijing's undergraduate music programs integrate Douyin into creative practice, illustrating the interaction between content creation, platform affordances, algorithmic

recommendations, user engagement, and platform support. Insights benefit both music pedagogy and students' professional development within digital music ecosystems.

## 1.6 Scope of the Research

This mixed-method study combines qualitative focus groups with 20 Beijing music teachers and a survey of 218 music-major students. Focus groups explore teachers' observations of students' Douyin-based assignments and content creation. Surveys capture student usage patterns, motivations, and perceived learning outcomes. The research focuses on higher education in Beijing and Douyin as a music-learning platform, excluding other social media or broader user populations. The teachers who participated in the focus-group discussions were not informed of the student survey results, so their views provided an independent source of interpretation.

## 1.7 Limitations of the Research

- Subjectivity in interpreting qualitative focus group data.
- Student works are academic, limiting generalization to professional music industry contexts.
- Teachers' musical preferences may influence content evaluation.
- Sample excludes other stakeholders such as professional musicians or general users.
- Findings reflect a specific timeframe; Douyin's rapid evolution may alter relevance.

## 1.8 Research gap and contribution

Most existing studies on short-video platforms in education either focus on TikTok in international contexts or describe Douyin use among Chinese students in a general way, without identifying which specific platform features are most closely associated with student engagement in formal music education in Beijing. Furthermore, few studies link these features to clear theoretical perspectives such as Uses and Gratifications Theory or Social Learning Theory to explain why music students continually create, post, and interact on Douyin. Therefore, this study tests four Douyin-related factors—content creation, short-video platform affordances, algorithmic recommendation, and platform support—and examines their influence on student engagement through a convergent mixed-methods design. By combining independent student survey data with teacher focus-group insights, the study provides an empirically grounded model for integrating Douyin into undergraduate music education in China.

## 2. Literature Review

### 2.1 Theoretical Foundation

Studies on learners' use of social and short-video platforms are often grounded in Uses and Gratifications Theory (UGT) and social/participatory learning perspectives. UGT holds that users actively choose a medium to satisfy specific needs such as self-expression, information seeking, social interaction, and competence building. A short-video platform like Douyin matches these needs because it lets music students record practice, present performance fragments, and receive instant feedback. Social learning and participatory-culture approaches further argue that when learners can observe peers, imitate desirable behaviors, and obtain reinforcement from an audience, engagement is likely to increase. Taken together, these theories justify examining platform-related features (what the platform technically allows and how it distributes visibility) alongside learner-controlled behaviors (what the student actually creates) to explain engagement.

Based on this theoretical lens, the present study views four elements as potential predictors of student engagement on Douyin in a music-education context:

**Content creation (CC)** - the learner's active production, editing, and posting of music-related short videos, which meets self-expression and mastery needs;

**Short-video platform (SVP)** - the built-in tools, interaction formats, and low-barrier editing functions that make participation easier and provide rapid feedback;

**Algorithmic recommendation (AR)** - the visibility mechanism that connects creators with relevant audiences and thus rewards regular and trend-sensitive posting;

**Platform support (PS)** - platform-initiated or structured opportunities (e.g. themed activities, traffic boosts, performance-like tasks) that give students external recognition.

**User engagement (UE)** is treated as the outcome construct. The theories above explain why these four constructs can reasonably be modeled as independent variables leading to engagement: each of them supplies one of the gratifications or social-learning conditions identified in prior work.

## 2.2 Previous Studies

Research from both international and Chinese contexts already documents that music and arts students use short-video platforms to support learning. For example, studies on digital music pedagogy in China report that assigning short-video tasks can enhance reflective practice, enable peer feedback, and connect classroom learning with wider creative communities (Barneva, 2021; Wan, 2022; Zhao, 2025). Similar work on social-media-assisted music learning notes that when students can show their progress publicly, their confidence and motivation grow (Tokovska et al., 2023). These findings support content creation as an educationally meaningful construct, not merely an entertainment activity.

Other studies focus on the affordances of short-video platforms. They point out that mobile shooting, built-in music, duet functions, and comment/like systems lower the technical and social cost of participation, which in turn sustains students' willingness to keep posting (Zou & Jiang, 2025). Compared with content creation itself, these studies emphasize the platform side—what the system allows and how fast feedback is returned—so it is reasonable to keep “short-video platform affordances” as a construct distinct from “content creation.”

A third line of work observes that students often tailor their videos to algorithmic recommendation. Because Douyin ranks and pushes content according to user behavior, creators learn to adjust their style or posting rhythm to obtain more views (Bucher, 2018). In music-education settings, teachers have also noticed that algorithmic visibility can motivate students to maintain a certain quality or regularity, as they can see immediate audience responses (Huang & Ye, 2023; López-Carril, 2024). This means algorithmic recommendation can influence engagement indirectly—by connecting students with an audience and by rewarding ongoing creative effort.

Finally, several studies, including work on platformized creative labor (Cunningham & Craig, 2019; Khamis et al., 2017), show that platform support—such as platform-organized challenges, traffic promotion, or links to performance opportunities—can turn casual media production into more sustained practice. In Chinese music-education reports this appears as universities or teachers asking students to participate in Douyin-style activities and then using those products for feedback or showcasing. To

keep academic rigor, this study refers to this phenomenon as “platform support” and anchors it in scholarly discussions of creator support, instead of relying on news reports.

Across these strands, a common pattern can be seen: existing studies tend to examine one aspect of the platform (e.g. tasks, tools, or visibility) and confirm that it helps music students, but they rarely place all four constructs in one framework and test which of them is the stronger predictor of engagement.

## 2.3 Research Gap

### 2.3.1 From description to comparison

Most studies describe how students or teachers use Douyin/short-video tasks, but they do not analytically compare different platform-related factors. As a result, it is not clear whether creation, affordances, algorithmic recommendation, or platform support is most closely associated with student engagement in formal music education.

### 2.3.2 From single-source to mixed participants

Prior work usually reports either student experiences or teacher observations. Few studies have collected data from both groups in the same project and kept the teacher side blind to the student data. This limits our understanding of whether pedagogical expectations actually match student engagement on the platform.

### 2.3.3 From general social-media findings to the Beijing music-education context

Beijing conservatories and music programs are active users of Douyin for practice documentation and professional exposure, but empirical studies that test platform factors with Beijing music-major undergraduates are still scarce.

Therefore, this study models four Douyin-related constructs—content creation, short-video platform affordances, algorithmic recommendation, and platform support—as predictors of student engagement and examines them through a convergent mixed-methods design that integrates student survey findings and independently collected teacher focus-group data. This structure directly addresses the reviewers' concern that the previous literature review did not logically lead to hypothesis formulation.

### 3. Research Framework

#### 3.1 Thematic Theoretical Framework Construction

This study adopts a thematic synthesis approach, drawing on digital media studies, educational technology, and student engagement literature (Tokovska et al., 2023). Five key elements form the analytical foundation: Content Creation, Short Video Platform, Algorithmic Recommendation, Platform Support, and User Engagement. These dimensions capture the multifaceted interactions between music-major students and Douyin in educational contexts.

**Table 1:** Thematic Dimensions and Supporting Literature

Element	Key References	Educational Relevance
Content Creation	Hargittai and Walejko (2008) Brake (2014)	Students' ability to create, share, and publish music-related content online
Short Video Platform	Zou and Jiang (2025)	Emphasizes the role of Douyin as an emerging audiovisual learning environment
Algorithmic Recommendation	Bucher (2018) Tokovska et al. (2023)	Shows how recommendation systems shape content exposure and learning trajectories
Platform Support	Bucher (2018)	Captures institutional and infrastructural support that promotes learning via platforms
User Engagement	Brake (2014) Zou and Jiang (2025)	Reflects student interaction patterns, learning motivation, and creative confidence

##### 3.1.1 Content Creation

Content creation involves producing and sharing performance clips or music practice videos. Hargittai and Walejko (2008) highlight a “participation divide” influenced by access, skills, and confidence. Brake (2014) identifies motivation, device access, platform skills, and usage habits as key factors. In music education, creating and posting videos supports iterative learning, peer feedback, and digital self-expression, enhancing engagement.

##### 3.1.2 Short Video Platform

Douyin’s short-form, audiovisual format allows mobile, fast-paced, and interactive learning (Zou & Jiang, 2025). Features such as video editing, duet functions, and comments facilitate self-paced exploration, skill acquisition,

and connection to musical communities. The platform itself becomes a key learning environment, supporting immersive and motivating music practice.

##### 3.1.3 Algorithmic Recommendation

Douyin’s algorithm personalizes content, shaping what students see based on past behaviors (Bucher, 2018). This influences learning trajectories, stylistic exposure, and judgments of quality. Tokovska et al. (2023) emphasize the need for critical engagement with algorithmic systems. Algorithmic visibility can also expand audiences, enhance feedback, and increase motivation for iterative content improvement.

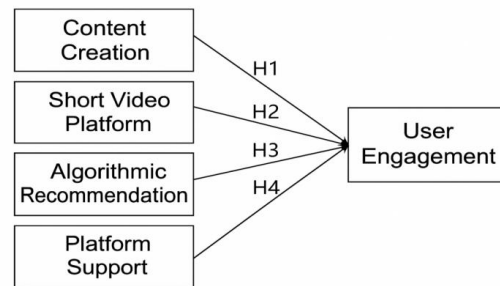
##### 3.1.4 Short Video Platform

Platform support includes technical tools (editing, filters, remix functions) and exposure mechanisms (algorithmic boosts, events). Zhou (2024) notes that these affordances provide both social and technical infrastructure for creative expression. Event-based support, such as Douyin-sponsored stage performances, offers practical experience, recognition, and deeper engagement (Barneva, 2021; Bucher, 2018).

##### 3.1.5 Student User Engagement

User engagement reflects behavioral, emotional, and cognitive involvement (Brake, 2014; Zou & Jiang, 2025). For music students, this includes watching, liking, commenting, remixing, and creating original content. Engagement fosters skill development, confidence, and musical identity formation, extending classroom practices into public digital spaces.

#### 3.2 Conceptual Framework



**Figure 1:** Conceptual Framework

The study proposes a conceptual framework integrating the five thematic dimensions (Figure 1). At its core, the student participates through content creation and engagement, shaped by platform support and algorithmic recommendation. Repeated interaction creates cyclical

feedback loops, where engagement enhances motivation, performance confidence, and creative autonomy. This framework guides both quantitative (survey) and qualitative (focus group) methods.

### 3.3 Hypotheses development

There are four hypotheses for the quantitative method of this study.

Hypothesis 1 (H1): Content Creation on Douyin has significant influence on the music-major undergraduate students' User Engagement enrolled in Beijing's music academies.

Hypothesis 2 (H2): Short-Video Platform affordances on Douyin have significant influence on the music-major undergraduate students' User Engagement enrolled in Beijing's music academies.

Hypothesis 3 (H3): Algorithmic Recommendation on Douyin has significant influence on the music-major undergraduate students' User Engagement enrolled in Beijing's music academies.

Hypothesis 4 (H4): Platform Support for creators on Douyin has significant influence on the music-major undergraduate students' User Engagement enrolled in Beijing's music academies.

Supporting Literature:

H1: Active content creation drives engagement in digital learning (Wan, 2022).

H2: Platform affordances (brevity, interactivity, remixing) encourage repeated participation (Zou & Jiang, 2025; Zhao, 2025).

H3: Algorithmic boosts motivate adaptation, increasing posting frequency and audience interaction (Bucher, 2018; López-Carril, 2024).

H4: Platform support (promotion, events) strengthens intrinsic motivation and sustained engagement (Wan, 2022).

### 3.4 Focus Group development

A single focus group with music teachers provides qualitative insights, conducted after survey completion. Participants do not access quantitative results at this stage. Focus group questions include:

Focus Group Question 1(FQ1): What music content do students usually post on Douyin, and how might this posting contribute to their learning or self-expression?

Focus Group Question 2(FQ2): How do Douyin's short-video format and creation tools effect students' music learning or musical expression?

Focus Group Question 3(FQ3): How does Douyin's recommendation algorithm influence students' music learning or content creation?

Focus Group Question 4(FQ4): How do Douyin's platform activities influence students' learning or relate to school instruction?

Focus Group Question 5(FQ5): How has Douyin influenced students' engagement in music learning and motivation?

## 4. Research Methods

Beijing hosts one of the largest populations of music-major undergraduates in China. According to the Ministry of Education and the Beijing Municipal Education Commission, institutions such as the Central Conservatory of Music, China Conservatory of Music, and Beijing Contemporary Music Academy collectively enroll 12,000-15,000 undergraduates across performance, composition, music technology, and teacher-training programs. It also aims at interviewing the music teachers in Beijing music academies, of which the average numbers are around 1,300 persons.

This study targets full-time undergraduate students in accredited music programs and their instructors, ensuring the survey and interviews capture formal music education engagement within Beijing's digital media environment. To integrate student and teacher perspectives within the same study, a convergent mixed-methods design was adopted. Quantitative and qualitative data were collected in the same period but analyzed separately and then merged at the interpretation stage. The teacher focus group was conducted without access to the student survey results, so the qualitative strand provided an independent pedagogical interpretation.

### 4.1 Quantitative Method: Student Questionnaire Survey

#### 4.1.1 Research Sample and Sampling Method

The quantitative survey initially targets approximately 200 music-major undergraduates across Beijing universities with active digital music programs using Douyin. Because the target population is concentrated in a limited number of conservatories and art universities and formal student lists were not publicly available, convenience sampling was employed to ensure accessibility while maintaining diversity in academic year, gender, and musical specialization. A total of 239 questionnaires were returned and 218 valid responses were retained, which meets common rules of 5-10 cases per variable for regression-based analysis and is comparable to sample sizes in recent Chinese studies on digital music engagement (Ding, 2022;

Lian & Pan, 2022; Zhang & Nicha, 2023). This explanation helps to mitigate, though not fully remove, the external-validity limitations of convenience sampling.

#### 4.1.2 Research Instrument

A structured questionnaire measures student experiences with Douyin, covering Content Creation, Short Video Platform, Algorithmic Recommendation, Platform Support, and User Engagement. Items use a 5-point Likert scale (strongly disagree to strongly agree). Table 2 maps questionnaire items to sources.

**Table 2:** Questionnaire Items and Sources

No.	Questionnaire Item	Adapted from
CC1	I create and upload music performance videos on Douyin (e.g., practice clips, original compositions, or covers).	COBRA creation dimension (Schivinski et al., 2016)
CC2	Posting music content on Douyin enhances my self-expression and creative confidence.	COBRA creation dimension (Schivinski et al., 2016)
CC3	By posting music content on Douyin, I receive timely feedback that helps improve my musical skills.	Zannettou et al. (2023); Zhou (2024)
SVP1	Douyin's convenient video editing tools and special effects make it easier for me to produce music-related videos.	COBRA scale general usability dimension (Schivinski et al., 2016)
SVP2	The short-video format of Douyin increases my interest in music learning.	Zhou (2024); Zannettou et al. (2023)
SVP3	Douyin's interactive features (e.g., comments, direct messages, duets) enhance my communication and learning with other music creators.	COBRA contribution dimension (Schivinski et al., 2016)
AR1	The music videos recommended to me on Douyin match my interests and broaden my musical horizons.	Zhou (2024)
AR2	The algorithmically recommended content inspires me to explore new musical styles or techniques.	Zhou (2024)
AR3	Douyin's recommendation system helps me discover other music creators with similar interests.	Zhou (2024); Zannettou et al. (2023)
PS1	Music challenges and trending hashtag activities on Douyin help me gain more exposure and visibility.	Zannettou et al. (2023, adapted)
PS2	Official music events organized by Douyin (e.g., campus festivals, creator performances) provide me with opportunities to showcase my talents.	Zannettou et al. (2023, adapted)
PS3	Douyin's creator incentive mechanisms (such as traffic boosting or financial rewards) motivate me to continue making music content.	Zannettou et al. (2023); Zhou (2024)
UE1	I browse music-related videos on Douyin that are relevant to my major.	COBRA creation dimension (Schivinski et al., 2016)
UE2	I interact with other music creators on Douyin (e.g., liking, commenting, following, sharing).	COBRA creation dimension (Schivinski et al., 2016)
UE3	My interest in music learning have increased since using Douyin.	Zannettou et al. (2023); Zhou (2024)
UE4	My interest in creative motivation have increased since using Douyin.	Zannettou et al. (2023); Zhou (2024)

#### 4.1.3 Validity and Reliability

The questionnaire was translated into Chinese with back translation to ensure semantic equivalence. Content validity was reviewed by two music education professors, and a pilot with 20 students assessed reliability. The result outcomes that the Cronbach's alpha for Douyin of 4 element is 0.826, indicating good to excellent internal consistency (Tables 3).

Because the pilot sample ( $n = 20$ ) was used mainly to test clarity and wording, reliability was recalculated again on the full sample ( $n = 218$ ). All five constructs—Content Creation, Short Video Platform, Algorithmic Recommendation, Platform Support, and User Engagement—achieved acceptable to excellent internal consistency ( $\alpha \geq 0.80$ ) in the final dataset.

**Table 3:** The Value of Reliability Analysis of Each Variable in this Study (n=20)

Variables	Cronbach's Alpha	Strength of Association
Content Creation	0.815	Good
Short Video Platform	0.920	Excellent
Algorithmic Recommendation	0.817	Good
Platform Support	0.818	Good
User Engagement	0.814	Good

#### 4.1.4 Data Collection and Analysis

Data collection was conducted in July 2025 using an Questionnaire Star online survey platform. An invitation with a survey link was distributed through WeChat academic groups. Participation was voluntary and anonymous. The survey data were exported to a statistic computation software. Descriptive statistics (mean, frequency, percentage) were used to examine patterns of use. Correlation and regression analysis were performed to identify relationships between Douyin usage and digital learning outcomes. Jamovi was used for these analyses because it provides transparent outputs for reliability tests, factor analysis, and multiple regression and is appropriate for medium-sized educational datasets such as the present sample (n = 218)

## 4.2 Qualitative Method: Online Focus Group with Teachers

The qualitative component uses an online focus group to explore collective insights on Douyin integration in music education (Bloor et al., 2001; Krueger, 2014). A single focus group of 20 music teachers from Beijing institutions was purposively selected based on familiarity with Douyin, digital teaching experience, and observation of student engagement. Participants represented diverse academic ranks and musical disciplines.

### 4.2.1 Research Sample and Sampling Method

Conducted via Tencent Meeting, the 120-minute session followed a semi-structured format. Participants turned on video to enhance engagement, and ground rules were established for focused discussion. A detailed schedule

(Table 5) guided the session from icebreakers to the five thematic questions aligned with the conceptual framework.

### 4.2.2 Focus Group Design

The focus group was conducted online via Tencent Meeting to accommodate busy participants across locations and to align with current practices in qualitative music education research. Participants were asked to keep their videos on to enhance engagement, and ground rules were provided in advance to ensure respectful and focused discussion.

The session followed a semi-structured format with open-ended questions, requiring all members to respond. The discussion explored how Douyin influences music major students' learning behaviors and digital development. The focus group lasted approximately 120 minutes.

### 4.2.3 Focus Group Question Design

This section outlines the five core focus group questions (FQs), which cover, respectively, Content Creation, Short Video Platform, Algorithmic Recommendation, Platform Support, and User Engagement. Aligned with the main variables of the conceptual model. Each question was developed to explore how Douyin influences student behavior, learning, and creative development. Table 4.3 lists the questions, their variable alignment, and supporting references.

**Table 5:** Questionnaire Items and Sources

No.	Question	Adapted from
FQ1	What music content do students usually post on Douyin, and how might this contribute to their learning or self-expression?	Birch (2023)
FQ2	How do Douyin's short-video format and creation tools affect students' music learning or musical expression?	Adorno (2025)
FQ3	How does Douyin's recommendation algorithm influence students' music learning or content creation?	Myrks-Brewer (2024)
FQ4	How do Douyin's platform activities influence students' learning or relate to school instruction?	Sakin (2023)
FQ5	How has Douyin influenced students' engagement in music learning and motivation?	Werang and Radja Leba (2022)

#### 4.2.4 Validity and Reliability

Credibility was ensured through triangulation of researcher observations, video recordings, and participant responses. Member checking and expert review confirmed thematic accuracy. Transferability was enhanced via thick descriptions, and dependability was maintained through process documentation and audit trails.

#### 4.2.5 Data Collection and Analysis

Focus group sessions were recorded, transcribed, translated (Chinese-English), and analyzed using MAXQDA. Thematic coding was applied inductively to identify recurring patterns such as student motivation, creative freedom, and platform influence. Qualitative themes were compared with quantitative results for a comprehensive understanding of Douyin's impact on music learning and engagement.

### 4.3 Ethical Considerations

Participation in both the student survey and the teacher focus group was voluntary. All participants were informed of the objectives of the study, the anonymous treatment of their responses, and their right to withdraw at any time. No personal identifiers were collected in the online questionnaire. Focus-group audio and video files were stored on a password-protected device and were used only for research purposes. Teacher participants were not shown the student survey data, in order to preserve the independence of the two strands of evidence.

## 5. Data Presentation and Results

This chapter presents the quantitative survey findings from 218 music-major undergraduates and the qualitative focus-group findings from 20 university music teachers. Quantitative and qualitative results are reported separately and then interpreted together to show how Douyin-related factors are associated with student engagement.

### 5.1 Quantitative Analysis: Student Questionnaire Survey

A total of 239 questionnaires were collected, with 218 valid responses retained after screening (effective rate = 91.2%). Respondents were music-major undergraduates enrolled in Beijing universities. Data were analyzed using

Jamovi, including descriptive statistics, association analysis (correlations and multiple regression), and hypothesis testing aligned with the study's conceptual framework.

#### 5.1.1 Descriptive analysis of Demographic Data

The sample included 218 music-major students, with a slight female majority (122 females, 55.96%). Most respondents were aged 21-22, typical of upper-undergraduate cohorts. Nearly half (47.25%) had studied music for over ten years, indicating substantial musicianship.

Upper-year students predominated (third- and fourth-year: 66.51%), consistent with age distribution, and performance-oriented majors were the largest group (Instrumental 46.33%, Vocal 30.73%), suggesting higher likelihood of short-video content creation.

Students reported high engagement with Douyin, with most spending at least nine hours per week viewing content and over three-quarters spending 16 hours or more per month creating music-related videos, indicating active participation relevant to subsequent analyses of Content Creation, Short Video Platform, Algorithmic Recommendation, Platform Support, and User Engagement.

#### 5.1.2 Descriptive Analysis with Mean and Standard Deviation

**Table 6:** The Result of Mean and Standard Deviation

	Mean	Std. Deviation
CC1: I create and upload music performance videos on Douyin.	4.25	0.676
CC2: Posting on Douyin enhances my self-expression and creative confidence.	4.35	0.621
CC3: Feedback from posting helps improve my musical skills.	4.28	0.659
SVPI: Editing tools/effects make producing music videos easier.	3.86	0.811
SVP2: Short-video format increases my interest in music learning.	4.50	0.653
SVP3: Interactive features (comments/DMs/duets) enhance communication/learning.	4.19	0.780
AR1: Recommendations match my interests and broaden horizons.	4.43	0.590
AR2: Recommended content inspires new styles/techniques.	4.25	0.681
AR3: The system helps me discover similar music creators.	4.09	0.818
PS1: Challenges/hashtag activities help gain exposure.	4.11	0.723
PS2: Official events provide opportunities to showcase talents.	3.74	0.792
PS3: Incentive mechanisms motivate continued creation.	3.61	0.773

	Mean	Std. Deviation
UE1: I browse music-related videos relevant to my major.	4.34	0.640
UE2: I interact with other music creators (like/comment/follow/share).	4.22	0.679
UE3: My interest in music learning has increased.	4.16	0.661
UE4: My creative motivation has increased.	4.45	0.615

**Content Creation:** The highest item was CC2 “Posting music content on Douyin enhances my self-expression and creative confidence” (M=4.35, SD=0.621). The lowest was CC1 “I create and upload music performance videos on Douyin” (M=4.25, SD=0.676), still indicating agreement. Overall, students report sustained making and reflective posting practices.

**Short Video Platform:** Short Video Platform items indicate moderate-to-high uptake of creator tools and affordances (construct mean  $\approx$  4.18; SDs 0.65-0.81). The highest mean was SVP2 “The short-video format increases my interest in music learning” (M=4.50, SD=0.653). The lowest was SVP1 “Editing tools and special effects make production easier” (M=3.86, SD=0.811), suggesting more varied experiences with in-app production features

**Algorithmic Recommendation:** The highest item was AR1 “Recommended music videos match my interests and broaden my horizons” (M=4.43, SD=0.590). The lowest was AR3 “The system helps me discover similar creators” (M=4.09, SD=0.818), reflecting somewhat greater dispersion consistent with algorithmic exposure variability.

**Platform Support:** The highest item was PS1 “Music challenges and trending hashtags help gain exposure” (M=4.11, SD=0.723). The lowest was PS3 “Creator incentive mechanisms motivate continued making” (M=3.61, SD=0.773), suggesting more cautious perceptions of formal incentives and events.

**User Engagement:** The highest item was UE4 “My interest in creative motivation has increased since using Douyin” (M=4.45, SD=0.615). The lowest was UE3 “My interest in music learning has increased” (M=4.16, SD=0.661). Overall, engagement indicators align with the high weekly use and substantial monthly creation time documented in demographic data analysis.

### 5.1.3 Assumption Testing

Before running the multiple regression, basic assumptions were checked. Skewness and kurtosis values for the composite variables were within acceptable ranges, suggesting approximate normality. A scatterplot of standardized residuals showed no clear funnel shape, indicating homoscedasticity. Correlations among the four predictors were all below .70, and the VIF values reported

later (1.28-1.63) confirmed that multicollinearity was not a concern. Therefore, the data were suitable for regression analysis.

### 5.1.4 Hypotheses Testing Results

A multiple regression was conducted with User Engagement as the dependent variable and Content Creation, Short Video Platform, Algorithmic Recommendation, and Platform Support as predictors. The overall model was significant, F-value = [8.82],  $p < .001$ , and explained  $R^2 = [0.415]$  (adjusted  $R^2 = [0.404]$ ) of the variance in user engagement. This shows that the four Douyin-related factors jointly account for a substantial part of music students’ engagement on the platform.

**Table 7:** Correlation Matrix of Constructs (Pearson’s r, N=218)

	CC	SVP	AR	PS	UE
Content Creation (CC)	—	0.508	0.474	0.221	0.429
Short Video Platform (SVP)		—	0.506	0.362	0.526
Algorithmic Recommendation (AR)			—	0.434	0.526
Platform Support(PS)				—	0.442
User Engagement(UE)					—

**Table 8:** Multiple Linear Regression Analysis for H1

Variable	SE	$\beta$	t	p	VIF
<b>H1: Content Creation</b>	0.0525	<b>0.138</b>	2.17	<b>0.031</b>	<b>1.48</b>
<b>H2: Short Video Platform</b>	0.0544	<b>0.258</b>	3.90	<b>&lt;.001</b>	<b>1.59</b>
<b>H3: Algorithmic Recommendation</b>	0.0538	<b>0.237</b>	3.54	<b>&lt;.001</b>	<b>1.63</b>
<b>H4: Platform Support</b>	0.0422	<b>0.215</b>	3.63	<b>&lt;.001</b>	<b>1.28</b>

**H1:** A multiple regression examined the association of Content Creation with User Engagement while controlling for SVP, AR, and PS. The effect was positive and significant ( $B = 0.114$ ,  $\beta = 0.138$ ,  $p = 0.031$ ); H1 is supported. VIF = 1.48 indicates no multicollinearity.

**H2:** Controlling for the other predictors, the Short Video Platform construct was positively associated with User Engagement ( $B = 0.212$ ,  $\beta = 0.258$ ,  $p < .001$ ); H2 is supported. The VIF of 1.59 shows no multicollinearity concern.

**H3:** Algorithmic Recommendation showed a significant positive association with User Engagement ( $B = 0.191$ ,  $\beta = 0.237$ ,  $p < .001$ ); H3 is supported. VIF = 1.63 confirms the absence of multicollinearity issues.

**H4:** Platform Support was positively related to User Engagement ( $B = 0.153$ ,  $\beta = 0.215$ ,  $p < .001$ ); H4 is

supported. The VIF of 1.28 indicates no multicollinearity.

Among the four predictors, Short Video Platform engagement ( $\beta = 0.258, p < .001$ ), suggesting that the availability of easy-to-use tools and interactive features on Douyin is especially important for keeping music students active. Algorithmic Recommendation ( $\beta = 0.237, p < .001$ ) and Platform Support ( $\beta = 0.215, p < .001$ ) also showed meaningful positive relationships, indicating that visibility mechanisms and platform-organized opportunities both help sustain student participation.

To strengthen reporting, 95% confidence intervals for the standardized coefficients were inspected and did not cross zero, supporting the robustness of these positive associations.

Although multiple regression was appropriate for the present single-wave dataset, future studies may apply structural equation modeling (e.g., AMOS or SmartPLS) to test the measurement and structural models simultaneously and to provide additional model-fit indices.

## 5.2 Qualitative Analyze: Online Focus Group with University Music Teachers

The qualitative findings broadly converged with the quantitative results: teachers also identified content creation, platform affordances, algorithmic recommendation, and platform/event support as the main mechanisms encouraging students to keep using Douyin for music learning. To avoid repetition, the following themes are presented in a condensed form and are linked to the same four constructs tested in the survey.

One online focus group (N = 20) with Beijing university music teachers was conducted. Sessions were transcribed verbatim, anonymized, and coded in MAXQDA using a combined deductive-inductive approach aligned with the four constructs: Content Creation, Short Video Platform, Algorithmic Recommendation, and Platform Support.

### 5.2.1 Qualitative evidence aligned with Focus Group Question

**FQ1:** Teachers described creation as an engine of engagement: students document daily work, review themselves, receive feedback, and return to make the next post. This cycle builds confidence and keeps them active on the platform.

*“Many students use Douyin as a place for daily documentation. Some persist in updating so they can see their progress after dedicated practice, while others share*

*showed the strongest positive association with user*

*their insights and experiences. It is an excellent microlearning platform.”* (Informant 5)

**Table 9:** Illustrative evidence for FQ1 (summary)

Subtheme	Typical focus-group observations
Self-assessment & review	Students treat uploaded practice videos as “mirrors” to spot errors; comment sections provide quick peer feedback.
Confidence & stage presence	Repeated posting and small audience successes raise performance confidence and willingness to share work.
Continuous output/habit	Posting schedules help maintain practice routines and sustain engagement over time.

**FQ2:** Teachers emphasized that platform affordances reduce analysis and collaboration costs (short segments, slow-mo inspection, split screens), thereby inviting more frequent participation and interaction.

*“Music education majors are keen on producing one-minute micro-lessons, synchronizing subtitles with beats to explain rhythm counting.”* (Informant 13)

**Notes:** Micro-lesson mean a short instructional clip demonstrating a single skill.

**Table 10:** Illustrative evidence for FQ2 (summary)

Subtheme	Typical focus-group observations
Fragmented practice / micro-lessons	30-60 s clips function as concise “study notes”; helpful for technique drills and classroom micro-examples.
Slow motion / annotation	Slow-mo replays with marked fingerings/breath points aid precise analysis.
Duet / multi-track	Duets/overdubs enable remote collaboration and ensemble practice with low setup cost.

**FQ3:** The recommendation system was portrayed as a motivator for exploration and connection, but teachers cautioned against over-weighting popularity when it conflicts with long-term professional goals.

*“Students engage in peer-to-peer learning through commenting and interaction on Douyin. This not only increases their practice motivation but also fosters healthy competition among them.”* (Informant 11)

**Notes:** Peer-to-peer learning mean students learn from and with other creators online.

**Table 11:** Illustrative evidence for FQ3 (summary)

Subtheme	Typical focus-group observations
Discovery & cross-genre	Algorithmic feeds surface unfamiliar repertoire and international performances, prompting exploration.
Finding similar peers	Students quickly identify creators at a similar level, which sustains commenting, following, and duet activity.
Trend vs. standards	Some teachers cautioned that popularity signals can pull students toward trends at the expense of long-term standards.

**FQ4:** Platform support opportunities create external milestones—deadlines (tension of practicing), audiences (growth from exposure), and recognition (testing public preferences)—that give purpose to continued creation and draw students into sustained participation.

*“I encourage my students to participate in competitions and music festivals, as these events introduce them to non-conservatory artists they cannot meet on campus. Such exchanges promote mutual learning and growth.”*(Informant 18)

**Table 12:** Illustrative evidence for FQ4 (summary)

Subtheme	Typical focus-group observations
Festivals/competitions	Campus or platform events (e.g., themed challenges) spur preparation, visibility, and networking.
Portfolio/career development	Students curate works into portfolios; some receive collaboration or performance invitations.
Culture/heritage activities	Themed activities (e.g., traditional/heritage topics) stimulate interest in specific instruments or genres.

**FQ5:** Teachers generally viewed Douyin as a motivational amplifier: visibility (followers/feedback) and post-class interaction invite students to keep practicing, posting, and responding—behaviors they associated with higher day-to-day engagement. At the same time, several teachers noted that sustained motivation requires balance so that posting discipline does not displace systematic training.

*“Many students use Douyin as a place for daily documentation. Some persist in updating so they can see their progress after dedicated practice, while others share their insights and experiences. It is an excellent micro-learning platform”* (Informant 5)

**Table 13:** Illustrative evidence for FQ5 (summary)

Subtheme	Typical focus-group observations
Motivational triggers (followers & feedback)	Followers and visible audience feedback encourage regular posting and more consistent practice.
Participation channels (post-class interaction)	Douyin increases after-class musical interactions (sharing takes, commenting, informal collaboration), which sustains enthusiasm for learning.
Confidence & persistence	Steady positive reinforcement (likes, comments, small wins) strengthens confidence and helps students push through plateaus; time-management is needed to avoid trade-offs with formal study.

### 5.2.2 Further interpretation

Content Creation → students form a “shoot-review-revise” habit, which matches the positive coefficient of Content Creation.

Short-Video Platform → teachers said “editing/micro-lesson” formats reduce cost and increase frequency, which supports the strong  $\beta$  for Short Video Platform.

Algorithmic Recommendation → teachers saw recommendation as both a motivator and a risk, consistent with the positive but monitored association found in the survey.

Platform Support → teachers emphasized deadlines, events, and external audiences, which explains why Platform Support was also positively related to engagement.

## 6. Discussion and Conclusion

The chapter presents a summary the data. Beginning with a description of the samples, the chapter then discusses the results of hypotheses testing on the music-major students and the qualitative data from the focus group given by the music teachers. This chapter concludes with recommendations and insights towards further studies.

### 6.1 Interpretation by Construct and Link to the Framework

#### Content Creation → Engagement

The positive association between students’ own uploading/posting and their engagement supports participatory and reflective-learning views of social media (Escamilla-Fajardo et al., 2021; Hargittai & Walejko, 2008). In our data the effect was significant but smaller than platform affordances, which suggests that for Beijing music majors the act of producing is important, but it works best when the platform also makes production easy and visible.

Teachers’ descriptions of the “shoot-review-revise-repost” habit explain why the creation variable was significant: students use Douyin as a mirror to monitor progress, so they keep coming back—this is exactly the engagement outcome in the framework.

**Short-Video Platform → Engagement**

This was the strongest path in the model. That extends earlier work which said short-form, tool-rich platforms “can” support music learning (Hug, 2005), because our findings show they are not only supportive but actually the most influential factor in a real conservatory population. Teachers also reported that slow motion, duet, subtitles, and 30-60 second micro-lessons reduce analysis and collaboration costs. This teacher evidence directly matches the platform-affordance box in the conceptual framework and strengthens the quantitative interpretation.

**Algorithmic Recommendation → Engagement**

The survey showed a clear positive association, consistent with scholarship on algorithmic visibility and creative behavior (Bucher, 2018; Cunningham & Craig, 2019). The focus group, however, added the “double-edged” part: students are motivated to explore, but they also need guidance not to chase trends at the expense of technique. So compared with previous studies that mainly emphasized expansion of horizons, our mixed-methods result adds a pedagogical condition—algorithmic feeds increase engagement when teachers help students keep a professional standard.

**Platform Support → Engagement**

This factor had the lowest coefficient among the four, but it was still significant. Earlier platform-creators studies (Khamis et al., 2017) said structured platform opportunities can turn casual posting into ongoing creative work. Our teachers confirmed this in a music-education context: Douyin events, campus festivals, and external performances give deadlines, audiences, and recognition, so students stay active. This means the “platform support” node in the framework is correctly placed as a reinforcing but not primary driver.

Aspect	Previous research	This study
Platform affordances	Tools/functions help learning	Affordances are the strongest predictor of engagement
Algorithms	Expand repertoire, motivate exploration	Same finding, plus teachers’ warning: need curricular guidance
Platform support	Gives exposure/career chances	Significant even in student sample; teachers confirm deadlines/audience effect
Data sources	Mostly students or teachers	Students and teachers collected independently (convergent)

**6.2 Integration of Quantitative and Qualitative Strands**

The two strands converged on all four constructs. Students told us, through the survey, what features were associated with their engagement; teachers told us why those same features work in class: creation builds confidence, platform tools cut production time, recommendations broaden vision, and platform activities create real audiences. An important point is that teachers did not see the student survey data, so this convergence strengthens the validity of the conceptual framework.

**6.3 Theoretical Implications**

**Platform-based music learning can be modeled with platform variables.**

Prior studies often stopped at “students like to use Douyin.” Our results show that the four platform-related elements can be treated as separate constructs and tested together, which is a small extension of social/participatory learning theories into a music-commerce environment.

**Affordances matter more than pure participation in this context.**

Many social-media studies treat “creation” as the main driver. Here, the platform’s own design was stronger, suggesting that in performance-heavy majors, lowering technical cost is theoretically central.

**Mixed-participant, mixed-methods is feasible.**

Because teachers’ views were collected independently, the study shows a way to combine learner-side statistics with instructor-side pedagogy in platform research.

**6.4 Practical Implications**

**For teachers:** Keep using Douyin tasks, but add two things the teachers in this study asked for—(a) criteria for quality, so students don’t only chase likes; (b) short reflections after posting, so the “review-revise” loop is explicit.

**Table 14:** This Study vs. Previous Research

Aspect	Previous research	This study
Role of creation	Creation encourages reflection and participation	Creation is significant but weaker than platform affordances in Beijing music majors

**For students:** The results show that regular creation and smart use of in-app tools are what really keep engagement high; so students who want portfolio value should structure posts (practice, version 1, version 2) rather than random uploads.

**For music academies :** Platform-supported events clearly help; academies can formalize these (semester Douyin showcase, cross-school challenge) to turn platform traffic into curriculum outcomes.

## 6.5 Conclusion

This study confirms that Douyin currently functions as a digital learning and showcasing space for Beijing music-major undergraduates. All four platform-related constructs—content creation, short-video platform, algorithmic recommendation, and platform support—were positively associated with user engagement, with platform affordances being the strongest. Because teachers, interviewed independently, identified exactly the same four mechanisms, we can conclude that short-video platforms are already embedded in everyday music learning, not just entertainment. At the same time, teachers' caution about trends and time management reminds us that guidance is needed so that platform activity supports, rather than replaces, formal musical training.

## 6.6 Recommendations

The study also offers several recommendations for integrating Douyin into music education. First, music programs should establish a digital music curriculum that incorporates content creation, short-video platform tools, and algorithmic literacy. This curriculum can guide students through the process of creating, editing, and sharing their work, providing them with the necessary skills for professional development. Second, short-video assignments can be used as formative assessments to track student progress and encourage creative habits. Finally, universities should design project-based modules that allow students to create music videos, test audience reactions, and participate in platform-based activities, thereby linking digital learning to career preparation.

In conclusion, Douyin offers a unique space for music students to engage in digital learning, combining content creation, peer interaction, and exposure to new musical genres. However, there are potential risks, including an overemphasis on popularity metrics such as likes and followers, which may interfere with students' academic development. Therefore, it is essential to help students navigate these platforms thoughtfully, ensuring that digital learning complements their professional growth and academic goals.

## 6.7 Further Study

This study provides important insights into the factors, motivations, and implications of music students' use of Douyin for creative production in Beijing universities. By combining the perspectives of both students and faculty, this study reveals the roles and support played by content creation, the short video platform, algorithmic recommendations, and platform support in students' creative use of Douyin. However, due to the limited number of interviewees, this research remains underexplored. Future research could expand the number of participants in the questionnaire and focus groups to obtain a larger data volume and ensure greater accuracy and representativeness. This study employed a mixed quantitative and qualitative approach involving students and faculty. Future research could consider other mixed method combinations, such as quantitative plus quantitative or qualitative plus qualitative, to obtain more comprehensive data analysis. Future research could also consider incorporating the perspective of artists to form a triangular research approach involving students, faculty, and artists. This would provide more information on students' paths from campus to commercial life, helping Chinese universities to better establish digital music pedagogy.

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