

E-EDUCATION STRATEGIES FOR THE COLLEGE BROADCASTING  
AND HOSTING ART IN SHAANXI PROVINCE

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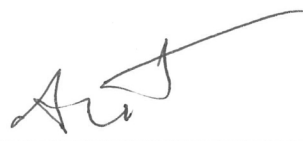
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### Abstract

The purposes of this research were to: 1) Investigate and analysis the current situation and problems of e-education for the college broadcasting and hosting art in Shaanxi Province, 2) set up E-education strategies for the college broadcasting and hosting art in Shaanxi Province, and 3) evaluate E-education strategies for the college broadcasting and hosting art in Shaanxi Province. This study employed open-ended interviews, expert interviews, and focus group discussions to evaluate and ultimately formulate strategies for the College e-education in broadcasting and hosting arts. The invited experts were required to meet the following criteria: They are required to have a minimum of five years of teaching or media-related work experience in higher education institutions, hold at least a master's degree with a rank of lecturer or above, possess practical experience in the media industry, and demonstrate a willingness to participate in surveys or interviews. Research instruments include: 1) Open-Ended Interview Form, 2) Likert Scale Questionnaire, 3) Focus Group. Data analysis by using Median, Mode, Inter-Quartile Range, Percentage, and Frequency, Qualitative Analysis and Descriptive Analysis.

The results showed that the E-education Strategies for the College Broadcasting and Hosting Art consists of 9 elements: 1) teacher proficiency, 2) Course Design, 3) Teaching Methods, 4) learning resources, 5) Learning Environment, 6) Learner

Characteristics, 7) Educational Technology, 8) Learning Outcomes, 9) learning assessment. The nine elements are listed in descending order: 1) Teaching Methods, 2) Learning Resources, 3) Learner Characteristics, 4) Teacher Proficiency, 5) Course Design, 6) Learning Environment, 7) Educational Technology, 8) Learning Outcomes, 9) Learning Assessment.

**Keywords:** E-education, Broadcasting and Hosting Art, Strategies, Colleges in Shaanxi

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Time unfolds like a song; three years of seasons—harsh or mild— mark my journey of learning. It has been akin to climbing a summit: every step arduous, yet each worthy of admiration. My doctoral studies have been more than an academic voyage—they have expanded my life and enriched my soul. I dedicate this message to all who have taught, supported, and accompanied me—with profound gratitude.

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Tang Yunmin

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# Chapter 1

## Introduction

### Rationale

E-education refers to an educational model that uses information technology and the Internet to achieve educational goals and teaching activities. It covers online learning, distance education, virtual classroom and other forms. The core of E-education is to use digital technology to break the time and space constraints of traditional education to provide a more flexible and personalized learning experience. E-education has the following main features: 1. Online learning platform: such as MOOC (Massive Open Online course), learning management system (LMS) and educational software, students can access course materials and learning at any time and place; 2. Interactive: Students and teachers can have real-time or non-real-time interaction through forums, chat tools, video conferencing and other means; 3. Diversified resources: mainly including e-books, online videos, simulation experiments and virtual reality, providing rich learning resources and tools; 4. Adaptive learning: According to students' learning progress and ability, adjust the course content and difficulty to achieve personalized education. 5. Assessment and feedback: Through online tests, assignments, and feedback systems, students can keep track of their progress and make adjustments based on feedback. E-education has the characteristics of flexibility, low cost, accessibility and convenience. E-education has become a favorite and acceptable way of education for people. More and more people use artificial intelligence and machine learning to realize cross-regional education and use big data analysis for education implementation.

Although the e-education of broadcasting and hosting in colleges and universities in Shaanxi is in a state of progress, the e-education of broadcasting and hosting in colleges and universities is relatively lagging behind in the rapid development of digitalization and the changing media environment. The main problems are as follows.

### I. Single teaching concept and model

In many colleges and universities, the traditional teaching concept is still used in broadcasting and hosting education, and electronic education is less involved and lacks of attention to the personalized development of students. Teaching materials may be outdated and fail to keep up with market demands and industry changes, resulting in students with a single business ability and lack of innovation and adaptability.

#### Second, teaching resources and technology platform restrictions

Broadcasting and hosting major has higher requirements for teaching resources, including modern viewing, listening, recording, broadcasting, performance, photography, control equipment and venues. However, some colleges and universities cannot provide sufficient teaching resources due to the limitation of capital and technology, which affects the teaching effect. The lack of online technology platforms affects teacher-student interaction and teaching quality.

#### Third, lack of teaching staff and practical experience

Some colleges and universities in the broadcasting and hosting professional teachers appear to be in short supply. Some teachers lack practical experience in media, and it is difficult to provide effective guidance and demonstration to students. Among them, because broadcasting and hosting teaching is mainly focused on the transmission of sound language, the knowledge structure of teachers is too simple, and even the lack of personal experience in digital media practice and e-education experience, it is difficult to better implement e-education and train well-rounded broadcasting and hosting talents.

Fourth, the course structure and teaching content lag, which makes it difficult for students to form a complete knowledge system and practical ability in the learning process. The teaching content still stays in the traditional stage and fails to reflect the new trends and new requirements of the industry in a timely manner.

Based on the above content, this study will adopt a combination of quantitative and qualitative methods to explore strategies from the aspects of

teacher team construction, curriculum structure and teaching content optimization, and the implementation of e-education by upgrading technology platforms, so as to promote the development of e-education in university broadcasting and hosting, and adapt to the rapid development and changes of the media industry.

To address the aforementioned problems, relevant strategies for the Broadcasting and Hosting Art major in Shaanxi universities were formulated through the Delphi Method and feasibility evaluation via Focus Group discussions, aiming to resolve the corresponding problems and enhance the level of its e-education.

### **Research Question**

What are the E-education strategies for the college broadcasting and hosting art in Shaanxi Province?

### **Objective(s)**

1. To Investigate and analysis the current situation and problems of e- education for the college broadcasting and hosting art in Shaanxi Province.
2. To set up E-education strategies for the college broadcasting and hosting art in Shaanxi Province.
3. To evaluate E-education strategies for the college broadcasting and hosting art in Shaanxi Province.

### **Scope of the Research**

**Step 1.** To Investigate and analysis the current situation and problems of e-education for the college broadcasting and hosting art art in Shaanxi Province.

#### **Population**

The experts are mainly from university educators and administrators in the Broadcasting and Hosting Art major, as well as practitioners from provincial and municipal media organizations

### **Sample**

Among the 21 Experts, 7 are Broadcasting and Hosting Educators from 4 universities in Shaanxi Province, 7 are Industry Experts from provincial and municipal media organizations, and 7 are Educational Management Experts from 4 universities in Shaanxi Province.

### **Eligibility Criteria**

1. Must have at least 5 years of teaching or media-related work experience in higher education institutions.
2. Must hold a master's degree or higher and possess at least a lecturer rank.
3. Must have practical media experience.
4. Must be willing to participate in surveys or interviews.

### **The Sample Group**

21 Experts: This group consists of 7 Broadcasting and Hosting Educators 7 Industry Experts 7 Educational Management Experts, each with a minimum of 5 years of relevant professional experience.

(1) 7 Broadcasting and Hosting Educators: These experts are engaged in teaching and researching broadcasting and hosting. They can offer valuable insights and provide strategic recommendations for this study.

(2) 7 Industry Experts: These experts work in media organizations or relevant enterprises at or City level and above, and can offer industry perspectives on the feasibility of educational outcomes and strategies.

(3) 7 Educational Management Experts: With at least 5 years of experience in broadcasting and hosting education management or higher education administration, these experts can contribute to the scientific and authoritative evaluation of educational policies, talent development, and quality assurance in this study.

**Step 2** effectively solves Objective 2 The research stage consists of four key steps: target population and sample selection, use of research tools, data collection process, data analysis and statistical analysis, and finally propose a Strategies, and reach an agreed Strategies after two rounds of expert interviews.

### **Population**

The experts are mainly from university educators and administrators in the Broadcasting and Hosting Art major, as well as practitioners from provincial and municipal media organizations.

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(3) 7 Educational Management Experts: With at least 5 years of experience in broadcasting and hosting education management or higher education administration, these experts can contribute to the scientific and authoritative evaluation of educational policies, talent development, and quality assurance in this study.

**Step 3** primarily addresses the third objective of this study, which involves conducting a final evaluation of the e-education strategies by a designated panel of authoritative and experienced experts.

### **Population**

The experts are mainly from senior university educators and administrators in the Broadcasting and Hosting Art major, as well as senior practitioners from provincial and national-level media organizations.

### **sample**

Senior experts with profound industry experience and professional qualifications in Shaanxi Province must meet higher-level eligibility requirements (distinguished from the previous two objectives):

University Professors: Possess at least 15 years of experience in higher education, or hold a senior professional title/doctoral degree;

Media Professionals: Possess at least 15 years of experience in media work, or hold a senior professional title;

Educational Administrators: Possess at least 30 years of experience in educational management, and hold a senior professional title/doctoral degree.

### **The sample group**

9 Experts includes: 3 university professors, 3 media professional, and 3 educational administrators. The qualifications of the 9 Experts are as follows:

3 university professors must have at least 15 years of experience in higher education or hold a senior professional title or a doctoral degree.

3 media professional must have at least 15 years of experience in media work or hold a senior professional title.

3 educational administrators must have at least 30 years of experience in educational management and hold a senior professional title or a doctoral degree.

### **Guideline To Study**

1. teacher proficiency
2. Course Design
3. Teaching Methods
4. learning resources
5. Learning Environment
6. Learner Characteristics
7. Educational Technology
8. Learning Outcomes
9. learning assessment

**Location** Shaanxi Province, China

### **Advantages**

1. To assist higher education students in developing electronic learning habits for broadcast hosting, thereby enhancing their learning outcomes and skill levels.

2. To promote a shift in higher education instructors' digital education philosophy concerning broadcast hosting, utilizing technological platforms to adjust teaching resources, optimize instructional methods and designs, and elevate teaching quality in response to the rapid development of digital media.

3. To improve educational administrators' ability to electronically manage teaching processes and outcomes, advancing the development of digital education in broadcast hosting within higher education institutions in Shaanxi Province.

4. To raise awareness among Shaanxi's higher education institutions regarding electronic education in broadcast hosting, thereby fostering the development of digital and electronic education in the field of broadcasting and hosting arts.

## Definition of Terms

**1. E-education** An educational model that uses information technology and the Internet to achieve educational goals and teaching activities. The core of E-education is to use digital technology to break the time and space restrictions of traditional education, combining educational technology, Learner characteristics, teacher literacy, Course design, teaching methods, learning resources, learning effects and learning assessment and other factors, aiming to provide efficient, flexible and personalized learning experience.

**2. Educational Technology** refers to all technical tools, resources, and systems used in the teaching and learning process, such as computers, smart devices, learning management systems, educational applications, and technology-enabled teaching methods and strategies. These tools can support classroom instruction, distance learning, experimental simulation, platform and software to provide course content organization, learning activity management, student progress tracking, and interactive learning support. Technology is used to improve the quality of education, increase the interactivity and effectiveness of learning, and solve some limitations of traditional education methods.

**3. Learner Characteristics** refer to various personal attributes and behavioral characteristics that affect students' learning style, learning effect and learning process. Including learning style, learning motivation, technical proficiency and learning habits, self-management ability and so on. These characteristics affect the learning style and effect of students, and the electronic education of broadcasting and hosting needs to be personalized adjustment and adaptation.

**4. teacher proficiency** in e-education includes the mastery of educational technology, online teaching skills, resource utilization, communication and collaboration, data security and many other aspects. The digital ability of teachers directly affects the quality of e-education and the learning effect of students. In the increasingly digitalized educational environment, improving teachers' digital literacy is one of the key factors to improve the quality of education.

**5. Course Design** is the process of planning, organizing, and implementing instructional content and activities in an e-education environment through the use of online platforms, digital resources, and educational technology tools. The course design of e-education is not only to move the traditional course content online, but also to optimize and innovate the teaching process. Make full use of technology resources to improve teaching quality and learning effect, meet the diversified learning needs of students, and promote effective learning.

**6. Teaching Methods** E-education pedagogy refers to a series of strategies and techniques that teachers and educators use digital technologies and online platforms to design, implement and optimize instructional activities to achieve learning goals in an e-education environment. It mainly includes video teaching, online discussion, blended learning, project orientation, flipped classroom, etc. Effective teaching methods can take advantage of the advantages of online environment to stimulate students' initiative and participation.

**7. Learning Resources** A variety of digital resources and tools used in e-learning environments to support teaching activities and student learning. Online materials, audio and video, course platforms, applets and other tools, these resources provide a wealth of learning content designed to enhance teaching effectiveness, learner engagement and learning outcomes.

**8. Learning Environment** This primarily pertains to the social support, technological infrastructure, and learning environment that learners encounter during their participation in electronic education activities.

**9. Learning Outcomes** refer to the specific outcomes of students' knowledge, abilities and attitudes acquired through e-education. It is often used to measure learner achievement and performance at the end of a course or project. There are mainly tests, homework, project results, engagement, learning evaluation and so on.

**10. Learning Assessment** is the process of systematically evaluating the performance of learners in learning processes and outcomes. It aims to measure whether learners are achieving predetermined learning goals and outcomes, while

providing feedback on the teaching and learning process in order to improve educational practice. Includes a variety of online assessment tools such as quizzes, assignments, project evaluations and feedback. These assessment methods can help monitor student progress, provide targeted feedback, and ensure that teaching results are achieved.

**11. Broadcasting and Hosting Art** It is an undergraduate program offered at general higher education institutions, categorized within the field of arts. This program aims to cultivate advanced professionals who possess a foundational knowledge of news and communication theories, a strong cultural background, and familiarity with Chinese news dissemination policies and regulations. Graduates are prepared to engage in activities such as broadcasting, program hosting, editing, program production, and other related tasks. The program integrates knowledge from multiple disciplines, including arts and communication studies, and emphasizes the combination of theoretical and practical aspects. Its goal is to develop high-quality, application-oriented professionals suited for the multimedia era. Specifically, students of Broadcasting and Hosting Arts are expected to acquire professional, cultural, and technical competencies, including the ability to create and communicate spoken language. They are prepared to work in various media sectors, such as radio, television, and the internet, as well as in other fields related to oral communication, including broadcasting, news dissemination, and language arts performance.

**12. Constructivist Learning Theory** Constructivist learning theory, drawing upon the ideas of Vygotsky, cognitive information processing theory, Piaget, Bruner, and others, introduces several innovative pedagogical concepts. These include emphasizing the active and constructive role of learners in the learning process. Constructivist theory distinguishes between elementary and advanced learning, critiquing traditional education for inappropriately applying strategies designed for elementary learning to more advanced contexts. The theory also advocates for collaborative learning and situational teaching, which have profound implications for advancing educational reforms.

**13. Social Learning Theory** Social Learning Theory, proposed by Albert Bandura, emphasizes the significance of observation, imitation, and social interaction in the learning process. The theory posits that learning occurs not only through direct experience but also through observing the behaviors and outcomes of others. In electronic learning environments, Social Learning Theory supports the enhancement of learning outcomes through methods such as video demonstrations, online discussions, and peer evaluations. The theory highlights the role of observational learning in the acquisition of behavior, asserting that most human behaviors are learned by observing the actions and consequences of others, and underscores the importance of role models. Behavior can thus be acquired through the process of observational learning.

**14. Outcome-Based Education (OBE)** Outcome-Based Education (OBE), an advanced educational concept initially introduced by Spady in 1981, has rapidly garnered widespread attention and application. It has developed into a relatively complete theoretical framework and has become a mainstream approach in educational reforms in countries such as the United States, the United Kingdom, and Canada. In OBE, the goals of instructional design and implementation are centered around the learning outcomes that students achieve by the end of the educational process. This concept continues to be regarded as the correct direction for pursuing excellence in education.

**15. The Delphi Method** The Delphi Method, also known as the expert survey method, was first implemented by the RAND Corporation in the United States in 1946. This method involves the establishment of a specialized forecasting organization composed of several experts and organizational facilitators. The procedure entails systematically soliciting the opinions or judgments of experts on future market conditions in a series of rounds, where feedback is provided anonymously.

The general process involves the following steps: After collecting initial opinions from experts on the issue to be forecasted, the responses are organized, synthesized, and statistically analyzed. These findings are then

anonymously fed back to the experts for further review and input. This iterative process continues—collecting, summarizing, and providing feedback—until a consensus is achieved.

**16. Focus Group Discussion** is a qualitative research method that seeks to gain participants' in-depth views and understanding of a topic by organizing a group of specific groups to conduct structured discussions. Questions or topics are usually designed by the researcher to provide insight into the views, attitudes, and feelings of a particular group. Conduct a systematic analysis of the discussion content, extract the consensus, differences and key insights of the participants, write an analysis report based on the discussion results, and put forward corresponding suggestions or improvement plans. The discussion usually revolves around areas such as market research, social research and policy development.

### **Research Framework**

The e-education strategies for the college broadcasting and hosting art in Shaanxi province includes 3 research objectives, and the specific research framework is shown in the figure below.

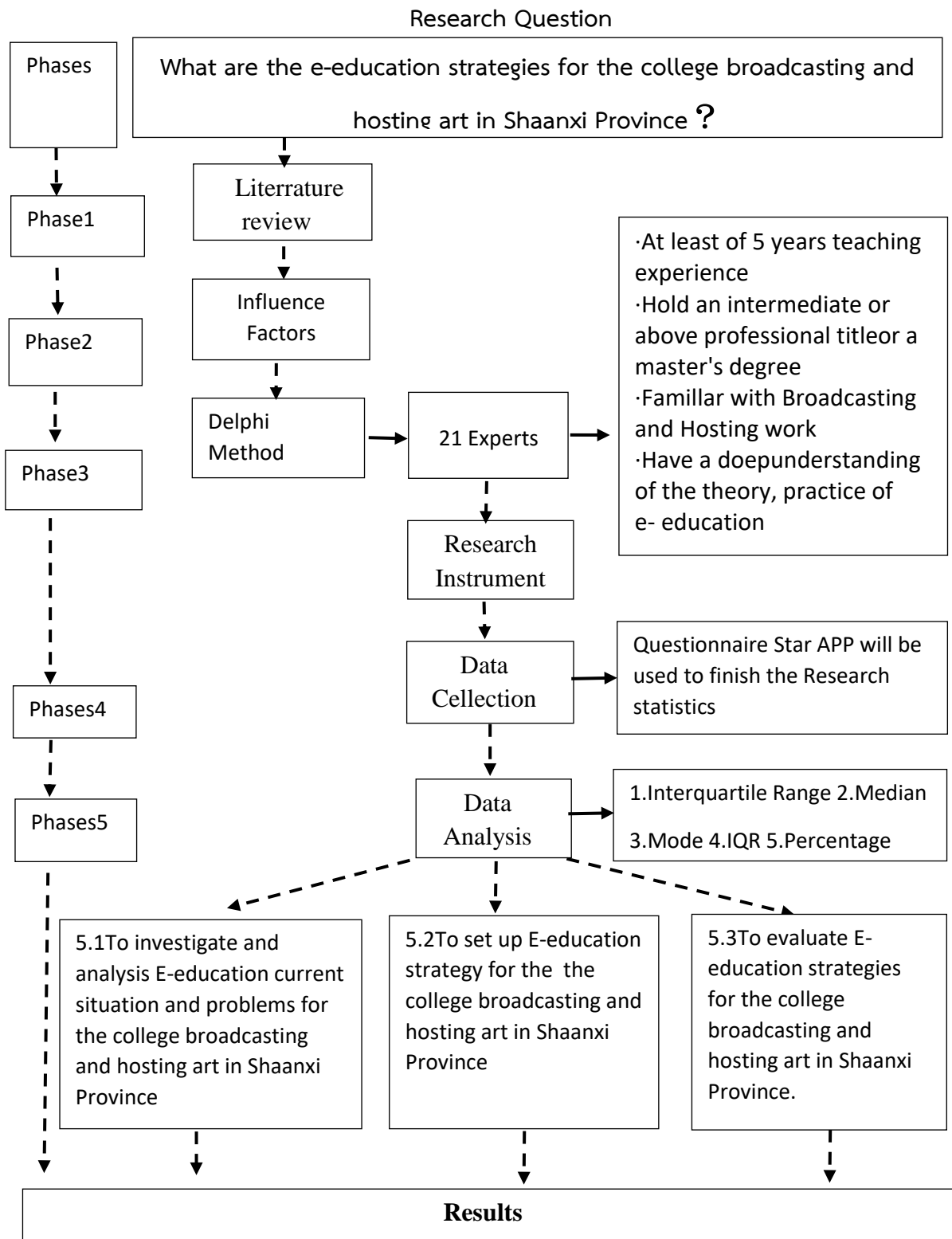


Figure 1.1 Research Framework

From the Research Framework, There're 3 Objectives.

**Objective 1:** Investigate and analyze the current situation and problems of e-education for the College Broadcasting and Hosting Art in Shaanxi Province

First, through a systematic literature review and open-ended expert interviews, the core factors influencing e-education for the College Broadcasting and Hosting Art in Shaanxi Province were comprehensively identified. Subsequently, targeted research instruments were designed, and professional experts were invited to review and refine these tools to ensure their scientificity and adaptability. Afterwards, data were collected from the target expert group, consisting of university broadcasting and hosting educators, Industry Experts, and educational management experts, providing a solid data foundation for the analysis of the current situation. In the data analysis phase, frequency and percentage statistical methods were used to quantify data characteristics, while qualitative analysis was combined to deeply extract the core problems existing in the e-education of this major. Additionally, the validity of the research instruments was verified through the Index of Item-Objective Congruence (IOC) to ensure the reliability of the research results.

**Objective 2:** To set up e-education strategies for the College Broadcasting and Hosting Art in Shaanxi Province

Based on the research results of Objective 1, two rounds of expert consultations were conducted using the Delphi Method. The core tool was a Delphi Method consultation questionnaire, which not only included various strategy items but also attached the statistical results of the previous round to provide reference for experts. In the data analysis process, three key indicators—Median (Md), Mode (Mo), and Interquartile Range (IQR)—were used to measure the degree of expert consensus. Through multiple rounds of expert feedback and opinion convergence, the candidate strategies were screened and optimized, and expert consensus was gradually formed. Finally, a scientific and reasonable e-education strategies framework for the College Broadcasting and Hosting Art in Shaanxi Province was constructed.

**Objective 3:** To evaluate E-education strategies for the college broadcasting and hosting art in Shaanxi Province

To ensure the feasibility and operability of the strategies, the research selected senior experts with profound industry experience and professional qualifications to form a focus group. Based on the strategy framework formed in Objective 2 , experts were organized to conduct structured discussions. The core tools included a strategy evaluation interview guide and discussion record forms to comprehensively document experts' viewpoints and suggestions. In the data analysis phase, thematic coding was adopted for qualitative analysis to deeply explore the core connotation of experts' opinions. The degree of strategy consensus was determined according to the standard of "unanimous approval/majority approval", and "high/medium/low feasibility" ratings were classified. On the basis of fully verifying the feasibility of the existing strategies, the strategies were supplemented and optimized in combination with experts' suggestions, and some key strategies were added. Finally, a complete and feasible e-education strategies system for the Broadcasting and Hosting Arts in Shaanxi Province was integrated and formed.

## Chapter 2

### Literature Review

Before the study and determination of the broadcast-hosted E-education Strategies, the literature related to the research topic should be systematically sorted and summarized, and a detailed review of the literature will help further clarify the research scope and the significance of the research question, and provide relevant experience for the accumulation of subsequent research. On this basis, the researchers summarized and analyzed the relevant literature and research results from the following aspects:

1. The Essence of E-education
2. Current Status and existing Problems of broadcasting and hosting E- education
3. Factors of Affecting E-education Broadcasting and Hosting E-education strategies
4. Introduction of relevant theories The details are as follows.

#### **The Essence of E-education**

E-education refers to an educational model that uses information technology and the Internet to achieve educational goals and teaching activities. It covers online learning, distance education, virtual classroom and other forms. The core of E-education is to use digital technology to break the time and space constraints of traditional education to provide a more flexible and personalized learning experience. The core elements of E-education mainly involve (1) digital content, that is, educational content delivered through digital media, including online courses, electronic books, interactive simulations, etc.; (2) Network platform, that is, course release, learning management and interactive communication through the network

platform; (3) Customize content setting according to students' learning characteristics (4) achieve interactivity through online discussion, Q&A, etc. (5) break time and space restrictions and achieve flexibility.

E-education was not first proposed by a certain scholar or researcher, but gradually formed and evolved in the development of information technology and the Internet. The following pioneers have played an important role in the formation and development of E-education: Bates, A. W. (2005). It is believed that the use of information technology can support and enhance the learning process, and has an important impact on the education model. Moore, M. G., & Kearsley, G. (2012) regard E-education as a teaching model realized through a technology platform. Garrison, D. R., & Vaughan, N. D. (2008) argue that blended learning is a part of E-education. Selwyn, N. (2016) explores the social and cultural impact of e-education and discusses the role and definition of technology in education.

### **Characteristics of E-education**

#### **1. Flexibility and accessibility**

Bates, A. W. (2005), Anderson, T. (2008). Both emphasize the flexibility of E-education, enabling learners to learn anytime and anywhere, breaking the restrictions of time and space. This flexibility makes learning no longer dependent on a specific place or schedule, and suits learners with different backgrounds and needs.

#### **2. Personalized learning**

Siemens, G. (2013), Cavanaugh, C., Gillan, D. J., Kromrey, J. D., Hess, M., & Blomeyer, R. L. (2004) emphasized that e-education can provide personalized learning experience by using learning management system (LMS) according to learners' needs and progress, and can adjust learning content and difficulty according to learners' performance and feedback.

#### **3. Interactivity and collaboration**

Garrison, D. R., Anderson, T., & Archer, W. (2001), Rovai, A. P., & Jordan, H. M. (2004) pointed out that E-education platform usually provides various interactive tools. Such as discussion forums, live chat, video conferencing, etc., to promote interaction and collaboration between learners and between learners and teachers.

#### **4. Teaching with technical support**

Kozma, R. B. (2003) pointed out that E-education relies on various technological tools and platforms, such as learning management systems (LMS), virtual reality (VR), augmented reality (AR), etc., which support curriculum development, management, and implementation.

#### **5. Self-directed learning**

Candy, P. C. (1991). E-education emphasizes self-directed learning, and learners need to have the ability to learn independently, including the ability to self-manage time and resources.

#### **6. Data-driven evaluation and feedback**

Shute, V. J. (2008). E-education uses data analysis techniques to track learners' progress and performance and provide timely feedback. This helps to assess learning outcomes and improve teaching methods. Siemens, G. (2013) also highlighted this point.

### **Current Issues of E-education for The Coledge Broadcasting and Hosting Art**

Broadcasting is a highly practice-dependent skill, which involves language expression, voice control and improvisation. In view of the current situation and problems of e-education in broadcasting and hosting, the researchers summarized the description of relevant literature as follows:

Wang Lei (2022) believes that broadcasting and hosting education faces huge challenges in the process of changing from traditional broadcasting mode to digitalization, such as insufficient updating of technical equipment and insufficient teachers.

Liu Fang (2023) pointed out in his research on educational technology that broadcasting and hosting education has shortcomings in the application of new technologies such as virtual reality and online live broadcasting, as well as problems such as insufficient technical training and insufficient investment in equipment.

Chen Gang and Zhao Yue (2020) pointed out the difficulties faced by practical teaching in broadcasting and hosting e-education, such as insufficient practice opportunities and imperfect practice environment, and argued that internship opportunities should be urgently increased and the practice environment should be improved.

Li Hong (2021) pointed out the problems in the curriculum setting of e-education in broadcasting and hosting, mainly focusing on the mismatch of curriculum content and overly traditional teaching methods, and stressed that the curriculum content and teaching methods should be reformed and updated.

Zhang Peng (2023) pointed out the problems such as inadequate application of technology in broadcasting and hosting education, disconnection between teaching content and technology application, and put forward suggestions to improve the level of technology application and strengthen teacher training.

Wang Jun (2024) pointed out the difficulties brought by the new media era to the education of broadcasting and hosting. The course content did not keep pace with the development of new media and the allocation of teaching resources was insufficient. Under the new media era, broadcasting and hosting teaching should innovate the teaching model and update the course content.

Liu Wei (2019) points out that e-learning in the field of broadcast hosting is primarily conducted through online courses, virtual classrooms, and recorded lectures. Liu suggests that technology can support the integration of theoretical learning with practical operations, such as using online tutorials to learn broadcasting techniques and conducting simulated exercises in virtual classrooms.

Zhang Lei (2020) argues that e-learning tools, such as online recording software, video editing software, and virtual studios, enable students to engage in self-directed learning and skill training outside of class hours. This approach enhances students' practical abilities and technical proficiency.

Chen Li (2021) notes that students in e-learning environments can utilize various online resources, such as instructional videos, for autonomous learning. Chen emphasizes that this mode of learning reflects flexibility, allowing students to adjust

the content and pace of their studies according to their individual needs and interests.

The current issues with e-learning in broadcast hosting are summarized as follows based on the relevant literature:

The virtual environment of e-learning platforms may not provide sufficient practice opportunities and simulations of actual operations, which poses challenges to students' skill development. Chen Xiaohong (2021) in "Challenges and Countermeasures of Broadcast Hosting Teaching in Virtual Environments" notes that although e-learning platforms offer numerous theoretical resources, opportunities for practical operations are limited, affecting the actual application and enhancement of skills. Zhang Wei (2022) in "Exploration of Online Learning Models in Broadcast Hosting" mentions that e-learning platforms cannot fully simulate the actual broadcasting environment, which creates difficulties for students in improving their skills.

Liu Min (2018) discusses the shortcomings of e-learning platforms in providing personalized feedback, pointing out the lack of real-time and individualized guidance. Li Ming (2020) in "Interaction and Feedback Mechanisms in Online Learning" mentions that the automated feedback of e-learning platforms cannot adequately meet the personalized learning needs of broadcast hosting students, which impacts learning outcomes.

Broadcast hosting students in e-learning environments may face significant motivation and self-discipline issues, especially in the absence of face-to-face supervision and interaction. Self-management and self-discipline become crucial factors affecting learning effectiveness. Wang Fang (2019) points out that learners in e-learning environments might experience issues with motivation and self-discipline, which negatively impacts the learning progress of broadcast hosting students.

Zhao Zixuan (2022) identifies that broadcast hosting students often have unclear learning objectives and outdated teaching concepts, with a weak awareness of integrated media. This contributes to suboptimal e-learning outcomes and a reduced ability to respond effectively to the current media environment.

Qin Min and Fu Yan (2024) indicate that the innovation of digital and intelligent thinking is transforming traditional teaching models. They propose the reformation of personalized teaching objectives, the reconstruction of open interactive teaching methods, and the establishment of a precise evaluation system, among other measures.

Wang Fang (2018) in "Training and Evaluation of Broadcast Hosting Skills" notes that although e-learning has a significant impact on enhancing students' language expression abilities, voice control, and program planning skills, it also presents certain challenges. These include the lack of face-to-face feedback and guidance, and the potential disconnect between practical operations in e-learning and real-world practice. Similarly, Yang Jun (2020) in "The Impact of E-Learning on the Enhancement of Broadcast Hosting Professional Competencies" points out that while e-learning provides students with abundant learning resources and flexible learning modes, practical application and on-site response abilities remain challenges. Instructors need to integrate e-learning with practical training to ensure that students can effectively apply the knowledge and skills they have acquired in real-world settings.

**Table 2.1** Issues of E-education for The Coledge Broadcasting and Hosting Art

Current Issues of E-education for The Coledge Broadcasting and Hosting Art									
thor	1	2	3	4	5	6	7	8	9
Wang Lei (2022)	√		√						
Liu Fang (2023)	√		√				√		
Chen & Zhao (2020)							√		
Li Hong (2021)				√	√				
Zhang Peng (2023)	√		√	√			√		
Wang Jun (2024)				√	√	√			
Liu Wei (2019)	√					√			
Zhang Lei (2020)	√	√							
Chen Li (2021)		√				√			
Chen Xiaohong (2021)	√		√			√		√	
Zhang Wei (2022)	√		√				√		
Liu Min (2018)	√						√		
Li Ming (2020)	√						√		
Wang Fang (2019)		√					√	√	
Guo Yiming (2023)			√		√			√	
Zhang Chao (2018)				√				√	
Zhang Qiang (2020)	√		√						
Zhao Zixuan (2022)		√	√					√	
Zhao (2022)		√							
Qin &Fu (2024)		√			√		√		√
Yang Jun (2020)	√				√	√			
<b>Total</b>	<b>11</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>8</b>	<b>5</b>	<b>1</b>

1-E-educational technology is not sufficiently mature and stable.

2-Students exhibit relatively weak learning motivation and habits.

3-Teachers' digital literacy needs to enhance.

4-Curriculum design requires further refinement.

- 5-Teaching methods need to be innovated.
- 6-Learning resources need to be expanded.
- 7-E-education environment is insufficient.
- 8-Learning outcomes require further enhancement.
- 9-Learning assessment needs additional improvement.

## **Factors Influencing E-Education for Broadcasting and Hosting Art**

1. Teacher Proficiency
2. Course Design
3. Teaching Methods
4. Learning Resources
5. Learning Environment
6. Learner Characteristics
7. Educational Technology
8. Learning Outcomes
9. Learning Assessment

### **1. Teacher Proficiency**

Teachers' professional background (such as broadcasting experience, industry recognition) and technical competence (such as proficiency in using e-learning tools) directly affect the quality of teaching. Broadcasting and hosting teachers should especially strengthen the training of digital skills and use e-education tools and technologies to teach.

Ng, W. (2012) pointed out that teachers' digital literacy includes not only the ability to operate technology, but also the ability to understand and apply digital tools. In broadcasting and hosting e-education, teachers' digital literacy can effectively improve teaching quality and help students make better use of e-learning platforms and resources.

Kim, C., & Lee, H. (2021) discuss the challenges and opportunities for improving teacher digital literacy in the field of media education. It is pointed out

that teachers need to have solid digital skills in e-education, including the ability to use multimedia tools and online platforms. Effective training is also needed to help teachers improve their digital literacy.

Wang Chao (2020) emphasized the importance of the role of teachers in e-learning in the Influence of Teacher Support on e-learning Effects. Teacher support mainly involves: providing clear guidance, timely feedback and personalized help to students. Teachers' active participation can help students overcome difficulties in learning and improve learning motivation and effectiveness.

Schrader, P. G., & Brown, M. (2014). This paper discusses how teacher literacy affects e-learning results, which has reference value for the training of broadcasting and hosting teachers. Joo, Y. J., & Park, S. J. (2017). This paper studies the role of teachers' professional knowledge in e-learning environment, and emphasizes the updating of professional skills and knowledge of broadcasting and hosting teachers. Spector, J. M. (2015) provides basic knowledge of educational technology to help broadcasting and hosting teachers improve their technology integration ability and educational practical skills.

## **2. Course Design**

Technology and trends in the field of broadcasting and hosting are constantly changing, and outdated course content can lead to a lag in student skills. Relevant theoretical courses, practical training and cases, teaching materials, learning resources, etc. need to be constantly updated to keep pace with the development of the industry.

Zhang, L. (2019) proposed curriculum design and development strategies for broadcasting and hosting education. He stressed that the course content needs to be closely integrated with the actual needs of broadcasting and hosting, in terms of language expression, audio and video production and program planning, through the integration of multimedia resources and interactive learning activities, to enhance the appeal and practicality of the course.

Sun, X., & Li, Y. (2019) gave practical suggestions on the practical methods of e-learning content development in broadcast education, emphasizing that course

content development should be carried out in combination with actual cases, simulation exercises and interactive activities, and challenging tasks and real scenes should be designed. It can effectively improve students' learning enthusiasm and practical ability and application level.

Chen Li (2018) pointed out in *Research on e-learning Content Design and Effect* that the design and quality of learning content have an important impact on e-learning effect and will affect learners' learning effect and satisfaction.

Zhang Lei (2020) *Curriculum Design and Learning Effect* proposed that curriculum design should be carried out in combination with the actual needs of theoretical knowledge and practical skills of broadcasting and hosting.

Biggs, J., & Tang, C. (2011) discussed how to improve learning quality through curriculum design, which is applicable to the design of learning outcomes for broadcasting and hosting courses. Morrison, G. R., Ross, S. M., & Kemp, J. E. (2019). Effective instructional design principles and practices are applicable to the content organization and structure design of broadcasting and hosting courses. Reigeluth, C.

M. (2013) outlined a variety of instructional design theories and models to provide theoretical support for the design and implementation of broadcast hosting courses.

### **3. Teaching Methods**

Arnold, K. E., & Pistilli, M. D. (2012). This paper shows how to use learning analysis to improve teaching methods and improve the success rate of students in broadcasting and hosting courses.

Cavanaugh, C., et al. (2004) reviewed the impact of distance education on student outcomes and provided data support for teaching methods in broadcast-hosted E-Education.

### **4. Learning Resources**

Kirkwood, A., & Price, L. (2014). Innovative digital resources for media learning are discussed, and case studies are provided for resource development for broadcast hosting courses

Smith, B. K., & Hill, J. M. (2020). This paper studies the effective use of digital resources in higher education, which is suitable for optimizing learning resources in broadcasting and hosting courses.

### **5. Learning Environment**

The first is the social environment, which mainly includes policies, regulations and social acceptance. The policy support of government and educational institutions, the regulation and encouragement of laws and regulations on e-education affect the development of e-education. Social acceptance and cognition of e-education affect its popularity and implementation effect, and prejudice or misunderstanding of e-education may hinder its promotion and application.

Chen, Y. (2017) explored the role of relevant government policies in promoting e-learning in higher education, and analyzed how policies affect educational practice and technology adoption.

Li, J., & Zhang, M. (2019) pointed out that social attitudes towards e-learning and these attitudes will concretely affect the promotion and implementation of e-education.

Wang, X. (2018) discussed the Chinese society's acceptance of e-learning platforms, the impact of social acceptance on the promotion of e-learning, and identified the main obstacles to the popularization of e-learning.

Second is the learning atmosphere.

Selwyn, N. (2016) discussed the impact of educational technology on learning environments, including virtual and physical environments in broadcast-hosted education.

Zhao, Y. (2019). Discusses how technological innovation affects the e-learning environment of broadcast hosting. McMahon, M. (2015) discussed how learning environments affect student outcomes and provided references for environmental design in broadcast hosting courses.

## 6. Learner Characteristics

Students' technical ability, proficiency, learning motivation and participation in the use of electronic equipment and software determine their degree of investment in e-education and learning effect, which affects the learning efficiency and results due to the dominant characteristics of the sound language communication of broadcasting and hosting art and the lack of students' motivation and habits.

Smith, A., & Brown, J. (2020) assessed the role of technical skills in broadcasting students' e-learning. Found that technical skills are critical for effective use of e-learning platforms. The skill level of students will affect their mastery of technical tools in the learning process, and then affect the completion of courses and learning effectiveness.

Liu, S., & Zhang, Y. (2021) explored the relationship between motivation and learning outcomes. It is found that students' learning motivation directly affects students' learning outcomes in e-learning environment. Highly motivated students tend to show more autonomy and engagement in their learning. Motivational factors in broadcasting and hosting courses, such as passion for media work or expectations for career development, can significantly enhance learning outcomes and practical ability. In e-education, by improving students' technical skills and enhancing their learning motivation, teaching objectives can be realized more effectively and the overall effect of the course can be improved.

Jiang Wen and Huang Zhi (2020) propose strategies to enhance skills and motivation in the E-education of broadcast hosts. It is suggested that by providing technical training, increasing practical opportunities and setting up incentive mechanisms to enhance students' technical skills and learning motivation, students can better master knowledge and enhance learning results in e-learning environment.

In Learner Characteristics in e-learning, Li Ming (2019) proposed that individual differences of learners, such as technology use ability, autonomous learning ability and learning motivation, have a significant impact on the effect of e-learning. Students with higher technical skills were able to make better use of the features of

online platforms, and students with higher learning motivation showed higher engagement and effectiveness.

The individual characteristics of students have great differences in learning motivation and self-discipline, among which the lack of self-management ability may lead to slow learning progress and low participation. This requires the attraction of the curriculum, the fun of teaching methods, and the supervision and motivation of students to enhance the learning effect.

Zhao Zixuan (2022) pointed out in a Study on Learning Motivation and Autonomy of Broadcasting and Hosting Students that students' learning motivation and autonomy may be challenged in an e-learning environment. The emphasis on the lack of face-to-face supervision and interaction may lead to the lack of motivation of students, which in turn affects the learning effect.

Ng, W. (2012) discussed the characteristics of digital natives and their impact on learning, which is applicable to the digital instructional design of broadcasting and hosting.

Li, J., & Zhang, M. (2019) studied Chinese college students' cognition of e-learning and revealed the challenges and opportunities faced by students' personality characteristics to e-education and learning hosted by broadcasting.

Brown, M., & Green, T. D. (2019). The emphasis on the different characteristics of learners will have different effects on the e-learning effect, which provides data support for the learning of broadcast hosted courses.

Wang, X., & Li, Y. (2018). Students' characteristics have different effects on participation in e-learning, so teachers can design courses that are more suitable for broadcasting and hosting learners.

Nguyen, D., & Wang, Y. (2020) pointed out that learner characteristics are related to the success of e-learning, which has guiding significance for optimizing personalized learning in E-Education of broadcasting and hosting.

## 7. Educational Technology

Bates, A. W. (2005) emphasized that technology can be used to improve the teaching effectiveness of broadcast hosting. Siemens, G. (2013) pointed out that educational technology application of broadcast hosting can be optimized through data analysis.

Chen, C. H., & Sun, Y. C. (2019) discussed how to effectively use various technical tools in broadcast hosting education. Papamitsiou, Z., & Economides, A. A. (2014). Emphasis on the use of educational technology for learning analysis and data evaluation can promote e-education effectiveness.

The stability and function of the technology platform and the network conditions of the equipment have a great impact on the e-education of broadcasting and hosting. The e-education of broadcasting and hosting depends on the stable and fully functional technology platform, such as learning management system (LMS), video conference software and virtual classroom tools, etc. The equipment conditions are directly related to the quality and experience of e-education.

Liu, S. (2019) pointed out that the audio and video quality, interactive functions and technical support of the platform are crucial to simulate the real broadcasting environment and directly affect the implementation effect of the course.

Zhang, Q. (2020) pointed out that the functional completeness of the platform and the complexity of technical operation are crucial to the success of broadcasting and hosting courses.

Zhao, Y. (2019) pointed out that new technologies in the current environment, such as virtual reality (VR) and augmented reality (AR), provide a more immersive learning experience for broadcasting and hosting courses, which can enhance the interaction and practicality of learning and greatly help improve students' practical operation ability.

Li Jun (2022) believes that insufficient technical support may lead to learning interruption or frustration, which may affect learning effectiveness.

## **8. Learning Outcomes**

Wang, M. (2020). Analysis of learning outcome assessment methods in online education, which is applicable to the assessment of e-education effects hosted by broadcasting.

Liu, S. (2019). Study on the influence of e-learning platform on teaching effect, and analyze the learning outcomes in broadcasting and hosting courses.

## **9. Learning Assessment**

Xiong Xiaowei (2017) believes that broadcasting and hosting teaching should not only pay attention to the evaluation of teaching in schools, but also pay attention to the evaluation of the media industry and society.

Li Yalin (2016) pointed out that the teaching evaluation process of broadcasting and hosting involves three links: measurement, evaluation and testing. Teaching evaluation can include evaluation of students, teachers and administrators, as well as evaluation of teaching outcomes and teaching processes.

## **Factors of E-education for the College Broadcasting and Hosting Art**

**Table 2.2** Factors of E-education for the College Broadcasting and Hosting Art

Factors of E-education for the College Broadcasting and Hosting Art									
author	1	2	3	4	5	6	7	8	9
	Teacher proficiency	Course Design	Teaching Methods	learning resources	Learning Environment	Learner Characteristics	Educational Technology	Learning Outcomes	learning assessment
Liu (2019)			√	√			√		
Zhang (2020)						√	√		
Zhao (2019)							√		
Li Jun (2022)							√	√	
Chen (2017)				√	√	√			
Li& Zhang (2019)					√				
Wang, X. (2018)					√				
Ng (2012)	√								
Kim& Lee (2021)	√								
Wang Chao (2020)	√						√		
Zhang (2019)		√							
Sun,& Li (2019)		√							
Chen Li (2018)		√							

Table 2.2 (Continued)

Factors of E-education for the College Broadcasting and Hosting Art									
author	1	2	3	4	5	6	7	8	9
	Teacher proficiency	Course Design	Teaching Methods	learning resources	Learning Environment	Learner Characteristics	Educational Technology	Learning Outcomes	learning assessment
Zhang Lei (2020)		√							
Smith& Brown (2020)						√			√
Liu & Zhang (2021)						√		√	
Jiang& Huang (2020)						√	√		
Li Ming (2019)		√	√			√			
Zhao (2022)						√			
Bates, A. W. (2005)							√		
Siemens, G. (2013)							√		
Chen,&Sun, Y. C. (2019)							√		
Papamitsiou, Z., & Economides, A. A. (2014)							√		
Ng, W. (2012)				√		√	√	√	
Li, J., & Zhang, M. (2019)						√			

Table 2.2 (Continued)

Factors of E-education for the College Broadcasting and Hosting Art									
author	1	2	3	4	5	6	7	8	9
	Teacher proficiency	Course Design	Teaching Methods	learning resources	Learning Environment	Learner Characteristics	Educational Technology	Learning Outcomes	learning assessment
Brown, M., & Green, T. D. (2019)						√			
Wang, X., & Li, Y. (2018)		√				√			
Nguyen, D., & Wang, Y. (2020).						√			
Schrader, P. G., & Brown, M. (2014)	√							√	
Joo, Y. J., & Park, S. J. (2017)	√						√		
Spector, J. M. (2015)	√								
Biggs,J.,&Tang, C. (2011)		√						√	
Morrison, G. R., Ross, S. M., & Kemp, J. E. (2019)		√	√						
Reigeluth, C. M. (2013)		√	√						
Arnold, K. E., & Pistilli, M.D. (2012)			√						
Cavanaugh, C.,et al. (2004)			√						

Table 2.2 (Continued)

Factors of E-education for the College Broadcasting and Hosting Art									
author	1	2	3	4	5	6	7	8	9
	Teacher proficiency	Course Design	Teaching Methods	learning resources	Learning Environment	Learner Characteristics	Educational Technology	Learning Outcomes	learning assessment
Johnson, D. W., Johnson, R. T., & Holubec, E. J. (2013)			√						
Kirkwood, A., & Price, L. (2014)				√					
Smith, B. K., & Hill, J. M. (2020)				√					
Selwyn, N. (2016)					√		√		
McMahon, M. (2015)					√				
Zhao, Y. (2019)					√		√		
Wang, M. (2020)								√	√
Liu, S. (2019)							√	√	
Xiong Xiaowei (2017)									√
Li Yalin (2016)		√						√	√
<b>Total</b>	<b>9</b>	<b>10</b>	<b>7</b>	<b>5</b>	<b>6</b>	<b>12</b>	<b>15</b>	<b>8</b>	<b>4</b>

**Table 2.3** Factors of E-education for the College Broadcasting and Hosting Art

Itme	NO	Percentage (%)
Educational Technology	15	19.74
Learner Characteristics	12	15.79
Course Design	10	13.16
Teacher Proficiency	9	11.84
Learning Outcomes	8	10.53
Teaching Methods	7	9.21
Learning Environment	6	7.89
Learning Resources	5	6.58
Learning Assessment	4	5.26
<b>Total</b>	<b>76</b>	<b>100</b>

The table presents a quantitative analysis of the frequency and proportional representation of key factors influencing e-education in the field of College Broadcasting and Hosting Art. A total of 76 instances were recorded across various academic sources, allowing for a comparative understanding of the relative importance of each factor.

(1) Educational Technology (19.74%) Educational technology emerged as the most frequently cited factor, comprising nearly one-fifth of all references. This underscores the critical role that technological infrastructure plays in the digital delivery of broadcasting and hosting curricula. Tools such as video conferencing platforms, virtual studio simulations, audio editing software, and interactive multimedia are not merely supportive but foundational to replicating the performance-based nature of this discipline in an online environment.

(2) Learner Characteristics (15.79%) The second most emphasized factor pertains to the attributes of the learners themselves. In broadcasting education, characteristics such as communication competence, digital literacy, self-regulated learning skills, and motivation significantly influence the effectiveness of online

learning environments. These variables necessitate a learner-centered design in e-education models.

(3) Course Design (13.16%) Effective course design plays a pivotal role in ensuring that content is well-structured, pedagogically sound, and appropriately paced for online delivery. In practical and performance-driven disciplines like broadcasting, course design must also integrate hands-on activities, peer interaction, and formative feedback mechanisms to replicate the interactivity of face-to-face learning.

(4) Teacher Proficiency (11.84%) The role of the instructor remains indispensable, especially in courses that require real-time feedback, modeling, and the fostering of expressive skills. Teacher proficiency in both pedagogical strategies and technological tools is essential to translate traditional classroom techniques into the digital space.

(5) Learning Outcomes (10.53%) Learning outcomes were cited as a moderately important factor, highlighting the emphasis on tangible skills and knowledge acquisition as the end goal of e-education. In the broadcasting context, learning outcomes must encompass both theoretical understanding and practical competence in voice, presentation, and production.

(6) Teaching Methods (9.21%) The diversity and innovation in teaching methods—such as flipped classrooms, live demonstrations, asynchronous discussions, and collaborative projects—are essential for maintaining learner engagement and replicating the interactive elements of traditional studio-based instruction.

(7) Learning Environment (7.89%) While less frequently cited, the learning environment remains a relevant factor, referring to the usability, accessibility, and interactivity of the online platform. A well-designed virtual environment can reduce cognitive load and increase student participation.

(8) Learning Resources (6.58%) The availability and quality of resources—such as sample recordings, lecture materials, and multimedia references—are important but tend to be secondary to the structure and delivery of content.

(9) Learning Assessment (5.26%) This factor received the lowest proportion, suggesting that assessment strategies in e-education for this discipline may still be underdeveloped. There is a pressing need for performance-based, formative, and authentic assessment tools tailored to broadcasting education in digital contexts.

## **Relevant Theoretical Basis**

Constructivism learning theorists put forward many creative teaching ideas on the basis of absorbing Vygotsky, cognitive information processing theory, Piaget, Bruner and other ideas, such as emphasizing the initiative and constructivism of learners in the learning process; The author makes a distinction between primary learning and advanced learning, and criticizes the traditional teaching Strategies of primary learning to extend it to advanced learning unreasonably. Cooperative.

### **Constructivist Theory**

Constructivist Theory, introduced by scholars such as Jean Piaget and Lev Vygotsky, emphasizes the process by which learners actively construct knowledge during their learning journey. Learning is viewed as a dynamic process where learners build and reconstruct knowledge through interactions with their environment. Originating from theories on cognitive development in children, constructivism provides a framework for understanding the cognitive patterns of human learning, explaining how learning occurs, how meaning is constructed, how concepts are formed, and what essential elements an ideal learning environment should include.

In summary, guided by constructivist principles, a new and relatively effective cognitive learning theory can be developed, which can then inform the creation of an optimal constructivist learning environment. Constructivism posits that knowledge is not merely transmitted by teachers but is actively constructed by learners within specific contexts and socio-cultural backgrounds. This process is facilitated through the assistance of others (including teachers and learning peers) and the use of necessary learning materials, with the ultimate goal being "meaning construction." The amount of knowledge acquired depends on the learner's ability

to construct meaning based on their own experiences, rather than merely memorizing and reciting the content presented by the teacher.

The core aspects of constructivist learning theory can be explained through "the meaning of learning" (i.e., what constitutes learning) and "methods of learning" (i.e., how learning should be conducted). In e-learning environments, constructivist theory advocates for the design of interactive learning activities and tasks that encourage students to actively explore and practice. This is particularly crucial for courses such as broadcast hosting, which require hands-on skills and practical application.

Constructivism promotes learner-centered learning under the guidance of educators, emphasizing both the cognitive role of learners and the supportive role of teachers. Teachers act as facilitators and helpers in the construction of meaning rather than mere transmitters of knowledge. Students are the active constructors of meaning and the central processors of information, rather than passive recipients of external stimuli and indoctrination. To become effective constructors of meaning, students must engage actively in their learning process.

#### Applicability Principles of Constructivist Teaching

(1) Embed All Learning Tasks in Contexts That Enhance Adaptation to the World: All learning tasks should be situated within contexts that allow students to more effectively adapt to the real world.

(2) Align Teaching Goals with Students' Goals in Their Learning Environment: The objectives set by the teacher should align with the goals that students perceive as relevant to their own contexts and concerns.

(3) Design Authentic Tasks: Authentic activities are a crucial feature of the learning environment. Tasks should involve real-world activities and integrate multiple content areas or skills into daily practices.

(4) Create Complex Environments That Reflect Effective Actions Post-Learning: Design learning experiences that simulate complex environments where students are expected to engage in meaningful actions upon completing their learning.

(5) Provide Autonomy in Problem-Solving: Teachers should encourage students to think critically and solve problems independently, fostering their problem-solving skills.

(6) Design Learning Environments That Support and Stimulate Student Thinking: Create environments that support and stimulate students' cognitive processes and intellectual engagement.

(7) Encourage Students to Test Their Views in Social Contexts: Students should be encouraged to evaluate and refine their perspectives within social and contextual settings.

(8) Support Reflection on Learning Content and Processes: Facilitate students' reflection on both the content and processes of their learning. Develop their self-regulation skills to promote independent learning.

### **Social Learning Theory**

Social Learning Theory, proposed by Albert Bandura, emphasizes the significance of observation, imitation, and social interaction in the learning process. The theory posits that learning occurs not only through direct experience but also through observing the behaviors and outcomes of others. In electronic learning environments, Social Learning Theory supports enhancing learning outcomes through video demonstrations, online discussions, and peer evaluations.

The process of observational learning consists of four stages: attention, retention, reproduction, and motivation. During the attention stage, learners must focus on the model's behavior. In the retention stage, learners store observed behaviors and symbolic representations in memory. The reproduction stage involves translating these stored symbols into appropriate actions, which entails replicating previously observed behaviors. Effective demonstration, even if brief, can be retained in long-term memory. This is particularly crucial in broadcasting and hosting courses, as students need to observe and imitate actual broadcasting techniques and performance.

The theory underscores the role of observational learning in the acquisition of human behaviors. It suggests that most human behaviors are learned by observing

the actions and consequences of others. The role of role models is pivotal; the behaviors and their manifestations are influenced by the attributes of the role model. Factors such as the model's charisma, rewards, complexity of the model's behavior, outcomes of the behavior, and the interpersonal relationship between the model and the observer affect the observer's behavioral performance.

Additionally, Social Learning Theory emphasizes the role of self-regulation.

Human behavior is influenced not only by external outcomes but also, importantly, by self-generated outcomes, which is the impact of self-regulation. Self-regulation primarily involves setting goals, self-evaluation, and motivational functions to adjust behavior. The theory advocates for high self-confidence as a reward for effective self-regulation.

#### **Outcomes-Based Education (OBE)**

Outcomes-Based Education (OBE), an advanced educational philosophy first proposed by Spady in 1981, has rapidly gained widespread attention and application. It has developed into a comprehensive theoretical system and has become a mainstream concept in educational reforms in countries such as the United States, the United Kingdom, and Canada. The core objective of OBE is to ensure that students achieve specific learning outcomes by the end of the educational process. This philosophy remains regarded as a correct direction for pursuing excellence in education.

In his book *Outcomes-Based Education: Critical Issues and Answers*, Spady defines the concept, content, and operational system of OBE. He posits that OBE is an educational model focused on the key outcomes that all students should be able to achieve by the end of a learning phase. This model involves a clear focus on and organization of teaching activities around these outcomes. It entails having a clear conception of the learning results expected before educational activities begin, followed by the design of curricula, organization of instruction, and implementation of assessment to ensure these results are achieved. The approach involves designing curricula and teaching based on the end outcomes, which are intended to challenge students at a high level.

OBE integrates three essential elements: learner-centeredness, outcome orientation, and continuous improvement. The OBE model emphasizes a continuous improvement mechanism through a cycle of assessment, feedback, and revision. It aims to align curriculum design, faculty, and teaching resources with societal needs and learning outcome requirements, supported by a robust support and evaluation system. This cyclical evaluation and improvement process ensures the enhancement of teaching quality and the achievement of educational objectives and learning outcomes.

### **Delphi Method**

The Delphi Method, also known as the Expert Investigation method, was founded and implemented by the RAND Corporation in 1946. This method consists of a specialized forecasting organization formed by the enterprise, including a number of experts and enterprise forecasting organizers, in accordance with the prescribed procedures, back-to-back consultation of experts on the future market opinions or judgments, and then forecast the method.

Delphi method is essentially a feedback anonymous correspondence method. The general process is: After obtaining the opinions of experts on the problems to be predicted, it is sorted out, summarized, and counted, and then anonymously fed back to the experts, and then asked for opinions again, then concentrated, and then fed back until a unanimous opinion is obtained. The process can be simply expressed as follows:

Anonymous soliciting expert opinion-induction, statistics-Anonymous feedback - induction, statistics. Stop after several rounds.

### **Focus Group Discussion (FGD):**

The group discussion method is a qualitative research method in which a small number of representative participants are organized for an interactive discussion aimed at gaining insight into their attitudes, opinions, and feelings about a particular topic or issue. Participants should generally have certain common characteristics, such as age, gender, occupation, etc., to ensure that relevant insights can be provided. The group discussion method can gain a deep understanding of a

certain topic, reveal the views and experiences of the participants, and gain a deep understanding and detailed information on complex issues. The results of the analysis are collated into a report that describes the main findings, the perspectives of the participants, and the important insights from the discussion, and the report should include an interpretation of the data and possible recommendations, capable of revealing collective perspectives and social dynamics

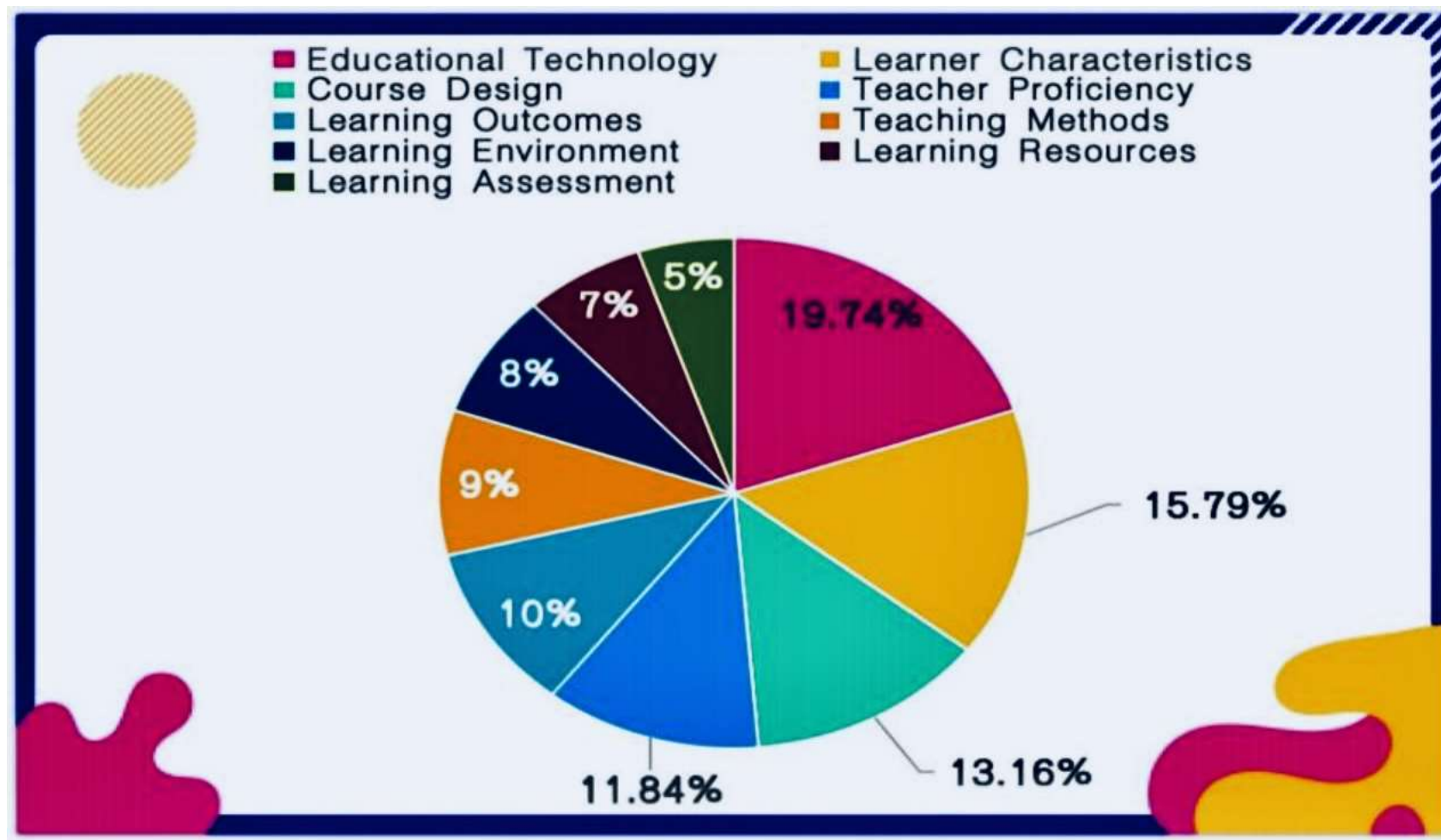


Figure 2.1 Factors of E-education for the College Broadcasting and Hosting Art

## Chapter 3

### Research Methodology

This study aims to investigate the issues and development strategies related to e-education in broadcasting and hosting art at higher education institutions in Shaanxi Province.

The research comprises three primary objectives: First, to assess and analyze the current state and issues of e-education in broadcasting and hosting within Shaanxi's higher education institutions. Second,, to develop strategies for e-education in the field of broadcasting and hosting art at these institutions. Third, to evaluate the strategies for e-education in broadcasting and hosting art at higher education institutions in Shaanxi.

This study aims to explore the issues and development strategies related to e-education in broadcasting and hosting art in Shaanxi Province.

The study is divided into three steps:

(1) Employing surveys to examine and analyz the current status and issues of e-education in broadcasting and hosting art in Shaanxi's higher education institutions ;

(2) Utilizing the Delphi Method to formulate strategies for e-education in broadcast and hosting art;

(3) Applying focus group discussions to assess the effectiveness of the e-education strategies for broadcast hosting art in Shaanxi's higher education institutions.The specific procedures are as follows:

1. The population / the sample Group
2. Research Instruments
3. Data Collection
4. Data Analysis

Step 1: To Investigate and analysis the current situation and problems of e-education

strategies for the college broadcasting and hosting art in Shaanxi Province.

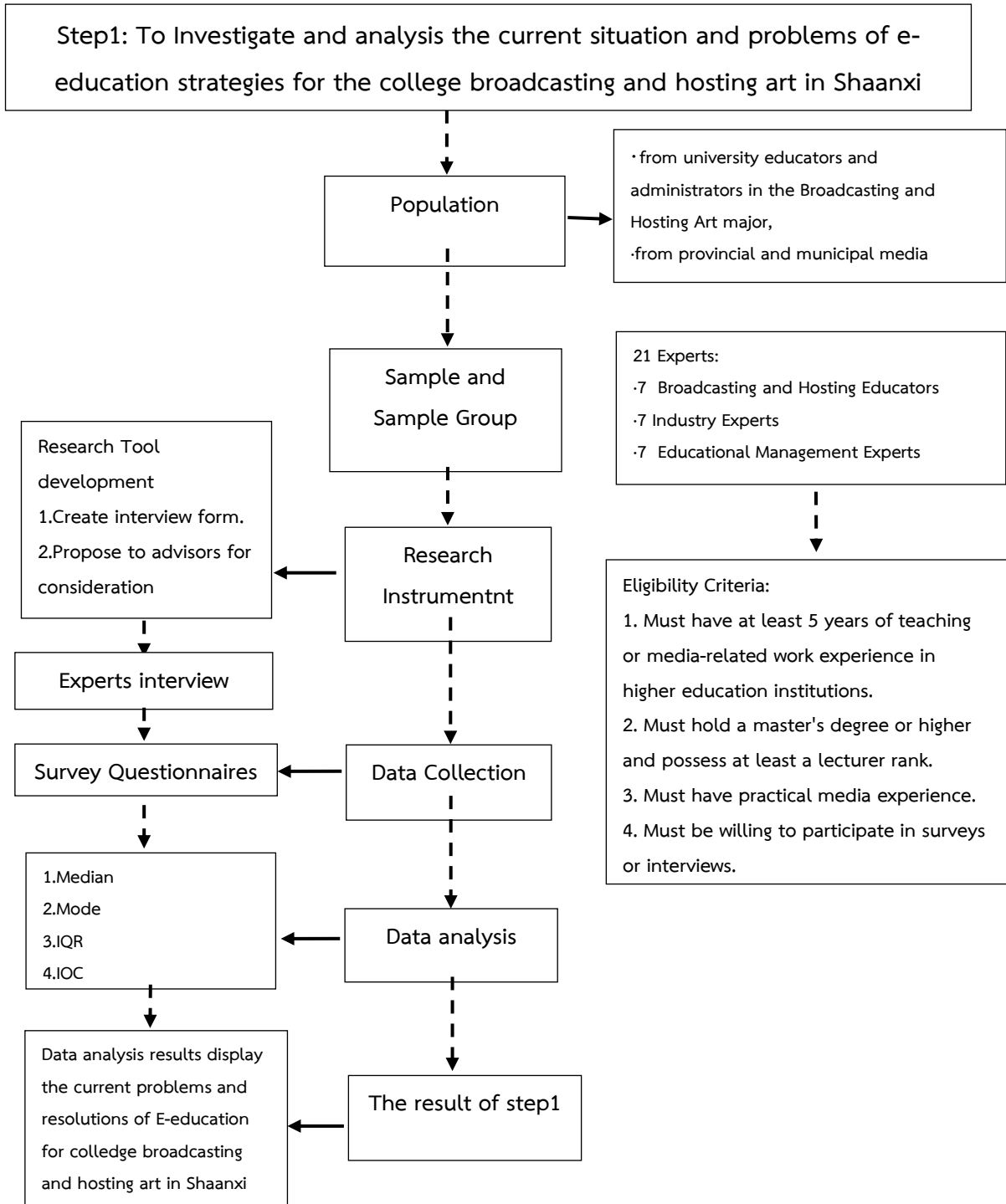


Figure 3.1 the research process of step 1

**Objective 1.** To Investigate and analysis the current situation and problems of e-education for the college broadcasting and hosting art art in Shaanxi Province.

### **Population**

The experts are mainly from university educators and administrators in the Broadcasting and Hosting Art major, as well as practitioners from provincial and municipal media organizations.

### **Sample**

Among the 21 Experts, 7 are Broadcasting and Hosting Educators from 4 universities in Shaanxi Province, 7 are Industry Experts from provincial and municipal media organizations, and 7 are Educational Management Experts from 4 universities in Shaanxi Province.

### **Eligibility Criteria**

1. Must have at least 5 years of teaching or media-related work experience in higher education institutions.
2. Must hold a master's degree or higher and possess at least a lecturer rank.
3. Must have practical media experience.
4. Must be willing to participate in surveys or interviews.

### **The Sample Group**

21 Experts: This group consists of 7 Broadcasting and Hosting Educators 7 Industry Experts 7 Educational Management Experts, each with a minimum of 5 years of relevant professional experience.

(1) 7 Broadcasting and Hosting Educators: These experts are engaged in teaching and researching broadcasting and hosting. They can offer valuable insights and provide strategic recommendations for this study.

(2) 7 Industry Experts: These experts work in media organizations or relevant enterprises at or City level and above, and can offer industry perspectives on the feasibility of educational outcomes and strategies.

(3) 7 Educational Management Experts: With at least 5 years of experience in broadcasting and hosting education management or higher education administration,

these experts can contribute to the scientific and authoritative evaluation of educational policies, talent development, and quality assurance in this study.

### **Research Instruments**

1. Develop expert interview guide based on foundational research, such as literature reviews.

2. Administer the preliminary version of the interview form to five experts for feedback. These experts will review the relevance, accuracy, and coverage of each item and refine the interview form based on their input.

### **Data Collection**

Through three rounds of expert interviews, the opinions of experts were collected, and the opinions were fed back to each expert, and the status quo and problems for the college broadcasting and hosting e-education in Shaanxi province were finally obtained.

The research expert survey questionnaire requires respondents to indicate to what extent each statement reflects their attitude, viewpoint, and feelings. Each statement is measured using a Likert scale. The scale design strictly adheres to contemporary methodological norms for Likert-type instruments, including clear item phrasing, rational response category alignment, and tight congruence between items and research objectives (Ferrando et al., 2025).

5 = Strongly Agree,

4 = Agree,

3 = Neutral,

2 = Disagree,

1 = Strongly Disagree.

as shown in the Table 3. 1.

**Table 3.1** The validity of the questionnaire on the status quo of e- education for college broadcasting and hosting art in Shaanxi province.

Perception level	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

#### **Data collection steps:**

1. Identify 21 Experts
2. Develop Expert interview forms and questionnaires
3. Invite 5 experts to test the consistency of the expert form, and improve the expert form according to the expert opinions.the Item–Objective Congruence (IOC) index is used to examine the degree of consistency between a measurement tool or questionnaire item and the research objective. Its core concept is to quantify the degree of fit between the item and the research objective by inviting domain experts to rate the relevance of each item.
4. Conduct questionnaire collection and interview.
5. Sorted out the interview results, and drafted the Strategies report as the research basis.

#### **Data Analysis**

In the data analysis of this study, researchers analyzed the questionnaires provided by experts in the first round using statistical indicators, as follows:

Interquartile range (IQR)

The Interquartile range can be used to analyze the concentration and distribution of expert opinions. This article adopts the consensus standard from Wu Jianxin's (2014) viewpoint,as follows:

**Table 3.2** Consensus Degree Based on Interquartile Range (IQR) in Expert Opinion Surveys

Interquartile range	Consensus Degree
$IQR \leq 1.0$	High
$1.0 < IQR \leq 1.8$	Medium
$IQR > 1.8$	Low

#### Median (Md)

The median is the score in the middle of the score data provided by all experts in order. It can describe the concentration trend of expert opinions, and then explain the meaning according to the standards set by the researcher as follows:

**Table 3.3** Median-Based Expert Opinion Classification

Median	The possibility of this item
$Md \geq 4.50$	Most likely
$3.50 \leq Md \leq 4.49$	More likely
$2.50 \leq Md \leq 3.49$	Moderate likely
$1.50 \leq Md \leq 2.49$	Less likely
$Md \leq 1.50$	Least likely

The median was obtained from the Answers from all experts, Then interpret the meaning according to the criteria set by the researcher as follows:

The median of 4.50 and above means that the group of experts considers that the statement is most likely.

The median value is between 3.50-4.49 meaning that the group of experts considers that the statement is more likely.

The median value is between 2.50-3.49 meaning that the group of experts considers that the message is Moderate likely.

The median value is between 1.50-2.49 meaning that the group of experts agrees that the message is Less likely.

Step 2: To set up E-education strategies for the college broadcasting and hosting art in Shaanxi Province.

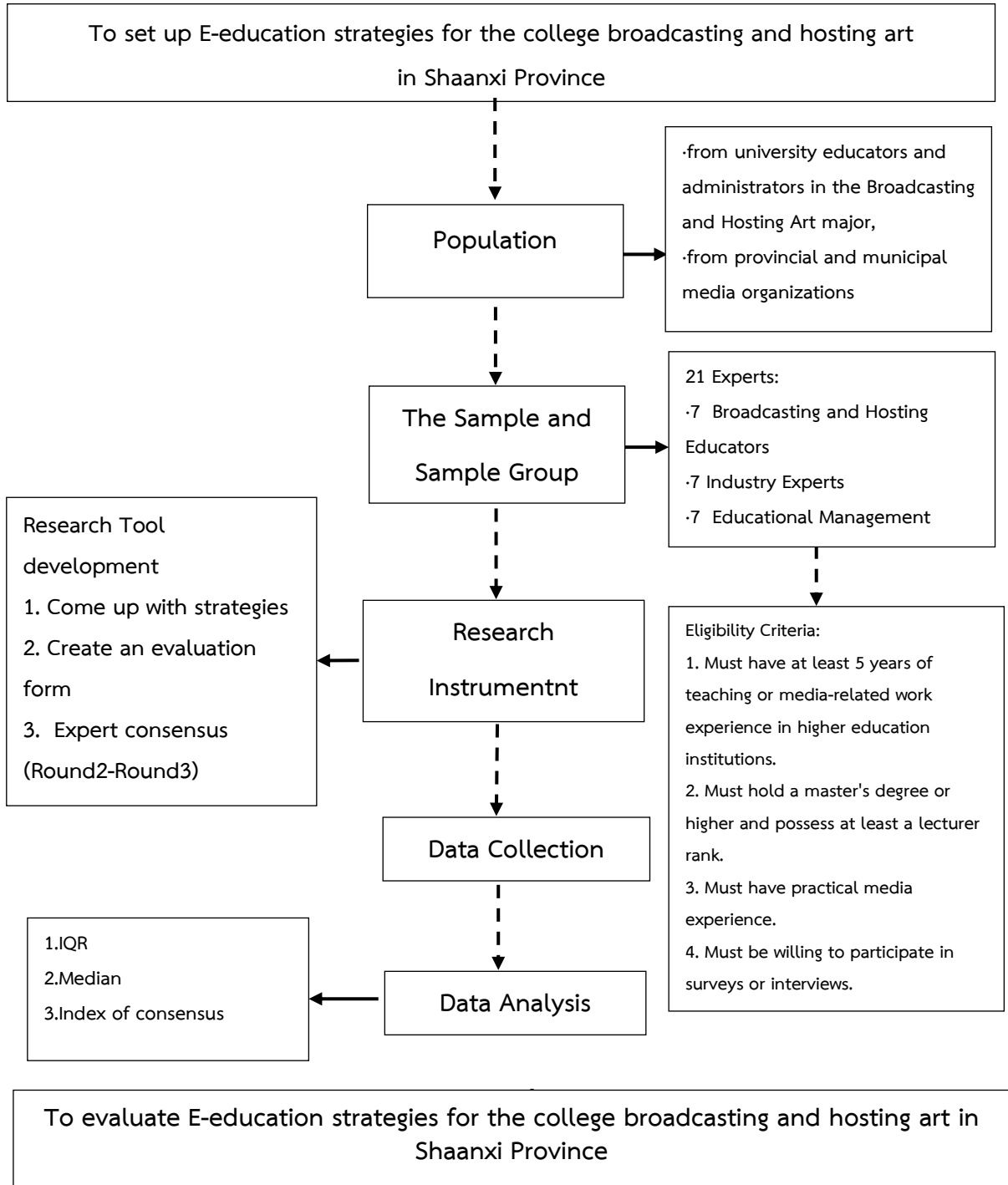


Figure 3.2 the research process of step 2

**Step 2** effectively solves Objective 2. The research stage consists of four key steps: target population and sample selection, use of research tools, data collection process, data analysis and statistical analysis, and finally propose a Strategies, and reach an agreed Strategies after two rounds of expert interviews.

### **Population**

The experts are mainly from university educators and administrators in the Broadcasting and Hosting Art major, as well as practitioners from provincial and municipal media organizations.

### **Sample**

Among the 21 Experts, 7 are Broadcasting and Hosting Educators from 4 universities in Shaanxi Province, 7 are Industry Experts from provincial and municipal media organizations, and 7 are Educational Management Experts from 4 universities in Shaanxi Province.

### **Eligibility Criteria**

- 1 . Must have at least 5 years of teaching or media-related work experience in higher education institutions.
2. Must hold a master's degree or higher and possess at least a lecturer rank.
- 3 . Must have practical media experience.
- 4 . Must be willing to participate in surveys or interviews.

### **The Sample Group**

21 Experts: This group consists of 7 Broadcasting and Hosting Educators 7 Industry Experts 7 Educational Management Experts, each with a minimum of 5 years of relevant professional experience.

(1) 7 Broadcasting and Hosting Educators: These experts are engaged in teaching and researching broadcasting and hosting. They can offer valuable insights and provide strategic recommendations for this study.

(2) 7 Industry Experts: These experts work in media organizations or relevant enterprises at or City level and above, and can offer industry perspectives on the feasibility of educational outcomes and strategies.

(3) 7 Educational Management Experts: With at least 5 years of experience in broadcasting and hosting education management or higher education administration, these experts can contribute to the scientific and authoritative evaluation of educational policies, talent development, and quality assurance in this study.

### **Research Instruments**

1. Submit the questionnaire to the experts and obtain their personal information

2. Expert interview: The opinions of experts on the questionnaire are obtained respectively, which mainly includes three levels: agree, disagree, and partially agree.

3. Further refine the Strategies based on expert advice.

4. Second and third round of expert interviews: Obtain unified and agreed strategies from experts.

### **Data collection**

#### **Implementation Steps**

Step 1: Distribute the second-round Delphi questionnaire (electronic version) to experts, collecting data simultaneously via email and online questionnaire platforms .

Step 2: Collect and summarize the results of the second round, analyze consistency based on Mean (MD), Mean (MO), and Interquartile Range (IQR), and revise the questionnaire items based on expert feedback.

Step 3: Distribute the third-round Delphi questionnaire to the same experts, providing the second-round statistical results next to each item for reference.

Step 4: Collect the third-round questionnaires, analyze the final consistency, and determine the final core element structure of the E-education strategies for the the college broadcasting and hosting art in Shaanxi Province.

The research expert survey questionnaire requires respondents to indicate to what extent each statement reflects their attitude, viewpoint, and feelings. Each statement is measured using a Likert Scales:The scale design strictly adheres to contemporary methodological norms for Likert-type instruments, including clear item

phrasing, rational response category alignment, and tight congruence between items and research objectives (Ferrando et al., 2025).

5 = Strongly Agree,

4 = Agree,

3 = Neutral,

2 = Disagree,

1 = Strongly Disagree.

as shown in the Table 3. 1.

**Table 3.4** Consensus Degree Based on Interquartile Range (IQR) in Expert Opinion Surveys

Interquartile range	Consensus Degree
$IQR \leq 1.0$	High
$1.0 < IQR \leq 1.8$	Medium
$IQR > 1.8$	Low

Median (Md)

The median is the score in the middle of the score data provided by all experts in order. It can describe the concentration trend of expert opinions, and then explain the meaning according to the standards set .

#### **Data analysis and statistics used in data analysis**

1. Analyze the results of the second round.
2. The results of the third round were analyzed.
3. Form a final opinion.
4. Write a report.

Mean analysis: Analyze the mean of expert opinions, present and evaluate the consistency of different expert evaluations and whether expert opinions diverge or converge.

Data analysis and statistics used in data analysis

1. Analyze the results of the second round.
2. The results of the third round were analyzed.
3. Form a final opinion.
4. Write a report.

Mean analysis: Analyze the mean of expert opinions, present and evaluate the consistency of different expert evaluations and whether expert opinions diverge or converge.

Step 3: To evaluate E-education strategies for the college broadcasting and hosting art in Shaanxi Province.

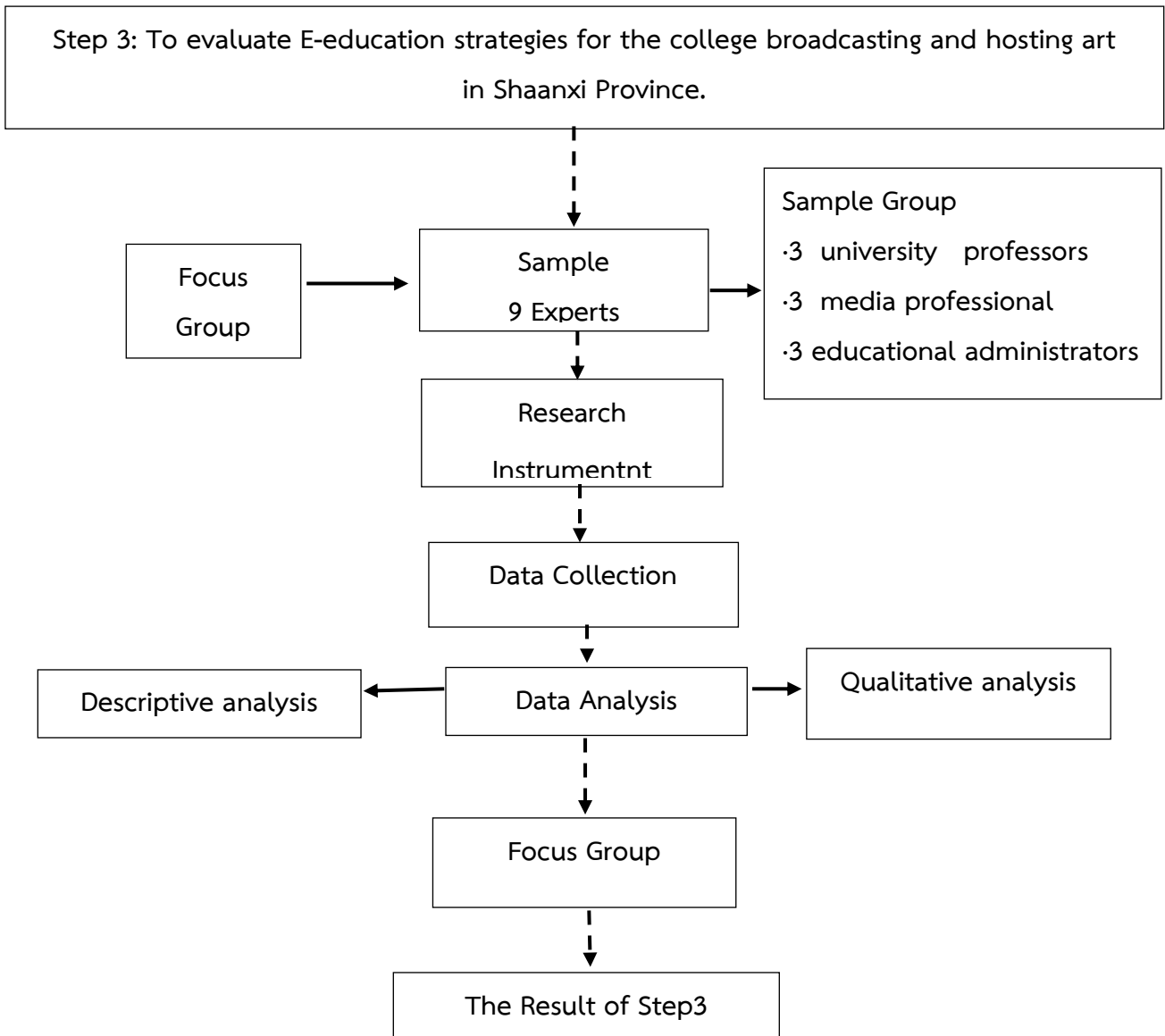


Figure 3.3 The research process of step 3

**Step 3** primarily addresses the third objective of this study, which involves conducting a final evaluation of the e-education strategies by a designated panel of authoritative and experienced experts.

### **Population**

The experts are mainly from senior university educators and administrators in the Broadcasting and Hosting Art major, as well as senior practitioners from provincial and national-level media organizations .

### **Sample**

Senior experts with profound industry experience and professional qualifications in Shaanxi Province must meet higher-level eligibility requirements (distinguished from the previous two objectives):

University Professors: Possess at least 15 years of experience in higher education, or hold a senior professional title/doctoral degree;

Media Professionals: Possess at least 15 years of experience in media work, or hold a senior professional title;

Educational Administrators: Possess at least 30 years of experience in educational management, and hold a senior professional title/doctoral degree.

### **The sample group**

9 Experts includes: 3 university professors, 3 media professional, and 3 educational administrators. The qualifications of the 9 Experts are as follows:

3 university professors must have at least 15 years of experience in higher education or hold a senior professional title or a doctoral degree.

3 media professional must have at least 15 years of experience in media work or hold a senior professional title.

3 educational administrators must have at least 30 years of experience in educational management and hold a senior professional title or a doctoral degree.

### **Research Instruments**

This study employs focus group discussions.

Process:

Develop an evaluation interview guide.

The 9 Experts will assess the strategies using options such as "Agree," "Disagree," and "Partially Agree," and provide explanations for "Disagree" and "Partially Agree" responses.

Optimize the strategies based on feedback from the expert survey

#### **Data collection**

Through focus group discussion, 9 Experts were selected to discuss and evaluate strategies from various perspectives, and all opinions were summarized to form the final Strategies

#### **Data analysis**

Descriptive analysis and qualitative analysis are formed through IOC analysis.

Organize and categorize the discussion notes and use Thematic Analysis to identify recurring themes and issues in the discussion. By summarizing the opinions of different panelists, it is determined which areas need to be improved. Through the analysis of the consensus and the points of disagreement among the members, the overall evaluation of the the e- education strategies for the the college broadcasting and hosting art in Shaanxi Province is obtained.

#### **Summary:**

This study is divided into three steps, to be completed sequentially:

Step One: Investigate and analysis the current state and issues of E-education in broadcasting and hosting at higher education institutions in Shaanxi Province through methods such as literature review, expert interviews, and questionnaire surveys.

Step Two: Achieve the second objective using the Delphi Method to develop E-education strategies.

Step Three: Achieve the third objective through focus group discussions to evaluate the strategies.

# Chapter 4

## Results of Analysis

This study, titled "E-Education Strategies for Broadcasting and Hosting Arts Majors in Shaanxi Universities," was conducted following a structured research process comprising three sub-studies. Through comprehensive data collection and multidimensional analysis, the research team systematically examined the current status, existing challenges, and strategic optimization of e-education for broadcasting and hosting arts programs in Shaanxi's higher education institutions. This chapter presents a detailed account of the research findings, which are organized into the following five sections:

### **Symbols and Abbreviations**

To facilitate clarity and understanding of the data analysis, the following statistical terms and abbreviations are used throughout this chapter:

MD (Median): Represents the middle value in a data set.

MO (Mode): Refers to the most frequently occurring value.

IQR (Interquartile Range): Measures the variability by indicating the range between the first and third quartiles.

These indicators are particularly suitable for describing non-normally distributed survey data, as they effectively capture both central tendency and data dispersion.

### **Presentation of Data Analysis**

#### **Section 1: Analysis of Respondents' Demographic Information Based on Frequency and Percentage**

The respondents were categorized according to gender and educational background. Relevant data were presented to illustrate the demographic distribution of the sample.

## **Section 2: Textual Analysis of Interview Data on the Current State and Challenges of E-Education in Broadcasting and Hosting Arts Programs in Shaanxi Universities**

Extensive qualitative data were collected through interviews with experts, instructors, and administrative personnel. The data were systematically analyzed to identify key issues faced by students in the implementation of e-learning within the broadcasting and hosting arts discipline.

## **Section 3: Quantitative Analysis of E-Education Strategies Survey Data Using Median, Mode, and Interquartile Range**

Based on multiple rounds of expert consultation, the survey data were analyzed using measures of central tendency and dispersion. The analysis contributed to the formulation of a set of targeted e-education strategies for broadcasting and hosting arts programs in Shaanxi universities.

## **Section 4: Qualitative Analysis of Focus Group Discussions on E-Education Strategies**

Focus group discussions were conducted to further examine the proposed strategies. Expert evaluations were used to refine, modify, and enhance the strategies to ensure their feasibility and effectiveness.

## **Section 5: Descriptive Analysis of Final Research Findings**

A descriptive statistical approach was employed to summarize the overall findings and support the final conclusions of the study.

### **Data Analysis Results**

#### **Section 1: Analysis of Respondents' Demographic Information**

The respondents' demographic information was categorized by gender and educational background. The data were presented in terms of frequency and percentage to provide a clear overview of the sample composition.

**Table 4.1** Respondents' Demographic Profile

Item	Personal Information	No.of People	Percentage (%)
Gender	Male	14	67
	Female	7	33
	<b>Total</b>	<b>21</b>	<b>100</b>
Age	30-39 years	11	52.4
	40-49 years	8	38.1
	50-59 years	2	9.5
	<b>Total</b>	<b>21</b>	<b>100</b>
Position	Teacher media	7	33.3
	professionals Education	7	33.3
	administrator	7	33.3
	<b>Total</b>	<b>21</b>	<b>100</b>
Work experience	5 to 9 years	7	33.3
	10 to 15 years	5	23.8
	16 to 19 years	6	28.6
	20 years and above	3	14.3
	<b>Total</b>	<b>21</b>	<b>100</b>
Level of Education	Bachelor's	5	23.8
	degree Master	13	61.9
	degree Ph.D.	3	14.3
	<b>Total</b>	<b>21</b>	<b>100</b>
Professional Title	lecture	11	52.4
	Associate Professor	7	33.3
	Professor	3	14.3
	<b>Total</b>	<b>21</b>	<b>100</b>

According to Table 4.1, the majority of respondents were male, accounting for 67%, while females represented 33%. The age distribution of the participants was divided into three categories: 11 respondents (52.4%) were between 30 and 39 years old, 8 respondents (38.1%) were aged between 40 and 49, and 2 respondents (9.5%) were in the 50 to 59 age group.

In terms of work experience, 7 participants (33.3%) had 5 to 9 years of experience, 5 participants (23.8%) had 10 to 15 years, 6 participants (28.6%) had 16 to 19 years, and 3 participants (14.3%) had over 20 years of professional experience.

Regarding educational qualifications, 5 respondents (23.8%) held a bachelor's degree, 13 (61.9%) had a master's degree, and 3 (14.3%) had a doctoral degree. In terms of professional titles, 11 respondents (52.4%) held intermediate-level titles, 7 (33.3%) were associate professors, and 3 (14.3%) were full professors.

## **Part 2: Analysis of Interview Data on the Current Issues and Strategic Approaches of E-Education in Broadcasting and Hosting Arts Programs in Shaanxi Universities**

This section presents the results of the textual analysis conducted on interview data gathered from experts, instructors, and administrative personnel. The purpose was to identify key challenges in the implementation of e-education for broadcasting and hosting arts, as well as to explore potential strategies for improvement. The data for this analysis were collected during the first round of expert interviews.

**Table 4.2** Results of Round 1: Results for Round 1: problems

Items	High	Medium	low	Unspecified	Total
Overall level of e-education Teaching and Learning	14	3	3	1	21
	66.67%	14.29%	14.29%	4.76%	100%
Teachers' digital literacy	12	5	4	0	21
	57.14%	23.81%	19.05%	0.00%	100%
Curriculum design	12	6	3	0	21
	57.14%	28.57%	14.29%	0.00%	100%
Teaching methods	14	6	1	0	21
	66.67%	28.57%	4.76%	0.00%	100%
Learning resources	15	6	0	0	21
	71.43%	28.57%	0.00%	0.00%	100%
E-education environment	12	4	5	0	21
	57.14%	19.04%	23.81%	0.00%	100%
Students learning Motivation and habits.	9	6	4	3	21
	61.90%	28.57%	19.04%	14.29%	100%
E-educational technology	13	3	3	2	21
	61.90%	14.29%	14.29%	9.52%	100%
Learning outcomes	12	5	3	1	21
	57.14%	23.81%	14.29%	4.76%	100%
Learning assessment	13	6	2	0	21
	61.90%	28.57%	9.52%	0.00%	100%

According to Table 4.2, this table presents the responses of 21 Experts gathered during the first round of open-ended interviews regarding the question:

"What are the main issues in the current implementation of E-education in broadcasting and hosting arts programs in Shaanxi universities?" The analysis outlines the current status and challenges in various aspects of e-education

within this field. These aspects include the overall quality of e-education, teachers' digital teaching competencies, student learning engagement, curriculum design, teaching methods, learning resources, learning environment, educational technologies, learning outcomes, and assessment systems.

Each aspect was evaluated by the experts using three levels: High, Moderate, and Unclear. The detailed findings are as follows: Overall Quality of E-Education: 66.67% of the respondents rated it as high, while 14.29% rated it as low. Teachers, Digital Competence: 57.14% considered it high, and 19.05% rated it low. Curriculum Design: 57.14% rated it as high, with 14.29% rating it as low. Teaching Methods: 66.67% of experts evaluated this aspect as high, while 14.29% rated it as low. Learning Resources: 71.43% of respondents assessed this area as high. The analysis of the learning environment revealed a more nuanced distribution: 57.14% of respondents rated it as high, 19.04% as moderate, and 23.81% as low. Responses.

concerning student motivation and learning habits were also relatively complex: 61.90% rated them as high, 28.57% as moderate, 14.29% as low, and another 14.29% did not provide a clear assessment. For educational technology, significant differentiation was observed: 61.90% rated it as high, 14.29% as moderate, 14.29% as low, and 9.52% were unclear. The survey of learning outcomes reflected diverse perspectives: 57.14% of respondents rated outcomes as high, 23.81% as moderate, 14.29% as low, and 4.76% were uncertain. Finally, the results on assessment systems showed that 61.90% of the experts believed the evaluation systems were functioning at a high level, 28.57% considered them moderate, and 9.52% rated them as low.

**Table 4.3** Result of Round 1:Teacher's Proficiency

Items	Effective Strategies for teacher's proficiency
1.	In-depth application of intelligent teaching tools and training
2.	Building a “Teacher-Student-Platform” win-win ecosystem
3.	Upgrading hardware ecosystem for 5G live streaming teaching
4.	Cross-platform collaborative practical teaching
5.	Intelligent learning analytics platform
6.	Development of comprehensive multimedia teaching resources
7.	Construction of an online program repository
8.	Designing gamified, level-based online courses
9.	Developing influential teacher IP branding
10.	Establishing a metaverse-based innovative teaching and research community
11.	Data-driven teaching improvement
12.	Participating in digital teaching competitions to promote teaching
13.	Sharing experiences of e-education implementation

Based on Table 4.3, the responses of 21 experts to Question 2 during the interviews were analyzed: “What strategies do you consider effective for enhancing teachers’ proficiency in e-education within the Broadcasting and Hosting Arts program ” A total of fourteen strategies were identified.

**Table 4.4** Result of Round 1:Strategies For Course Design

Items	Effective Strategies for Course Design
14	AI-Based Evaluation of Mandarin Pronunciation and Vocalization
15	Broadcasting Production: Archive of Renowned Broadcasters'Videos
16	News Commentary: Repository of Trending Topics
17	Personal Podcast Production
18	AI-Powered Virtual Hosting Tools
19	E-commerce Live Streaming and Sales Promotion
20	Data-Driven Content Creation and Development
21	Cross-Platform Content Production Practice
22	Modular Micro-Courses
23	Weekly Live Practical Training Sessions
24	Gamified Learning Reward System
25	Multi-Role Collaborative Simulation Exercises
26	Big Data-Driven Personalized and Customized Learning

Based on the data presented in Table 4.4, the responses of 21 experts to the third interview question were systematically analyzed: “What strategies do you consider effective for enhancing course design in the e-education process of the Broadcasting and Hosting Arts program?”Through comprehensive expert consultation, thirteen key strategies (items 15 to 26) were identified.

**Table 4.5** Result of Round 1:Teaching Methods

Items	Items Effective Strategies for Teaching Methods
27	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction
28	Learning Management System (LMS)-Mediated Task Assignment and Workflow Management
29	AI-Prompted Cueing to Support Guided Practice and Learning Recall
30	Micro-Task Design for Incremental Learning Units
31	Gamified Points-and-Levels Progression with Badge-Based Checkpoints
32	Team-Versus-Team Competitive Tournaments for Collaborative Learning
33	Trend-Driven Online Discussion Forums to Spark Topic-Based Engagement
34	Danmaku-Enabled Interactive Instruction
35	Online Showcase and Peer (or Expert) Critique of Student Creations
36	Cultivating Social - Learning Communities via Online Forums or Community Practice
37	Skill-Based Digital Badging and E-Portfolio for Student Learning Records

Based on Table 4.5, the responses of 21 experts to Interview Question 4 were analyzed:What strategies do you consider effective for improving teaching methods in the e-education of the Broadcasting and Hosting Arts program? A total of thirteen strategies (Items 27 to 37) were identified.

**Table 4.6** Result of Round 1: learning resources

Items	Effective Strategies for learning resources
38	Broadcasting & Hosting Creative Foundations (China Communication Univer Open-Course MOOC)
39	Putonghua Proficiency Test App
40	Peiyinxiu (Dubbing Show) App
41	Sentence-Master App
42	CCTV News App
43	People’s Daily Insight Commentary App
44	Ximalaya Broadcasting and Hosting Masters ’Classic-Reading App
45	The Paper News App
46	Douyin: Anchors Speak the News
47	Self-Developed Digital E-Learning Resources

Based on Table 4.6, the responses of 21 experts to Interview Question 5 were analyzed: “What strategies do you consider effective for improving learning resources in the e-education process of the Broadcasting and Hosting Arts program?” A total of ten strategies (Items 38 to 47) were identified.

**Table 4.7** Result of Round 1: Learning Environment

Items	Effective Strategies for Learning Environment
48	Creating immersive, low-distraction digital learning spaces
49	Developing professional-grade e-learning terminals
50	Using software tools to build a full-process learning ecosystem
51	Providing unified, standardized, and user-friendly learning platforms
52	Incorporating diverse forms of digital content
53	Establishing fixed learning rituals and a sense of belonging
54	Showcasing outstanding student work on the platform to enhance collective identity
55	Offering both online and offline learning packages
56	Organizing student co-creation of projects to be added to the resource library
57	Designing real-time interactive features to avoid the “silent majority,” such as bullet comments and random roll calls
58	Recording personalized audio feedback
59	Cross-platform exhibition of outstanding student works
60	Generating data-based learning reports via the platform

Based on Table 4.7, the responses of 21 experts to Interview Question 6 were analyzed: “What strategies do you consider effective for enhancing the e-learning environment in the Broadcasting and Hosting Arts program” A total of thirteen strategies (Items 48 to 60) were identified.

**Table 4.8** Result of Round 1: Learner Characteristics

Items	Effective Strategies for Learner Characteristics
61	Effective Utilization of Digital Resource Repositories
62	Cloud-Based Articulation Training Camps
63	AI-Powered Repetitive Reading and Pronunciation Practice
64	Virtual Studio Simulation Training
65	Live Streaming Practice Sessions
66	Fragmented (Micro) Learning Design
67	Project-Based Practical Learning
68	Reverse Timeline Planning
69	Establishment of Personalized Learning Spaces
70	Visualization of Learning Achievements
71	Personal Digital IP Workshop
72	Peer-Supported Learning Communities

Based on Table 4.8, the responses of 21 experts to Interview Question 7 were analyzed: “In the context of e-education for the Broadcasting and Hosting Arts program, how can student-centered strategies be developed to improve learning effectiveness based on learners’ characteristics?” A total of twelve strategies (Items 61 to 72) were identified.

**Table 4.9** Result of Round 1: Educational Technology

Items	Effective Strategies for Educational Technology
73	AI-Based Real-Time Error Correction and Personalized Tutoring
74	New Media Content Creation and Collaboration
75	Flipped Classroom: Micro-Lectures Combined with Live Q&A
76	Virtual Scenario Simulation
77	Authentic Task-Driven Project-Based Learning
78	Stable and User-Friendly Digital Platforms
79	Gamified Learning with Points, Rankings, and Virtual Rewards
80	Learning Behavior Data Tracking and Analysis
81	Personalized Learning Path Recommendation

Based on Table 4.9, the responses of 21 experts to Interview Question 8 — "From the perspective of digital technology, how can the effectiveness of e-education in Broadcasting and Hosting Arts be enhanced?" — were summarized into eight effective strategies, numbered 73 to 81.

**Table 4.10** Result of Round 1: Learning Outcomes

Items	Effective Strategies for Learning Outcomes
82	Standard Mandarin Pronunciation and Voice Audio Materials
83	Collection of News Broadcasting Videos
84	Anthology of Literary and Artistic Works
85	Collection of Dubbing Works
86	Video Library of Impromptu Oral Expression
87	Compilation of Short Video Creations
88	Videos and Planning of Major Event Hosting
89	Certificate of Mandarin Proficiency Test
90	Professional Learning Achievement Exhibitions
91	Honorary Certificates from Competitions and Events
92	Qualification Certificate for Broadcasters and Hosts

Based on Table 4.10, the responses of 21 experts in the interviews to Question 9- “What strategies do you consider effective for improving the learning outcomes of e-education in the Broadcasting and Hosting Arts major?”- were summarized. A total of 11 strategies, numbered 82 to 92, were identified.

**Table 4.11** Result of Round 1: Learning Assessment

Items	Effective Strategies for Learning Outcomes
93	Quantitative evaluation of speech standardization
94	Structured content and logical analysis (commentary - arguments and evidence)
95	Assessment of emotional expression appropriateness (audience blind listening, thematic and empathetic consistency)
96	Technical review of works
97	Statistical analysis of learning behavior data
98	Interdisciplinary application assessment (integration of literature, psychology, communication studies in hosting expression)
99	Evaluation of hosting performance in real scenarios
100	Industry mentor review
101	Analysis of new media user data
102	Professional competency matrix assessment (comprehensive scoring combining coursework, practical projects, certification exams)

Based on Table 4.11, the responses from 21 experts to Question 10— “What strategies do you consider effective for assessing the learning outcomes of electronic education in the Broadcasting and Hosting Art program”—were synthesized into a total of 10 strategies.

**Table 4.12** Results for Round 1: Influencing factors of e-education

Items	Influencing factors
1	Teacher Proficiency
2	Course Design
3	Teaching Methods
4	Learning Resources
5	Learning Environment
6	Learner Characteristics
7	Educational Technology
8	Learning Outcomes
9	Learning Assessment

#### Results for Round 2 :

**Table 4.13** Results for Round 2: Teacher proficiency

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
1	Advanced implementation and professional development in intelligent instructional systems	5.0	5.0	0.5
2	Constructing a synergistic “Teacher-Learner-Platforme”cosystem	5.0	5.0	0.0
3	Upgrading the hardware ecosystem to enable 5G live-stream instruction	4.0	4.0	1.0
4	Cross-platform integrative practica for experiential teaching	5.0	5.0	0.0
5	Employing an intelligent learning analytics platform	5.0	4.0	0.5
6	Development of omni-media pedagogical resources	5.0	4.0	0.0

Table 4.13 (Continued)

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
7	Establishment of an online repository of instructional programmes	5.0	4.0	0.0
8	Design of gamified online learning modules with progressive stages	4.0	4.0	0.5
9	Cultivation of a distinguished Teacher- brand (Teacher “I ”)	4.0	4.0	0.5
10	Creation of a metaverse-based innovativeteaching -research community	3.0	3.0	0.0
11	Data-driven instructional improvement	4.0	4.0	1.0
12	Engagement in digital education competitions to advance pedagogy through contest	5.0	5.0	0.5
13	Dissemination of best practices in e-education through collaborative sharing	5.0	5.0	1.0

In the second round of a Delphi study involving 21 experts, 10 out of 13 strategies for enhancing teachers' digital teaching competencies were identified as effective. Item 1 In-depth application and training of intelligent teaching tools Item 2 Building a "Teacher-Student-Platform" win-win ecosystem Item 4 Cross-platform collaborative practical teaching Item 5 Intelligent learning analytics platform Item 6 Development of omni-media teaching resources Item 7 Establishing an online program library Item 8 Designing gamified online challenge-based courses Item 9 Creating renowned teacher IPs Item 12 Participating in digital teaching competitions to promote teaching through competition Item 13 iSharing experiences in electronic education.

### Results for Round 2 :

**Table 4.14** Results for Round 2: Course Design

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
14	Mandarin Pronunciation and Phonetic AI Assessment	5.0	5.0	0.0
15	Broadcasting Creation: Celebrity Narration Video Library	5.0	5.0	0.0
16	News Commentary: Hot Topic Repository	4.0	4.0	0.0
17	Personal Podcast Production	3.0	3.0	1.0
18	AI-Powered Virtual Host Tools	3.0	3.0	1.0
19	e-commerce Live Streaming and Product Promotion	5.0	5.0	0.5
20	Digitally-Driven Content Creation and Production	5.0	5.0	0.0
21	Cross-Platform Content Creation Practice	5.0	5.0	0.0
22	Modular Micro-Courses	5.0	5.0	0.0
23	Weekly Live Streaming Practical Training	4.0	4.0	0.5
24	Gamified Learning Reward Mechanisms	5.0	5.0	0.0
25	Multi-Role Collaborative Simulation Exercises	4.0	4.0	1.0
26	Big Data-Driven Personalized and Customized Learning	5.0	3.0	0.0

In Table 4.14, a Delphi study involving 21 experts identified nine out of thirteen course design strategies as effective. Item1 Mandarin Pronunciation and Phonetic AI Assessment. Item2 Broadcasting Creation: Celebrity Narration Video Library Item6 E-commerce Live Streaming and Product Promotion Item7 Digitally-Driven Content Creation and Production Item8 Cross-Platform Content Creation Practice Item9 Modular Micro-Courses Item10 Weekly Live Streaming Practical Training Item11 Gamified Learning Reward Mechanisms.

**Table 4.15** Results for Round 2: Teaching Methods

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
27	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction	5.0	5.0	0.0
28	Learning Management System (LMS)- Mediated Task Assignment and Workflow Management	5.0	5.0	0.0
29	AI-Prompted Cueing to Support Guided Practice and Learning Recall	5.0	5.0	0.0
30	Micro-Task Design for Incremental Learning Units	5.0	5.0	0.5
31	Gamified Points-and-Levels Progression with Badge-Based Checkpoints	5.0	5.0	0.0
32	Team-Versus-Team Competitive Tournaments for Collaborative Learning	5.0	5.0	0.5
33	Trend-Driven Online Discussion Forums to Spark Topic-Based Engagement	5.0	5.0	0.0
34	Danmaku-Enabled Interactive Instruction (Bullet-Comment Overlay Teaching)	3.0	3.0	1.0
35	Online Showcase and Peer (or Expert) Critique of Student Creations	5.0	5.0	0.0
36	Cultivating Social-Learning Communities via Online Forums or Community of Practice	4.0	4.0	0.5
37	Skill-Based Digital Badging and E-Portfolio for Student Learning Records	4.0	4.0	0.5

In Table 4.15, ten out of the eleven instructional strategies evaluated in the second Delphi round by a panel of 21 experts were judged to be effective. Item 1 “Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction” Item2 “LMS-Mediated Task Assignment and Workflow Management” Item 3 “AI-Prompted Cueing to Support Guided Practice and Learning Recall” Item 4 “Micro-Task Design for Incremental Learning Units” Item 5 “Gamified Points-and- Levels

Progression with Badge-Based Checkpoints” Item 6 “Team-Versus-Team Competitive Tournaments for Collaborative Learning” Item 7 “Trend-Driven Online Discussion Forums for Topic-Based Engagement” Item 9 “Online Showcase and Peer (or Expert) Critique of Student Creations” Item 10 “Cultivating Social-Learning Communities via Online Forums or Community of Practice” Item 11 “Skill-Based Digital Badging and E-Portfolio for Student Learning Records”.

**Table 4.16** Results for Round 2: Learning Resources

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
38	Broadcasting & Hosting Creative Foundations (China Communication University Open-Course MOOC)	5.0	5.0	0.0
39	Putonghua Proficiency Test App	5.0	5.0	0.0
40	Peiyinxiu (Dubbing Show) App	5.0	5.0	0.0
41	Sentence-Master App	4.0	4.0	1.0
42	CCTV News App	5.0	5.0	0.0
43	People’s Daily Insight Commentary App	5.0	5.0	0.5
44	Ximalaya Broadcasting-and-Hosting Masters ‘Classic- Reading App	5.0	5.0	0.0
45	The Paper News App	4.0	4.0	1.0
46	Douyin: Anchors Speak the News	5.0	5.0	0.0
47	Self-Developed Digital E-Learning Resources	5.0	5.0	0.5

In Table 4.16, 21 experts evaluated 10 learning resource strategies in the second round, identifying 8 as effective strategies. Item 1 “Broadcasting & Hosting Creative Foundations” (China Communication University Open Course) Item 2 “Mandarin Proficiency Test App” Item 3 “Peiyinxiu (Dubbing Show) App” Item 5 “CCTV News App” Item 6 “People’s Daily Insight Commentary” Item 7 “Ximalaya Broadcasting & Hosting Masters Classic Reading App” Item 9 “Douyin Platform: Anchors Speak the News” Item 10 “Self-Developed Digital E-Learning Resources”.

**Table 4.17** Results for Round 2: Learning Environment

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
48	Creating immersive, low-distraction digital learning spaces	5.0	5.0	0.0
49	Developing professional-grade e-learning terminals	5.0	5.0	0.0
50	Utilizing software tools to construct a comprehensive learning ecosystem	3.0	3.0	1.0
51	Providing unified, standardized, And user-friendly learning platforms	5.0	5.0	0.0
52	Incorporating diverse digital content	5.0	5.0	0.0
53	Establishing fixed learning rituals and fostering a sense of belonging	4.0	4.0	0.5
54	Showcasing exemplary works on the platform to enhance collective identity	5.0	5.0	0.0
55	Offering both online and offline learning packages	5.0	5.0	0.0
56	Organizing student co-creation of projects to be included in the resource library	5.0	5.0	0.5
57	Designing real-time interactive features to prevent the "silent majority"	5.0	5.0	0.0
58	Recording personalized audio feedback	4.0	4.0	1.0
59	Cross-platform exhibition of outstanding works	5.0	5.0	0.0
60	Generating data-driven learning reports through the platform	4.0	4.0	1.0

In Table 4.17, 21 experts participated in the second round of evaluating 13 strategies for learning environments. Among these, 10 strategies were deemed effective. The details are as follows: Item 1 "Creating an immersive and low-interference digital learning space", Item 2 "Developing professional-grade electronic learning terminals" Item 4 "Establishing a unified, standardized, and user-friendly learning platform" Item 5 "Utilizing diversified digital content" Item 6 "Implementing

fixed learning rituals to foster a sense of belonging" Item 7 "Showcasing exemplary works on the platform to enhance collective identity" Item 8 "Providing both online and offline learning packages" Item 9 "Organizing student co-creation of works and integrating them into a resource library" Item 10 "Designing real-time interactive features to avoid the 'silent majority'" Item 12" Cross-platform exhibition of outstanding works".

**Table 4.18** Results for Round 2: Learner Characteristics

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
61	Making good use of electronic resource libraries	5.0	5.0	0.0
62	Cloud-based port operation training camp	4.0	4.0	0.5
63	AI intelligent follow-up training	5.0	5.0	0.0
64	Virtual studio training	5.0	5.0	0.0
65	Online live broadcast practical training	4.0	4.0	0.0
66	Fragmented learning design	5.0	5.0	0.5
67	Project-based practice	5.0	5.0	0.0
68	Reverse scheduling	3.0	3.0	1.0
69	Establishing personal learning spaces	4.0	4.0	0.0
70	Achievement visualization	5.0	5.0	0.0
71	Personal digital IP workshop	4.0	4.0	0.5
72	Community-based mutual learning	4.0	4.0	0.5

In Table 4.18, 21 experts evaluated 12 strategies concerning learner characteristics in the second round, identifying 9 as effective strategies. The effective strategies are as follows: Item 1 "Making effective use of electronic resource libraries" Item 3 "AI-powered intelligent reading practice" Item 4 "Virtual studio training" Item 5 "Online live broadcast practical training" Item 6 "Fragmented learning design" Item 7 "Project-based practice" Item 9 "Establishing personal learning spaces" Item 10 "Achievement visualization" Item 11 "Personal digital IP workshop".

**Table 4.19** Results for Round 2: Educational Technology

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
73	AI Real-Time Error Correction and Personalized Tutoring	5.0	5.0	0.0
74	New Media Content Generation and Collaboration	5.0	5.0	0.5
75	Flipped Classroom: Micro-Lectures and Online Q&A	5.0	5.0	0.0
76	Virtual Scene Simulation	5.0	5.0	0.0
77	Flipped Classroom: Micro-Lectures and Online Q&A	5.0	5.0	0.5
78	Virtual Scene SimulationsStable and User-Friendly Digital Platforms	5.0	5.0	0.0
79	Gamified Learning with Virtual Rewards, Including Points and Rankings	5.0	5.0	0.0
80	Tracking and Analyzing Learning BehaviorData	4.0	4.0	0.5
81	Personalized Learning Path Recommendations	4.0	4.0	0.0

In Table 4.19, 21 experts identified 7 out of 9 strategies related to educational technology as effective in the second round. Item 1 "AI Real-Time Error Correction and Personalized Tutoring" Item2 "New Media Content Generation and Collaboration" Item 3 "Flipped Classroom: Micro-Lectures + Online Q&A" Item 4 "Virtual Scene Simulation" Item 6 "Stable and User-Friendly Digital Platform" Item7 "Gamified Learning with Points Ranking and Virtual Rewards" Item 8"Learning Behavior Data Tracking and Analysis" .

**Table 4.20** Results for Round 2: Learning Outcomes

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
82	Mandarin Phonetics & Vocalization Audio	5.0	5.0	1.0
83	News-Broadcasting Video Collection	5.0	5.0	0.0
83	Portfolio of News-Broadcasting Videos	5.0	5.0	0.0
85	Voice-Over Demo Reel	5.0	5.0	1.0
86	Impromptu Oral Expression Video Archive	5.0	5.0	0.5
87	Short-Form Video Production Portfolio	5.0	5.0	0.0
88	Large-Scale Event Hosting Videos & Planning	4.0	4.0	0.0
89	Mandarin Proficiency Test Certificate (PSC)	5.0	5.0	0.0
90	Showcase of Professional Learning Outcomes	5.0	5.0	0.0
91	Honors Certificates from Event & Competition Activities	5.0	5.0	1.0
92	Broadcaster/Host Qualification Certificate	4.0	4.0	0.5

In Table 4.20, 21 experts identified 6 out of 11 strategies related to educational technology as effective in the second round. Item 2 "Portfolio of News-Broadcasting Videos", Item 3 "Portfolio of Literary & Artistic Works", Item 4 "Voice-Over Demo Reel", Item 6 "Short-Form Video Creation Portfolio" Item 8 "Mandarin Proficiency Test Certificate", Item 9 "Showcase of Professional Learning Outcomes".

**Table 4.21** Results for Round 2: Learning assessment

Items	Strategies Effectiveness Evaluation	Md	Mo	IQR
93	Quantitative Assessment of Phonetic Norm Compliance	4.0	4.0	0.5
94	Logical Content Structuring Analysis Evaluation of Emotional	4.0	54.0	0.5
95	Evaluation of Emotional Expression Appropriateness	5.0	5.0	0.0
96	Technical Specification Review of Work	5.0	5.0	1.0
97	Statistical Analysis of Learning Behavior Data	5.0	5.0	0.5
98	Interdisciplinary Application Detection	5.0	5.0	0.0
99	Evaluation of Hosting Effectiveness in Real-World Scenarios	4.0	4.0	0.0
100	Industry Mentor Review	5.0	5.0	0.0
101	Analysis of New Media User Data	5.0	5.0	0.0
102	Vocational Competence Assessment	5.0	5.0	1.0

As shown in Table 4.21, the results of Round 2 indicate that 21 experts identified four out of the 10 proposed assessment strategies as effective for evaluating learning. Item 4 “Technical-Specification Review of Submitted Works” Item 5 “Statistics of Learning-Behavior Data” Item 8 “Industry-Mentor Evaluation” Item 9 “New-Media User-Data Analysis”.

**Table 4.22** Results for Round 3 : Teacher Proficiency

Items	Strategies Consensus	Md	Mo	IQR
1	Building a "Teacher-Student-Platform" win-win ecosystem	5.0	5.0	0.0
2	In-depth application and training of intelligent teaching tools	5.0	5.0	0.0
3	Designing gamified online challenge-based courses	5.0	5.0	0.0
4	Participating in digital teaching competitions to promote teaching through competition	5.0	4.0	0.0
5	iSharing experiences in electronic education	5.0	4.0	0.0
6	Cross-platform collaborative practical teaching	4.0	4.0	0.5
7	Development of omni-media teaching resources	4.0	4.0	0.0
8	Establishing an online program library	5.0	5.0	0.5

According to Section 4.22, all 21 experts—taking into account the second-round expert feedback—further consolidated their positions. In the second-round data, among the fourteen strategies addressing teachers’ digital instructional competence, seven were identified as effective. By the third-round discussion, consensus had been reached on eight out of the fourteen strategies. These eight strategies were subsequently ranked based on the percentage of experts endorsing each. All experts unanimously agreed on the necessity of building a “teacher-student-platform” ecosystem. Specifically, 95.24% of the experts affirmed that items 2 and 3 were correct, 90.48 % regarded items 4 and 5 as correct, 85.71% endorsed items 6 and 7 as correct, and 80.95 % approved of item 8 as correct.

**Table 4.23** Results for Round 3: Course Design

Items	Strategies Consensus	Md	Mo	IQR
1	Mandarin Pronunciation and Phonetic AI Assessment	5.0	5.0	0.0
2	Broadcasting Creation: Celebrity Narration Video Library	5.0	5.0	0.0
3	Cross-Platform Content Creation Practice	4.0	4.0	1.0
4	commerce Live Streaming and Product Promotion	5.0	5.0	0.0
5	Gamified Learning Reward Mechanisms	5.0	5.0	0.0
6	Big-data-driven personalized and customized learning	4.0	4.0	0.5

According to Section 4.23, the panel of 21 experts, taking into careful account the feedback from the second round of consultation, further refined and ultimately consolidated their consensus. In that second round assessment, the experts evaluated 13 distinct strategies related to course design, of which 9 were classified as effective. During the third round discussion, the panel reached agreement on 6 out of those 9 strategies, and then ranked those six in descending order according to the percentage of experts endorsing each one.

**Table 4.24** Results for Round 3: Teaching Methods

Items	Strategies Consensus	Md	Mo	IQR
1	Mandarin Pronunciation and Phonetic AI Assessment	5.0	5.0	0.0
2	Broadcasting Creation: Celebrity Narration Video Library	5.0	5.0	0.0
3	Gamified Points-and-Levels Progression with Badge-Based Checkpoints	5.0	5.0	1.0
4	Trend-Driven Online Discussion Forums for Topic-Based Engagement	4.0	4.0	0.0
5	Gamified Learning Reward Mechanisms	4.0	4.0	1.0
6	Online Showcase and Peer (or Expert) Critique of Student Creations	5.0	5.0	0.0
7	Skill-Based Digital Badging and E-Portfolio for Student Learning Records	5.0	5.0	0.0
8	AI-Prompted Cueing to Support Guided Practice and Learning Recall	5.0	5.0	0.0
9	Cultivating Social Learning Communities via Online Forums or Community of Practice	5.0	5.0	0.0
10	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction	4.0	4.0	1.0

According to Section 4.24, the full panel of 21 experts, having taken the second-round expert feedback into consideration, proceeded to further consolidate their consensus. In the second round, all 21 experts evaluated thirteen course-design strategies, and ten of these were identified as effective. During the third-round discussion, consensus was reached on nine of those ten strategies, which were then ranked in descending order based on the proportion of experts endorsing each. Specifically, 95.24% of the experts judged Strategies 1-5 to be correct, 90.48% affirmed Strategies 6, 85.71% endorsed Strategies 7, and 80.95% recognized Strategies 9 as correct.

**Table 4.25** Results for Round 3: Learning Resources

Items	Strategies Consensus	Md	Mo	IQR
1	Mandarin Proficiency Test App	5.0	5.0	0.0
2	CCTV News App	5.0	5.0	0.0
3	Ximalaya Broadcasting & Hosting	5.0	5.0	0.0
4	Masters' Classic Reading App Douyin Platform: Anchors Speakthe News	4.0	4.0	0.0
5	"Broadcasting & Hosting Creative	4.0	4.0	0.0
6	People's Daily Insight Commentary	5.0	5.0	0.0
7	Peiyinxu (Dubbing Show) App	5.0	5.0	0.5
8	Self-Developed Digital E-LearningResources	5.0	5.0	1.0

According to Section 4.25, all 21 Experts after carefully considering the second-round feedback-continued refining their judgments until full consensus was achieved. In the second-round assessment, they evaluated ten course-design strategies, of which eight were deemed effective. During the third-round discussion, the entire panel reached agreement on all eight of those strategies, which were subsequently ranked in descending order according to the percentage of experts affirming each one. Specifically, Strategies 1 through 4 received 100 % support from the experts. Strategies 5 was endorsed by 95.24 % of the panel, Strategies 6 by 90.48%, Strategies 7 by 85.71 %, and Strategies 8 by 80.95%.

**Table 4.26** Results for Round 3: Learning Environments

Items	Strategies Consensus	Md	Mo	IQR
1	Developing professional-grade electronic learning terminals and space	5.0	5.0	0.0
2	Establishing a unified, standardized, and user-friendly learning platform	5.0	5.0	0.0
3	Implementing fixed learning rituals to foster a sense of belonging	4.0	4.0	0.5
4	Designing real-time interactive features to avoid the 'silent majority	5.0	5.0	0.0
5	Providing both online and offline learning packages	5.0	5.0	0.0
6	Showcasing exemplary works on the platform to enhance collective identity	5.0	5.0	0.0
7	Organizing student co-creation of works and integrating them into a resource library	5.0	5.0	0.5
8	SRecording personalized audio (voice) feedback	5.0	5.0	0.5

According to Section 4.26, the 21 Experts, having considered the second-round feedback, further reached a consensus. In the second round, these experts evaluated 13 course design strategies, of which 10 were deemed effective. In the third-round discussion, consensus was achieved on 8 of these 10 strategies, which were then ranked based on the proportion of experts endorsing each. Specifically, all experts unanimously agreed that Strategies 1 and 2 were correct. Additionally, 95.24% of the experts affirmed Strategies 3, 90.48% endorsed Strategies 4, 85.71% supported Strategies 5, 80.95% agreed with Strategies 6, 80.95% accepted Strategies 7, and 80.95% concurred with Strategies 8.

**Table 4.27** Results for Round 3: Learner Characteristics

Items	Strategies Consensus	Md	Mo	IQR
1	AI-powered intelligent reading practice	5.0	5.0	0.0
2	Project-based practice	5.0	5.0	0.0
3	Achievement visualization	5.0	5.0	1.0
4	Making effective use of electronic resource libraries	4.0	4.0	0.0
5	Virtual studio training	4.0	4.0	0.0
6	Online live broadcast practical training	5.0	5.0	0.5
7	Establishing personal learning spaces	4.0	4.0	0.5
8	Personal digital IP workshop	5.0	5.0	1.0
9	Fragmented learning design	5.0	5.0	1.0

According to Section 4.27, all 21 Experts, having carefully considered the expert feedback, further refined and consolidated their judgments. In the second round, they evaluated twelve course-design strategies, of which nine were deemed effective. During the third-round discussion, the expert panel reached consensus on eight of those nine strategies, and subsequently ranked these eight strategies in descending order by the percentage of experts endorsing each: Strategies 1-3: endorsed by 95.24% of the experts Strategies 4-5: endorsed by 90.48% Strategies 6-7: endorsed by 85.71% Strategies 8: endorsed by 80.95 % Strategies 9: endorsed by 76.19%.

**Table 4.28** Results for Round 3: Educational Technology

Items	Strategies Consensus	Md	Mo	IQR
1	Stable and User-Friendly Digital Platform	5.0	5.0	0.0
2	New Media Content Generation and Collaboration	5.0	5.0	0.0
3	Flipped Classroom: Micro-Lectures +Online Q&A	5.0	5.0	0.0
4	Virtual Scene Simulation	5.0	4.0	1.0
5	AI Real-Time Error Correction and Personalized Tutoring	5.0	5.0	1.0
6	Gamified Learning with Points Ranking and Virtual Rewards	5.0	4.0	0.0
7	Learning Behavior Data Tracking and Analysis	4.0	5.0	0.0
8	Personalized Learning Path Recommendation	5.0	5.0	0.5

According to Section 4.28, the panel of 21 Experts, referencing the second-round expert feedback, further refined and consolidated their views. In the second-round data, these 21 Experts evaluated nine course-design strategies, identifying seven of them as effective. During the third-round discussion, consensus was reached on all seven of those effective strategies.

**Table 4.29** Results for Round 3: Learning Outcomes

Items	Strategies Consensus	Md	Mo	IQR
1	Portfolio of News-Broadcasting Videos	5.0	5.0	0.0
2	Portfolio of Literary & Artistic Works	5.0	5.0	0.0
3	Short-Form Video Creation Portfolio	5.0	5.0	0.0
4	Voice-Over Demo Reel	5.0	5.0	1.0
5	Mandarin Proficiency Test Certificate	5.0	5.0	1.0
6	Showcase of Professional Learning Outcomes	4.0	4.0	0.0

According to Section 4.29, the panel of 21 Experts, having incorporated the second-round Expert feedback, further consolidated their views. In that second round, the experts evaluated eleven distinct course-design strategies, of which six were deemed effective. During the third-round discussion, consensus was reached on all six of those strategies, which were then ranked in descending order according to the percentage of experts endorsing each one. Strategies 1 and 2 were unanimously agreed to be correct by 100% of the panel. Strategies 3, 4, and 5 were supported by 90.48% of the experts. Strategy 6 received endorsement from 85.71% of the experts.

**Table 4.30** Results for Round 3: learning assessment

Items	Strategies Consensus	Md	Mo	IQR
1	Technical-Specification Review of Submitted Works	5.0	5.0	1.0
2	Statistics of Learning-Behavior Data	4.0	4.0	0.0
3	New-Media User-Data Analysis	4.0	4.0	0.0
4	Industry-Mentor Evaluation	5.0	5.0	0.0
5	Professional competency assessment	5.0	5.0	1.0
6	Technical-Specification Review of Submitted Works	5.0	5.0	1.0

According to Section 4.30, all 21 Experts — taking into careful account feedback— further refined and consolidated their assessments. In the second-round data, the expert panel evaluated ten course-design strategies, of which four were identified as effective. During the third-round discussion, consensus was reached on six of those strategies.

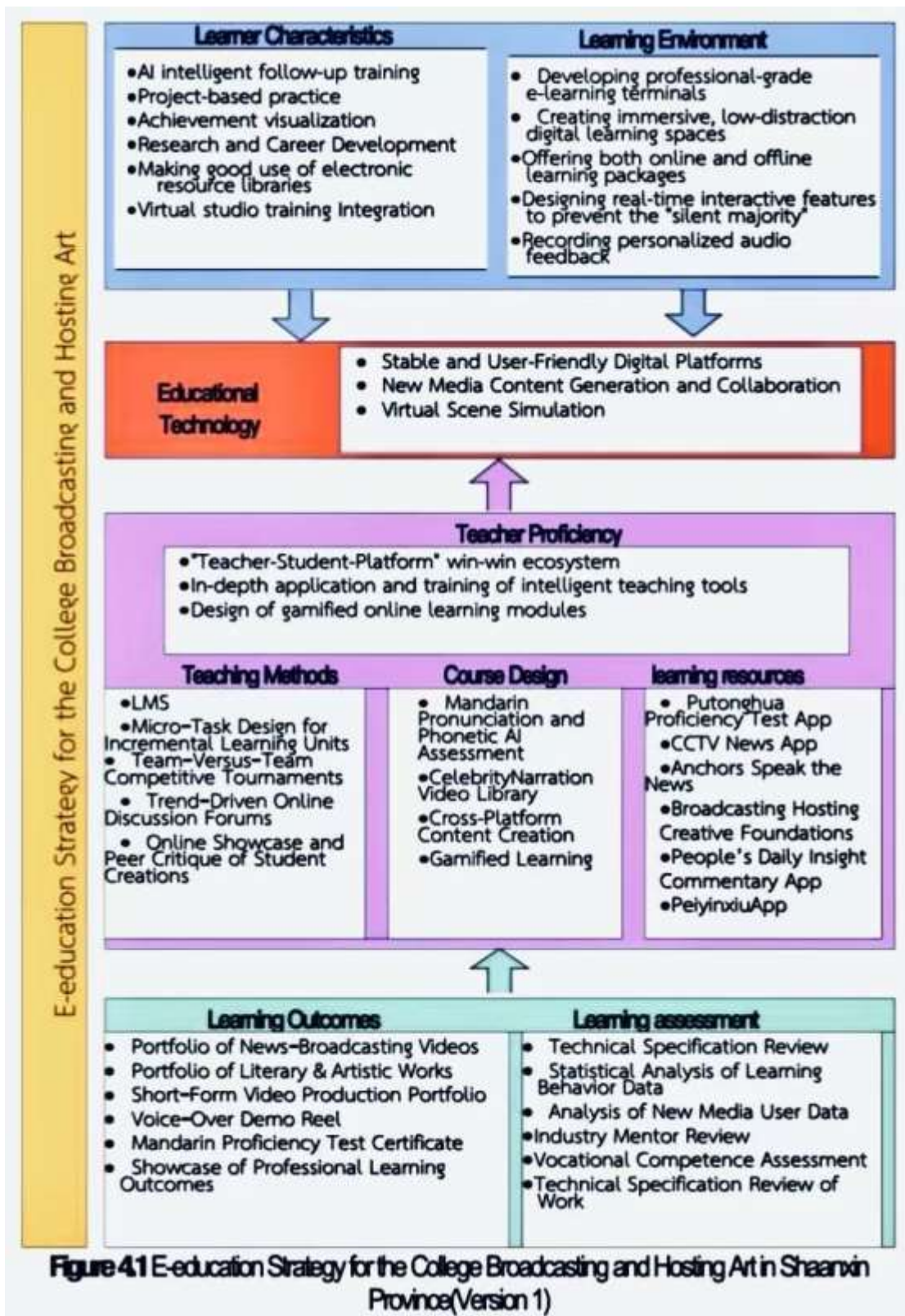


Figure 4.1 E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province (Version 1)

As shown in Figure 4.1, To further validate and refine the strategies derived from the preliminary Delphi study, the research team convened a focus group composed of nine experts to evaluate the feasibility and applicability of the strategies under the nine core modules. The findings indicate that the majority of existing strategies received unanimous endorsement. Additionally, several modules saw the introduction of new strategies characterized by enhanced specificity and operational feasibility.

1. Teacher Proficiency: Experts emphasized the importance of institutional mechanisms to incentivize and ensure support for teachers' digital teaching capabilities.

2. Course Design: There was broad consensus on innovative teaching approaches such as "AI-assisted Mandarin training" and "hands-on cross-platform content creation." Furthermore, a dual trend of "industry-education integration" and "dynamic curriculum optimization" was observed.

3. Teaching Methods: The Strategies of "developing instruction in authentic enterprise environments" was added, signaling a shift from purely technology-assisted teaching toward scenario-based simulation and alignment with industry practices.

4. Teaching Resources: Emphasis was placed on cultural relevance and practical utility, with an expanded range of sources for language teaching materials.

5. Learning Environment: Key points included the construction of terminal devices, integration into a unified platform, cultivation of ritualistic learning experiences, and the design of interactive features within the platform.

6. Learner Characteristics and Development: The focus was on personalized development and active engagement, reinforcing the student-centered philosophy while addressing both academic progress and career planning.

7. Educational Technology: Recommendations highlighted the need for platform stability, collaborative development of new media content, virtual scenario simulation, and learning data analytics.

8. Learning Outcomes: A strong emphasis was placed on outcome-based education and the diverse representation of learning achievements.

9. Learning Assessment: Evaluation strategies were expanded to include technical indicators, user data analysis, and industry-based reviews. Two new dimensions—"practical output" and "employment orientation"—were introduced to enhance the societal credibility of assessment result.

### **Round 3 Results of the Nine Modules on “Digital Education Strategies for Broadcasting and Hosting Arts Programs in Shaanxi Higher Education Institutions “**

#### **Teacher Proficiency**

In the domain of digital teaching proficiency, experts reached consensus on 8 strategies. The highest agreement (100%) was on the Strategies of building a "teacher-student-platform" win-win ecosystem, highlighting the critical importance of collaborative mechanisms in digital teaching. Strategies such as training in intelligent teaching tools and gamified online course design received 95.24% expert support, indicating strong recognition of technology integration in teaching. Others, including teaching through competitions and experience sharing, also achieved over 90% consensus, reflecting experts' high agreement on enhancing teacher engagement and peer learning. Although the Strategies establishing an online program archive scored slightly lower (80.95%), it still demonstrates partial recognition and warrants further practical validation.

#### **Course Design**

Expert consensus clearly supports strategies like AI-assisted vocal training, video libraries of renowned professionals, and cross-platform content creation. The Strategies AI-based evaluation of Mandarin pronunciation and vocalization reached 100% consensus, underscoring the importance of integrating technology into standardized language training. E-commerce live-streaming and product promotion, a new media practice, received 90.48% agreement, suggesting that curriculum design should align with industry applications. Big data-driven personalized learning received 80.95% support—slightly lower, but indicative of a forward-looking trend in educational development.

### **Teaching Methods**

Of the 10 proposed strategies in this module, 9 achieved expert consensus, reflecting a high overall acceptance. Strategies such as LMS-based course management, micro-tasks, points-based incentive systems, and team-based competition each received 95.24% consensus, highlighting the mainstream adoption of task-driven and gamified teaching approaches. AI teleprompters and social learning communities were supported by around 80% of experts, indicating dual emphasis on technological assistance and community building.

### **Learning Resources**

All 8 strategies related to learning resources achieved full expert consensus.

Tools like the Mandarin testing app and CCTV news app received 100% support, reflecting a strong preference for authoritative and professional resources. Other strategies such as self-developed teaching materials, audio books, and voice-over tools also garnered high support, showing that integrating high-quality external resources and developing localized content are equally important.

### **Learning Environment**

In this module, 8 strategies reached consensus. Creating professional-grade digital learning terminals and spaces and a unified teaching platform both received 100% agreement, affirming that infrastructure is a foundational prerequisite.

Soft-environment strategies, such as interactive mechanisms and learning rituals, were also supported by over 90% of experts, demonstrating the importance of fostering a participatory learning atmosphere.

### **Learner Characteristics**

Out of 9 strategies, 8 reached expert consensus. AI-powered reading practice, project-based learning, and achievement visualization each gained 95.24% support, indicating that targeted training and result-driven models can effectively enhance learner motivation. Other strategies like personal learning spaces and online practical training reflect a strong orientation toward self-directed learning and practice-based development.

### **Educational Technology**

All 7 strategies in this module achieved expert consensus. Stable digital platforms and new media content co-creation received the highest support (95.24%), emphasizing the centrality of infrastructure and content generation. Strategies such as virtual simulation scenarios and AI error correction also received approximately 90% support, demonstrating a realistic path for technology-driven teaching innovation. Personalized learning paths received 76.19% support, suggesting that further consideration is needed for individual learning differences in implementation.

### **Learning Outcomes**

All 6 strategies related to learning outcomes achieved expert consensus. News broadcasting video portfolios and literary/artistic collections received full agreement (100%), indicating that visualized professional outputs are key indicators of learning effectiveness. Strategies like short video production and voice-over projects were also recognized by over 90% of experts, underscoring the need for diverse and digital expressions of learning outcomes.

### **Learning Assessment**

All 5 assessment strategies received expert consensus. Technical review of student productions gained 90.48% support, providing a standardized framework for evaluating digital outputs. Behavioral data analysis and new media data analytics reflect a clear endorsement of data-driven evaluation mechanisms. Professional competency assessments and industry mentor evaluations received around 80% support, highlighting the value of external assessment within the context of industry- education integration.

**Part 4: The analysis results of the Focus Group discussion about E-Education Strategies**

**Table 4.31** Result for discussion: Teacher Proficiency

Items	Teacher Proficiency	Result
1	Building a "Teacher-Student-Platform" win-win ecosystem	Pass
2	In-depth application and training of intelligent teaching tools	Pass
3	Designing gamified online challenge-based courses	Pass
4	Participating in digital teaching competitions to promote teaching through competition	Pass
5	iSharing experiences in electronic education	Pass
6	Cross-platform collaborative practical teaching	Pass
7	Development of omni-media teaching resources	Pass
8	Establishing an online program library	Pass
9	Periodic evaluation of teachers' electronic teaching practices	Add
10	Financial support and rewards for outstanding teachers, with inclusion in professional-title promotion criteria	Add

According to Table 4.31, a panel of nine experts conducted a feasibility assessment of eight previously validated strategies aimed at enhancing teachers' digital-instruction proficiency. Of these, eighth strategies received consensus approval from the expert panel, In addition, the panel added a ninth Strategies- "periodic evaluation of teachers' electronic-teaching practices" and a tenth Strategies: "providing financial support and rewards for outstanding teachers, with inclusion in the criteria for professional-title promotion."

**Table 4.32** Result for discussion: Course Design

Items	Course Design	Result
11	Mandarin Pronunciation and Phonetic AI Assessment	Pass
12	Broadcasting Creation: Celebrity Narration Video Library	Pass
13	Cross-Platform Content Creation Practice	Pass
14	E-commerce Live Streaming and Product Promotion	Pass
15	Gamified Learning Reward Mechanisms	Pass
16	Big-data-driven personalized and customized learning	Pass
17	Inviting enterprise participation in course-content design	Add
18	Inviting enterprise participation in course-content design	Add
19	Conducting periodic review and formal evaluation of course design	Add

Based on Table 4.32, a panel of nine experts carried out a feasibility assessment of six previously validated strategies. All six strategies reached consensus approval. Additionally, the expert group identified and incorporated three new strategies—designated as Strategies 17, Strategies 18, and Strategies 19—that were agreed to be potentially actionable.

**Table 4.33** Result for discussion: Teaching Methods

Items	Teaching Methods	Result
20	LMS-Mediated Task Assignment and Workflow Management	Pass
21	Micro-Task Design for Incremental Learning Units	Pass
22	Gamified Points-and-Levels Progression with Badge-Based Checkpoints	Pass
23	Team-Versus-Team Competitive Tournaments for Collaborative Learning	Pass
24	Trend-Driven Online Discussion Forums for Topic-Based Engagement	Pass
25	Online Showcase and Peer (or Expert) Critique of Student Creations	Pass
26	Skill-Based Digital Badging and E-Portfolio for Student Learning Records	Pass
27	AI-Prompted Cueing to Support Guided Practice and Learning Recall	Pass
28	Cultivating Social-Learning Communities via Online Forums or Community of Practice	Pass
29	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction	Pass
30	Developing instruction within authentic corporate environments	Add

According to Table 4.33, a panel of nine experts conducted a feasibility assessment of ten previously validated strategies, all of which received consensus approval. In addition, the panel introduced a new 30 Strategies—namely, “Developing instruction within authentic corporate environments.”

**Table 4.34** Result for discussion: learning resources

Items	Learning Resources	Result
31	Mandarin Proficiency Test App	Pass
32	CCTV News App	Pass
33	Ximalaya Broadcasting & Hosting Masters'Classic	Pass
34	Reading App Douyin Platform: Anchors Speak the News	Pass
35	Broadcasting & Hosting Creative Foundations	Pass
36	(China Communication University Open Course) People's Daily Insight Commentary	Pass
37	Peiyinxiu (Dubbing Show) App	Pass
38	Self-Developed Digital E-Learning Resources	Pass
39	Qi Yue Festival recitation videos.	Add
40	Challenge host-competition videos	Add
41	Ximalaya audiobooks	Add

According to Table 4.34, a panel of nine experts performed a feasibility assessment on eight previously validated strategies for enhancing digital pedagogy. All eight strategies achieved unanimous consensus approval in the evaluation round. Moreover, during the consensus process, the experts proposed three additional strategies, designated as: Strategies 39-“Qi Yue Festival recitation videos.” Strategies 40- “Challenge host- competition videos.” Strategies 41- “Ximalaya audiobooks.”

**Table 4.35** Result for discussion: Learning Environment

Items	Learning Resources	Result
42	Developing professional-grade electronic learning terminals and space	Pass
43	Establishing a unified, standardized, and user-friendly learning platform	Pass
44	Implementing fixed learning rituals to foster a sense of belonging	Pass
45	Designing real-time interactive features to avoid the silent majority'	Pass
46	Providing both online and offline learning packages	Pass
47	Showcasing exemplary works on the platform to enhance collective identity	Pass
48	Organizing student co-creation of works and integrating them into a resource library	Pass
49	Recording personalized audio (voice) feedback	Pass

According to Table 4.35, all eight previously validated strategies were subjected to a feasibility evaluation by nine experts, and all eight strategies received unanimous consensus approval.

**Table 4.36** Result for discussion: Learner Characteristics

Items	Learner Characteristics	Result
50	AI-powered intelligent reading practice	Pass
51	Project-based practice	Pass
52	Achievement visualization	Pass
53	Making effective use of electronic resource libraries	Pass
54	Virtual studio training	Pass
55	Online live broadcast practical training	Pass
56	Establishing personal learning spaces	Pass
57	Personal digital IP workshop	Pass
58	Creating a school-wide supportive active-learning environment	Add
59	Supporting students in formulating individualized learning plans	Add
60	Embedding career guidance into the student learning process	Add

According to Table 4.36, a panel of nine experts conducted a feasibility evaluation on eight previously validated strategies, all eight received full consensus approval. During this process, the panel also added three new strategies: Strategies 58- “Creating a school-wide supportive active-learning environment” Strategies 59- “Supporting students in formulating individualized learning plans” “Strategies 60 - “Embedding career guidance into the student learning process”

**Table 4.37** Result for discussion: Educational Technology

Items	Learner Characteristics	Result
61	Stable and User-Friendly Digital Platform	Pass
62	New Media Content Generation and Collaboration	Pass
63	Flipped Classroom: Micro-Lectures + Online Q&A	Pass
64	Virtual Scene Simulation	Pass
65	AI Real-Time Error Correction and Personalized Tutoring	Pass
66	Gamified Learning with Points Ranking and Virtual Rewards	Pass
67	Learning Behavior Data Tracking and Analysis	Pass
68	Personalized Learning Path Recommendation	Pass

According to Table 4.37, a panel of nine experts conducted a feasibility evaluation of eight previously validated strategies, all of which achieved unanimous consensus approval.

**Table 4.38** Result for discussion:Learning Outcomes

Items	Learner Characteristics	Result
69	Portfolio of News-Broadcasting Videos	Pass
70	Portfolio of Literary & Artistic Works	Pass
71	Short-Form Video Creation Portfolio	Pass
72	Voice-Over Demo Reel	Pass
73	Mandarin Proficiency Test Certificate	Pass
74	Showcase of Professional Learning Outcomes	Pass
75	Professional competition project collections	Pass
76	Vocational skill collections	Pass

According to Table 4.38, a panel of nine experts conducted a feasibility evaluation of six previously validated strategies, all of which received unanimous consensus approval. Additionally, the panel introduced two new strategies: Strategies 75: “Professional competition project collections” Strategies 76: “Vocational skill collections ”

**Table 4.39** Result for discussion:learning assessment

Items	Learning Assessment	Result
77	Technical-Specification Review of Submitted Works	Pass
78	Statistics of Learning-Behavior Data	Pass
79	New Media User Data Analysis	Pass
80	Industry-Mentor Evaluation	Pass
81	Professional competency assessment	Pass
82	Technical-Specification Review of Submitted Works	Pass
83	Industry Employment Assessment' —was newly proposed	Add

As shown in Table 4.39, nine experts conducted a feasibility assessment of six effective strategies, all of which reached consensus approval. Additionally, a 83th Strategies—' Industry Employment Assessment' —was newly proposed."



Figure 4.2 E-education Strategy for the College Broadcasting and Hosting Art (Version 2)

Figure 4.2 E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province (Version 2).

**Table 4.40** E-education Strategies for the College Broadcasting and Hosting Art

Aspect	Topic	Strategies
<b>Teacher Proficiency</b>	Ecosystem Building	1. Build a "teacher-student-platform" win-win ecosystem
	Technology Application	2. Deep application and training of intelligent teaching tools
		3. Design gamified online challenge-based courses
		4. Implement cross-platform collaborative practical teaching
	Resource Development	5. Develop all-media teaching resources
	Teacher Development & Incentives	6. Participate in digital teaching competitions to promote instructional growth
		7. Share experiences in digital education
		8. Conduct regular evaluations of Teachers' digital teaching performance
		9. Provide funding and recognition for outstanding teachers, integrating results into title evaluations
<b>Course Design</b>	Curriculum Content Development	10. Broadcast performance: curated video collection of masterworks
		11. Big-data-driven personalized and customized learning
		12. Hands-on cross-platform content production

Table 4.40 (Continued)

Aspect	Topic	Strategies	
<b>Course Design</b>	Instructional Design Methods	13. E-commerce livestreaming and product promotion 14. Develop courses based on real-world vocational tasks and workflows 15. Gamified learning reward mechanisms	
	Technology Integration	16. Engage enterprises in course content co-design 17. Conduct regular review and evaluation of course design 18. AI-based assessment of Mandarin pronunciation and vocal training 19. Data-driven personalized and customized learning	
	<b>Teaching Methods</b>	Task Management & Learning Assessment	20. Task management through Learning Management System (LMS) 21. Design micro-tasks 22. Point-based challenge system 23. Team-based competition 24. Online exhibition and peer review of student works
		Interaction & Collaboration	25. Digital skill tracking to generate student e-learning portfolios 26. Launch hot-topic discussions online 27. Build a socialized learning community
		Echnology Support	28. AI-based teleprompter training 29. Intelligent diagnostics and differentiated teaching via tech tools

Table 4.40 (Continued)

Aspect	Topic	Strategies
<b>Teaching Methods</b>	Simulation & Career-Oriented Practice	30. Develop real enterprise environment simulations for instruction
	Structured Learning Resources	31. Fundamentals of Broadcast Hosting - Open course by Communication University of China 32. Ximalaya App - Classic broadcast readings by professionals 33. Qi Yue Recitation Festival video archive 34. Challenge Anchor Competition video collection
<b>Learning Resources</b>	News & Current Affairs	35. Dubbing Show mobile application 36. CCTV News App 37. TikTok Series: Anchor Talks About News 38. People's Daily Sharp Commentary
	Technology-Supported Tools	39. Mandarin Proficiency Test App 40. Ximalaya Audiobook platform
	Self-Developed Resources	41. Self-developed e-learning resources
	Infrastructure & Platform Development	42. Develop professional-grade digital learning terminals and environments 43. Build a unified, standardized, and user-friendly learning platform 44. Provide both online and offline learning packages
<b>Learning Environment</b>	Community Atmosphere & Belonging	45. Establish consistent learning rituals and a sense of belonging

Table 4.40 (Continued)

Aspect	Topic	Strategies
<b>Learning Environment</b>	Community	46. Showcase outstanding works on the platform to enhance collective identity
	Atmosphere & Belonging	47. Organize co-creation of student works and incorporate into resource library
	Interaction & Feedback	48. Design real-time platform interaction to avoid the “ silent majority” 49. Record personalized audio feedback
<b>Learner Characteristics</b>	Personalized & Self-Directed Learning	50. Establish individual learning spaces 51. Develop personal digital identity studios 52. Assist students in creating personalized learning plans 53. Foster a proactive learning environment within schools
	Skill Development & Practical Training	54. AI-powered pronunciation and reading practice 55. Project-based learning 56. Virtual studio simulation training 57. Live-streaming practice sessions
	Resource Utilization & Achievement Motivation	58. Achievement visualization 59. Effective use of digital resource libraries
	Career Integration with Learning	60. Integrate career guidance into the learning process

Table 4.40 (Continued)

Aspect	Topic	Strategies
<b>Educational Technology</b>	Platform & Infrastructure	61. Stable and user-friendly digital platform
	Intelligent Technologies & Personalized Learning	62. AI-driven real-time correction and personalized tutoring 63. Personalized learning path recommendation
		64. Learning behavior tracking and analytics
	New Media Content & Innovative Teaching Models	65. New media content creation and collaboration 66. Flipped classroom: micro-lectures + live Q&A
	Motivation & Gamification	67. Virtual scenario-based simulations 68. Gamified learning with points, rankings, and virtual rewards
		69. News broadcast video collection
		70. Literary performance video collection 71. Short video production portfolio 72. Dubbing works compilation
		73. Professional learning outcome exhibitions 74. Collections of works from professional competitions
<b>Learning Outcomes</b>	Vocational & Certification Outcomes	75. Mandarin Proficiency Test Certificate 76. Compilation of vocational skill achievements

Table 4.40 (Continued)

Aspect	Topic	Strategies
<b>Learning Assessment</b>	Product Quality & Outcome Evaluation	77. Review of technical specifications of student works 78. Public presentation of professional learning outcomes
		79. Expert evaluation by industry mentors
	Process Behavior & Data-Driven Assessment	80. Statistical analysis of learning behaviors 81. Analysis of user data from new media platforms
	Career-Oriented Evaluation	82. Assessment of vocational competencies 83. Employment outcome evaluation

Table 4.41 Broadcasting &amp; Hosting Art—E-Education Strategies Statistics

No.	Aspect	Number of Strategies	Percentage (%)
1	Teacher Proficiency	10	12.05
2	Course Design	9	10.84
3	Teaching Methods	11	13.25
4	Learning Resources	11	13.25
5	Learning Environment	8	9.64
6	Learner Characteristics	11	13.25
7	Educational Technology	8	9.64
8	Learning Outcomes	8	9.64
9	Learning Assessment	7	8.43
	<b>Total</b>	<b>83</b>	<b>100.00</b>

**Table 4.42** Broadcasting & Hosting Art — Sequence of E-Education Strategies

No.	Aspect	Number of Strategies	Percentage (%)
1	Teaching Methods	11	13.25
2	Learning Resources	11	13.25
3	Learner Characteristics	11	13.25
4	Teacher Proficiency	10	12.05
5	Course Design	9	10.84
6	Learning Environment	8	9.64
7	Educational Technology	8	9.64
8	Learning Outcomes	8	9.64
9	Learning Assessment	7	8.43
<b>Total</b>		<b>83</b>	<b>100.00</b>

As shown in Table 4.40, Table 4.41 and Table 4.42, the research indicates that the digital education strategies for Broadcasting and Hosting Arts programs in Shaanxi universities encompass multiple dimensions, including teacher development, course design, teaching methods, and learning resources. A total of nine primary Strategies domains are identified, focusing on teachers, curriculum, pedagogy, resources, learning environment, learner characteristics, educational technology, learning outcomes, and assessment. These are further elaborated into 29 secondary strategies, each comprising 2 to 5 subtopics. In total, 83 strategies are outlined, reflecting a detailed and comprehensive management approach throughout the entire educational process.

Following focus-group evaluations, adjustments, and supplementary feedback, a core set of 83 effective strategies was finalized. The data presents a distribution of 83 identified strategies across nine key aspects related to electronic education in broadcasting and hosting arts programs at higher education institutions. Among these, Teaching Methods, Learning Resources, and Learner Characteristics

each account for the highest proportion of strategies (13% each), indicating a strong emphasis on pedagogical approaches, the availability and quality of educational materials, and the attributes or needs of the learners.

Teacher Proficiency follows closely with 12%, suggesting that the professional capabilities of instructors are also seen as a critical component in the effectiveness of electronic education. Course Design holds 11%, reflecting attention to the structural and content-related elements of curriculum development.

The aspects of Learning Environment, Educational Technology, and Learning Outcomes are each allocated 10% of the strategies, showing a balanced but slightly lower prioritization compared to instructional and content-related elements. Notably, Learning Assessment receives the smallest proportion (8%), which may indicate a relative underemphasis on evaluation mechanisms within current strategic planning.

This distribution reveals that while core teaching-related domains are well-represented, there may be a need to re-evaluate the weight given to Learning Assessment and possibly Educational Technology, considering their critical roles in online and hybrid learning environments. The relatively even spread also reflects a multidimensional approach to Strategies development, emphasizing that successful electronic education depends on the interplay between content, delivery, context, and feedback mechanisms.

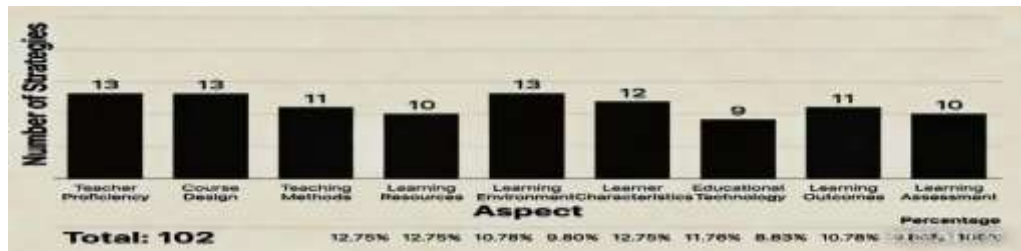


Figure 4.3 Objective 1



Figure 4.4 Objective 2

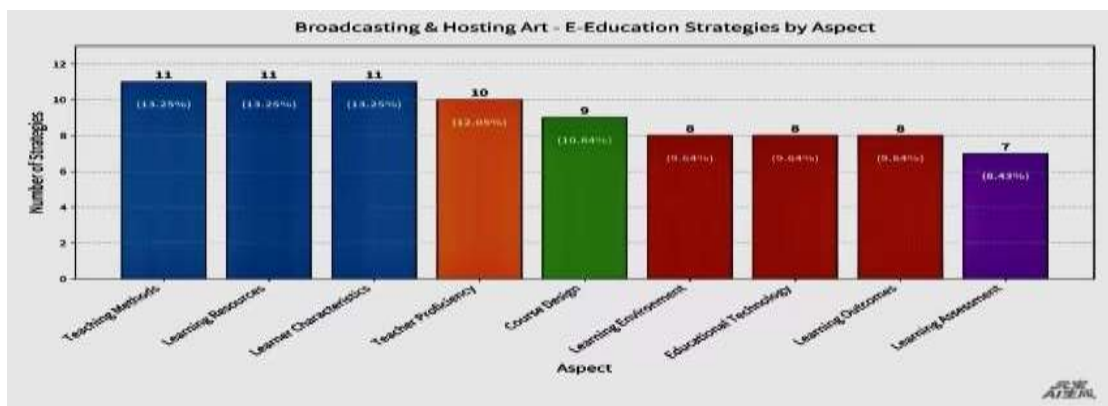


Figure 4.5 Objective 3

## Chapter 5

### Conclusion Discussion and Recommendations

The purposes of this research were to: 1) Investigate and analyze the problems of e-education for the college broadcasting and hosting art in Shaanxi Province; 2) Set up e-education strategies for the college broadcasting and hosting art in Shaanxi Province; 3) Evaluate the e-education strategies for the college broadcasting and hosting art in Shaanxi Province. Based on the research process of expert interviews, Delphi Method consultations, and Focus Group discussions, the research findings are summarized as follows:

Specific enhancement strategies include the following 9 aspects: (1) teacher proficiency (2) Course Design (3) Teaching Methods (4) learning resources (5) Learning Environment, (6) Learner Characteristics, (7) Educational Technology, (8) Learning Outcomes, (9) learning assessment

#### Conclusion

This research focuses on the e-education strategies for the college Broadcasting and Hosting Art program in Shaanxi Province, with three core objectives: to investigate and analyze the current situation and existing problems of relevant e-education practices, to construct targeted e-education strategies, and to assess the feasibility of these constructed strategies. Drawing on the research processes of expert interviews, Delphi Method consultations, and Focus Group discussions, and integrated with the empirical data analysis results presented in Chapter 4, the key research findings are summarized as follows:

#### **1. Problems of E-Education for College Broadcasting and Hosting Art in Shaanxi Province**

The e-education of the program in Shaanxi Province has achieved initial progress, with 66.67% of experts rating its overall quality high and 71.43%

acknowledging the richness of learning resources. However, key challenges align with Chapter 2's literature review:

**Teacher Proficiency:** Only 57.14% of experts rated teachers' digital literacy high (19.05% low). Many lack digital media and e-education experience (Wang Chao, 2020), echoing Ng's (2012) view that this is a decisive factor for e-education quality.

**Learning Environment:** 23.81% of experts gave low ratings due to the absence of unified standardized platforms (Liu Min, 2018; Li Ming, 2020), which Selwyn (2016) noted restricts effectiveness by insufficient technical infrastructure.

**Learner Characteristics:** 14.29% of experts did not positively evaluate students' motivation or digital habits. Learners face motivation and self-discipline issues (Wang Fang, 2019), with individual differences in technical skills and learning styles exacerbating personalized teaching challenges (Liu & Zhang, 2021).

**Educational Technology and Learning Assessment:** Technology application is underdeveloped, and assessment systems lack standardization. Traditional simplistic methods fail to reflect comprehensive abilities (Xiong Xiaowei, 2017), while the lack of data-driven mechanisms hinders accurate learning effect tracking (Papamitsiou & Economides, 2014).

These issues echo field-wide problems summarized in Chapter 2, such as outdated teaching concepts and disjointed curricula from industry demands.

## 2. Construction of E-Education Strategies

Through three rounds of Delphi Method consultations with 21 professionals (7 Broadcasting and Hosting Educators, 7 Industry Experts, 7 Educational Management Experts), a strategy system covering 9 core dimensions was built—aligned with Chapter 2's 9 influencing factors (top three: Educational Technology 19.74%, Learner Characteristics 15.79%, Course Design 13.16%).

The initial 102 strategies were optimized via Median (Md), Mode (Mo), and Inter-Quartile Range (IQR) analysis (Chapter 4 data):

**Teacher Proficiency:** "Constructing a 'Teacher-Student-Platform' win-win ecosystem" and "in-depth training of intelligent teaching tools" (consensus >90%) address digital literacy gaps (Kim & Lee, 2021).

**Course Design:** "AI-based Mandarin pronunciation assessment" and "cross-platform content creation" ( $Md \geq 4.5$ ) meet curriculum reform and industry connection needs (Zhang Lei, 2020; Biggs & Tang, 2011).

**Teaching Methods:** "Technology-assisted hierarchical teaching" and "gamified incentive mechanisms" ( $IQR \leq 1.0$ ) resolve simplistic methods (Arnold & Pistilli, 2012; Cavanaugh et al., 2004).

**Learning Resources:** "Open courses + authoritative news platforms + self-developed resources" supplements integration deficiencies (Kirkwood & Price, 2014; Smith & Hill, 2020).

### 3. Feasibility Evaluation

Feasibility was verified via Focus Group discussions with 9 senior experts (3 university professors, 3 media professionals, 3 educational administrators). Over 80% of initial 102 strategies achieved >80% expert consensus, leading to 83 effective strategies (Table 4.40).

High-priority measures include "establishing a video library of famous broadcasters' works" and "AI-assisted teleprompter training". Statistical results (Tables 4.41 & 4.42) show Teaching Methods, Learning Resources, and Learner Characteristics each account for 13.25%, followed by Teacher Proficiency (12.05%) and Course Design (10.84%)—consistent with Chapter 2's influencing factor ranking. This confirms the system's theoretical rigor and practical applicability.

## Discussion

### 1. In-depth Analysis of Current E-Education Challenges

Integrating interview data, the literature research in Chapter 2, and the empirical analysis results in Chapter 4, the development of e-education in the college Broadcasting and Hosting Art program in Shaanxi Province presents a "dualistic" characteristic:

On one hand, it has a solid foundation: the overall quality of teaching and learning, as well as the richness of learning resources, have been highly recognized by experts, which is consistent with the positive development trend of e-education

summarized in Chapter 2. Bates, A. W. (2005) and Anderson, T. (2008) emphasized the flexibility and accessibility of e-education, which are reflected in the advantages of e-education in Shaanxi Province's colleges and universities in terms of teaching methods and learning resources. Siemens, G. (2013) also pointed out that the personalized learning characteristics of e-education are conducive to meeting the diverse needs of students, which is also verified in this research.

On the other hand, it faces multi-dimensional constraints: the uneven digital literacy of teachers leads to inconsistent application effects of e-education tools; the integration of learning resources is insufficient, and the application of educational technology lacks systematic planning; assessment standards are not unified, which restricts the sustainable development of e-education. These challenges not only echo the common problems in the field of broadcasting and hosting e-education (such as outdated teaching concepts, insufficient technical support, and a disconnect between curricula and industry demands) but also exhibit regional characteristics, such as the need to strengthen the integration of local educational resources in Shaanxi. Chen, Y. (2017) explored the role of government policies in promoting e-education, pointing out that regional resource integration is an important factor affecting the development of e-education, which is consistent with the regional characteristics reflected in this research.

From the perspective of the data performance in Chapter 4, the low evaluation rate of some indicators (e.g., 19.05% of experts rated teachers' digital literacy as low) further confirms the urgency of addressing these core issues. The root cause of these problems lies in the lack of a systematic and comprehensive e-education strategy system, which also highlights the practical significance of this research. As Chen Gang and Zhao Yue (2020) pointed out, the difficulties faced by practical teaching in broadcasting and hosting e-education require targeted strategic solutions, which is precisely the core value of this study.

## 2. Core Characteristics of the Constructed Strategy System

The 83 effective strategies formed after multiple rounds of optimization exhibit three prominent characteristics, which are closely integrated with the theoretical basis and research findings in Chapter 2:

**Deep integration of technology and teaching:** The strategies fully absorb the application experience of emerging technologies such as artificial intelligence, big data, and virtual reality in the field of education, incorporating measures such as AI real-time error correction, learning behavior data tracking, and virtual scenario simulation. This not only effectively responds to the technical needs of e-education summarized in Chapter 2 (where Educational Technology is the most important influencing factor, accounting for 19.74%) but also practices the view of constructivist learning theory proposed by Piaget and Vygotsky that "technical tools should be used to create situational learning environments". Bates, A. W. (2005) also emphasized that technology can enhance the learning process, which is fully reflected in this characteristic.

**Strong interaction and participation orientation:** By designing gamified progression systems, real-time interactive discussion platforms, and student work co-creation mechanisms, the strategies enhance the sense of participation and belonging of teachers and students in the e-education process. This characteristic specifically addresses the issue of insufficient interaction in online teaching mentioned in Chapter 2, and is consistent with the core viewpoint of social learning theory proposed by Albert Bandura—that "learning occurs through observation and interaction". Garrison, D. R., Anderson, T., & Archer, W. (2001) also emphasized the importance of interaction and collaboration in e-education, which is fully reflected in the constructed strategy system.

**Integration of resource co-construction and sharing:** The strategies advocate the integration of external high-quality resources (such as open courses of Communication University of China and authoritative news platforms) and the development of localized resources (self-developed digital teaching materials and student excellent work databases). This characteristic effectively solves the problem

of insufficient integration of current e-education resources and also reflects the concept of Outcome-Based Education (OBE) proposed by Spady (1981)—"taking learning outcomes as the orientation and optimizing resource allocation". Kirkwood, A., & Price, L. (2014) also discussed the importance of resource innovation for media learning, which is consistent with this characteristic.

### **3. Optimization Path of Strategies from "Theoretical Potential" to "Practical Effectiveness"**

Through the organic combination of the Delphi Method and Focus Group discussions, the strategy system has achieved a key upgrade from "theoretically feasible" to "practically effective". The core optimization paths are reflected in four aspects, which are closely linked to the research process and results of Chapter 4:

**Streamlining and focusing:** 19 strategies with insufficient operability (such as metaverse-based teaching and research communities) were eliminated to ensure that each retained strategy meets the actual needs of teaching practice and the conditions of educational resources in Shaanxi Province. This optimization is based on the expert feedback and practical situation analysis in Chapter 4, ensuring the operability of the strategies and conforming to the core principle emphasized by Morrison, G. R., Ross, S. M., & Kemp, J. E. (2019) that "effective instructional design should be based on practical conditions".

**Complementing system gaps:** Practical content was added to each core dimension. For example, teacher assessment and incentive mechanisms were added to the "Teacher Proficiency" dimension; enterprise collaborative participation was introduced into the "Course Design" dimension; and real enterprise scenario simulation training was supplemented in the "Teaching Methods" dimension. These supplements not only improve the deficiencies of the initial strategy system but also respond to the problems of insufficient teacher incentive mechanisms and the disconnect between curricula and industry mentioned in Chapter 2. This is consistent with Biggs, J., & Tang, C. (2011)'s view on improving learning quality through curriculum design and Schrader, P. G., & Brown, M. (2014)'s research on the impact of teacher proficiency on e-learning outcomes.

**Strengthening demand orientation:** On the one hand, the orientation of school-enterprise integration and employment was strengthened, adding strategies such as industry employment assessment and vocational skill achievement portfolios; on the other hand, emphasis was placed on personalized support for students, supplementing content such as personalized learning plans and the cultivation of an active campus learning atmosphere. This optimization balances the dual needs of industry adaptation and individual development, and is consistent with the OBE concept of "taking student development as the core" in Chapter 2. Siemens, G. (2013) also emphasized the importance of personalized learning in e-education, which is fully reflected in this optimization path.

**Highlighting professional characteristics:** Combined with the practical characteristics of Broadcasting and Hosting Art, targeted strategies such as AI-assisted pronunciation practice, virtual studio training, and Mandarin proficiency test guidance were added. These strategies are closely related to the professional skill requirements of Broadcasting and Hosting Art, effectively solving the problem of insufficient pertinence of general e-education strategies mentioned in Chapter 2. This conforms to the guiding principle proposed by Zhang, L. (2019) that "curriculum design for broadcasting and hosting education should be closely combined with professional characteristics" and Zhang Lei (2020)'s view on the integration of professional practice and curriculum design.

#### **4. Correlation with Theoretical Basis and Literature Findings**

The constructed strategy system and research results are closely linked to the theoretical basis and literature research in Chapter 2:

**Constructivist learning theory:** Strategies such as "virtual studio simulation training" and "project-based learning" reflect the core viewpoint of constructivist learning theory that "learners actively construct knowledge in situational practice", which is consistent with the application of constructivist theory in e-education summarized in Chapter 2. Vygotsky's emphasis on the role of social interaction and situational learning is also embodied in the design of interactive and situational

strategies in the system. Piaget's cognitive development theory also provides theoretical support for the design of hierarchical teaching strategies in the system.

**Social learning theory:** Strategies such as "video library of famous broadcasters' works" and "online peer evaluation" provide students with rich observation and imitation objects and interaction opportunities, practicing the observational learning and social interaction mechanisms of social learning theory. Bandura's view that "most human behaviors are learned by observing the actions and consequences of others" is fully reflected in these strategies. The gamified incentive mechanisms and social learning communities in the system also further expand the application of social learning theory in e-education.

**Outcome-Based Education (OBE) theory:** The entire strategy system takes learning outcomes as the core. The Learning Outcomes dimension clearly defines specific outputs such as "Mandarin proficiency test certificate" and "vocational skill achievement portfolio", and the Learning Assessment dimension establishes a multi-dimensional evaluation system, fully embodying the core concept of OBE "taking outcomes as the orientation". Spady (1981)'s emphasis on "designing curricula and teaching based on final outcomes" is the core logic of the strategy system. The addition of industry employment assessment and vocational skill certification strategies further strengthens the outcome orientation of the system.

**Filling literature gaps:** Targeting the research gaps identified in Chapter 2, such as insufficient regionally targeted strategies and the lack of systematic integration of influencing factors, this research constructs a strategy system specifically for Shaanxi Province and integrates the 9 influencing factors into a unified framework, making up for the deficiencies of existing research. For example, in response to the regional characteristics of Shaanxi Province mentioned in Chapter 2, the strategy system includes content such as localized resource development and regional industry-university-research cooperation, filling the research gap of insufficient regionally targeted strategies. At the same time, the system integrates the scattered influencing factors in existing literature into a systematic framework, which also responds to the lack of systematic research in the field.

## Recommendations

Based on the research conclusions and discussions, combined with the core problems identified in Chapter 2 and the effective strategies summarized in Chapter 4, the following recommendations are put forward to promote the development of e-education in the college Broadcasting and Hosting Art program in Shaanxi Province:

### 1. Hierarchical Enhancement of Teachers' Digital Teaching Capabilities

Establish an integrated "training-competition-incentive" teacher development mechanism to systematically improve teachers' digital literacy. Firstly, conduct targeted training on intelligent teaching tools, focusing on practical skills such as AI assessment tools, virtual classroom operation, and online interactive teaching methods, to make up for the insufficient teacher digital literacy mentioned in Chapter 2. This is consistent with the proposition put forward by Kim, C., & Lee, H. (2021) that "teacher digital literacy should be improved through effective training" and Spector, J. M. (2015)'s view on improving teachers' technology integration capabilities. Secondly, organize digital teaching competitions and experience exchange activities to promote teachers to learn from each other and innovate teaching methods, which is consistent with the strategy of "participating in digital teaching competitions to promote teaching" in Chapter 4. Finally, incorporate the results of digital teaching into teacher evaluation and title promotion criteria, provide financial support and honorary rewards for outstanding teachers, and form a long-term incentive mechanism. This responds to the demand for teacher incentive mechanisms proposed in the Focus Group discussion results and is consistent with Schrader, P. G., & Brown, M. (2014)'s research view on "the impact of teacher proficiency on e-learning outcomes" and Joo, Y. J., & Park, S. J. (2017)'s research on the role of teachers' professional development in e-education.

### 2. Construction of Interactive and Immersive Learning Ecosystem

Taking digital platforms as the core, build a "resource integration-interactive participation-community co-construction" learning ecosystem. Decompose curriculum content into 5-10 minute micro-modules, and add interactive elements such as realtime bullet comments, online competitions, and simulated live broadcasts to

enhance students' learning motivation; integrate external high-quality resources and self-developed localized resources to form a diversified learning resource library covering theoretical learning, skill training, and industry practice; establish online learning communities and work display platforms to strengthen interactions between teachers and students, and among students, and enhance the sense of belonging to online learning. This recommendation responds to the issue of insufficient interaction in online teaching mentioned in Chapter 2 and is consistent with Garrison, D. R., & Vaughan, N. D. (2008)'s view on blended learning and Rovai, A. P., & Jordan, H. M. (2004)'s research on the importance of interaction in e-education. The construction of the learning ecosystem also refers to Selwyn, N. (2016)'s discussion on "the impact of educational technology on learning environments" and McMahon, M. (2015)'s view on the impact of learning environments on student outcomes, emphasizing the dual importance of technical infrastructure and social interaction.

### **3. Promotion of Demand-Oriented Curriculum and Teaching Reform**

Closely align with the development needs of the media industry and the professional characteristics of broadcasting and hosting, and promote in-depth reforms of e-education curricula and teaching methods. In terms of Course Design, invite industry enterprises to participate in curriculum content development, add practical courses such as e-commerce live streaming and new media content creation, and realize the connection between curricula and industry demands; this initiative responds to the problem of the disconnect between curricula and industry mentioned in Chapter 2 and is consistent with the suggestion put forward by Zhang Peng (2023) that "the connection between teaching content and industry demands should be strengthened" and Sun, X., & Li, Y. (2019)'s view on the combination of curriculum content and actual cases. In terms of Teaching Methods, adopt a combination of flipped classrooms, project-based learning, and scenario simulation, and carry out practical training in real enterprise environments to improve students' practical operation capabilities; this is consistent with the research results of Arnold, K. E., & Pistilli, M. D. (2012) on "improving teaching methods through learning analytics" and Reigeluth, C. M. (2013)'s instructional design theory. In terms of

Learning Assessment, establish a multi-dimensional evaluation system combining technical specification review, learning behavior data analysis, and industry expert evaluation to ensure the comprehensiveness and objectivity of evaluation results; this recommendation responds to the issue of simplistic assessment methods mentioned in Chapter 2 and is consistent with Xiong Xiaowei (2017)'s view on "the importance of multi-dimensional evaluation in broadcasting and hosting teaching" and Shute, V. J. (2008)'s emphasis on data-driven evaluation.

#### **4. Improvement of the Dynamic Optimization Mechanism of E-Education**

Establish a long-term dynamic optimization mechanism for e-education based on data monitoring and feedback. Regularly collect data on the implementation effects of strategies through e-education platforms, including teacher teaching feedback, student learning outcomes, and resource application efficiency; use statistical methods such as Median and Inter-Quartile Range (IQR) to evaluate the effectiveness of strategies, and timely adjust and optimize inappropriate strategies; establish a communication mechanism with industry enterprises and educational research institutions to track the latest developments in educational technology and industry demands, and continuously enrich and improve the e-education strategy system. This mechanism is based on the data-driven evaluation and feedback concept emphasized in Chapter 2 (Shute, V. J., 2008), and refers to the research results of Papamitsiou, Z., & Economides, A. A. (2014) on "promoting e-education effectiveness through learning analytics" and Siemens, G. (2013)'s view on the application of data analysis in e-education, ensuring that the strategy system can continuously adapt to changes in educational technology and industry demands and maintain long-term effectiveness.

#### **5. Strengthening of Regional Resource Integration and Collaborative Innovation**

Give full play to the regional advantages of Shaanxi Province in cultural and educational resources, and promote the integration and sharing of e-education resources among colleges and universities. Establish a provincial-level broadcasting and hosting e-education resource sharing platform to integrate high-quality resources

such as open courses, virtual simulation laboratories, and digital teaching materials from various universities; strengthen collaborative innovation among universities, media enterprises, and educational research institutions, jointly develop targeted e-education content and technical tools, and realize the deep integration of industry and education; carry out inter-university teacher exchange and training programs to promote the sharing of advanced teaching experience and technical application experience. This recommendation responds to the regional characteristics of insufficient integration of local educational resources in Shaanxi mentioned in Chapter 2, and is consistent with Chen, Y. (2017)'s research on the role of policy in promoting resource integration and Zhao, Y. (2019)'s view on technological innovation and resource sharing.

### **Future Research**

#### **1. Expansion of Research Scope and Comparative Analysis**

The current research focuses on the college Broadcasting and Hosting Art program in Shaanxi Province, and the research results may have certain regional limitations. In the future, the research scope can be expanded to include colleges and universities in other regions of China, and comparative studies can be conducted among different regions, different types of institutions (such as "double first-class" universities, vocational colleges, and private universities), and different professional levels to explore the common laws and regional characteristics of the development of e-education in Broadcasting and Hosting Art, and improve the generalizability of the research results. This direction responds to the lack of comparative research in the field mentioned in Chapter 2 and refers to Chen Yang's (2017) research ideas on comparative studies of e-education in different regions. At the same time, it can also compare the e-education strategies of broadcasting and hosting art programs in foreign universities, absorbing advanced experience and providing more comprehensive reference for the development of e-education in China.

#### **2. Enrichment of Research Methods and Improvement of Empirical Depth**

On the basis of existing research methods (expert interviews, Delphi Method, and Focus Group discussions), additional research methods can be adopted to

further improve the empirical depth of the research. For example, carry out quasi-experimental research in actual teaching scenarios to verify the effectiveness of core strategies; select representative colleges and universities for case studies to explore the implementation paths and effects of e-education strategies in specific institutional contexts; use learning analytics technology to track and analyze students' online learning behaviors and psychological changes, and provide more detailed data support for strategy optimization. This is consistent with the suggestion of enriching research methods in the field summarized in Chapter 2 and refers to Liu Song's (2019) research method of "studying e-education effects through learning analytics" and the application of quasi-experimental research in educational technology research. In addition, mixed research methods can be further integrated to combine quantitative and qualitative research advantages, providing more in-depth and comprehensive research conclusions.

### **3. Strengthening of Learner-Centered Research Perspective**

The current research mainly constructs and evaluates strategies from the perspective of experts and researchers, and the voice of students as core learners needs to be further highlighted. In the future, methods such as questionnaires, interviews, and Focus Groups can be adopted to deeply explore students' perceptions, needs, and difficulties in the e-education process, analyze the impact of Learner Characteristics (such as learning motivation, digital literacy, and learning styles) on e-education effectiveness, and construct a more student-centered e-education strategy system. This direction responds to the lack of learner-centered research in the field mentioned in Chapter 2 and is consistent with Liu Song and Zhang Yu's (2021) view on "the impact of learner characteristics on e-learning outcomes" and Nguyen, D., & Wang, Y. (2020)'s research on the relationship between learner characteristics and e-learning success. At the same time, attention can be paid to the differences in learning needs of different groups of students, providing more personalized strategic support.

#### **4. Focus on the Long-Term Impact of Technological Development on E-Education**

With the continuous development of emerging technologies such as artificial intelligence, virtual reality, and the metaverse, the form and content of e-education will undergo profound changes. Future research should pay close attention to the application of new technologies in the field of broadcasting and hosting e-education, conduct long-term tracking research on the application effects and impacts of new technologies, explore the integration paths of new technologies and e-education teaching, and ensure that e-education strategies can keep pace with technological progress. This direction responds to the need to pay attention to the impact of technological development in the field mentioned in Chapter 2 and refers to Zhao Yue's (2019) research ideas on "the impact of technological innovation on e-education" and Kozma, R. B. (2003)'s view on the role of technology in education. In addition, research on the ethical and social issues brought by new technologies in e-education can also be strengthened to promote the healthy and sustainable development of e-education.

#### **5. Promotion of Interdisciplinary Integration and Collaborative Innovation Research**

Broadcasting and Hosting Art is an interdisciplinary field involving communication, art, technology, and other disciplines. Future research should strengthen interdisciplinary collaboration, combine theories and methods from fields such as education, psychology, communication, and computer science, explore the internal mechanism of e-education effectiveness, and develop more scientific and effective e-education models and strategies; at the same time, strengthen collaborative research among universities, enterprises, and research institutions, integrate multiple resources, and promote the innovative development of e-education in the college Broadcasting and Hosting Art program. This direction responds to the lack of interdisciplinary research in the field mentioned in Chapter 2 and is consistent with Schrader, P. G., & Brown, M. (2014)'s view on "promoting e-education development through interdisciplinary collaboration" and the trend of

interdisciplinary integration in educational research. In addition, international collaborative research can be carried out to promote the exchange and sharing of e-education research results in the field of broadcasting and hosting art globally.

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## Appendices

## Appendix A

List of Specialists and Letters of Specialists Invitation  
for IOC Verification

## Specialists for IOC Verification

No	Experts	Experience (Years)	Professional Title	Work Unit
1	Liang Xiaofeng	22	Associate Professor Master's	Xi'an Peihua University
2	Zhang Kun	13	Associate Professor PhD	Xi'an Peihua University
3	Tang Hui	21	Associate Professor PhD Professor	Xi'an University of Finance and Economics
4	Xu Jiabiao	26	Postdoctoral Fellow	Shaanxi Normal University
5	Lin Mei	17	Professor Master	Shaanxi University of Science and Technology

## Lists of experts in Delphi

No	Experts	Experience (Years)	Professional Title	Work Unit
1	Shi Wenjie	Lecturer	8	Xi 'an Peihua University
2	Gan Huijie	Lecturer	8	Xi'an Peihua University
3	Mai Liying	Associate Professor	26	Xi'an Peihua University
4	Chen Lianlong	Associate Professor	13	Xi'an International Studies University
5	Xiao Jing	Associate Professor	13	Xi 'an Siyuan University
6	Xin Min	Lecturer	11	Xi 'an Peihua University
7	Xu Minjia	Associate Professor	16	Xi'an Physical Education University
8	Shang Yong	Lecturer	17	Xi 'an Peihua University
9	Du Ping	Associate Professor	26	Xi 'an Peihua University
10	Qu Yang	Lecturer	15	Xi 'an Peihua University
11	He Mingjia	Associate Professor	23	Shaanxi Normal University
12	Cai Xinyun	Associate Professor	17	Shaanxi University of Science & Technology

## Lists of experts in Delphi

No	Experts	Experience (Years)	Professional Title	Work Unit
13	Zhang Yusheng	Lecturer	16	Xi'an University of Technology
14	Gao Liang	Announcing Instructor	17	Xi 'an Peihua University
15	Hou Rende	Chief Announcer Host	8	Shaanxi Radio and TV Station
16	Yan Lichao	First-Level Announcer Host	7	Hebei Radio and TV Station
17	Li Zhiwei	First-Level Announcer Host	9	Xi 'an Radio and TV Station
18	Dong Xiangyu	First-Level Announcer Host	12	Shaanxi Radio and TV Station
19	Jia Dengyin	Announcing Instructor	23	Xinjiang Radio and TV Station
20	Tian Dasheng	First-Level Announcer Host	7	Shaanxi Radio and TV Station
21	Hou Xinyue	First-Level Announcer Host	7	Shaanxi Radio and TV Station

Appendix B  
Official Letter



Ref.No. MHESI 0643.14/51

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

6 February 2025

**Subject:** Invitation to validate research instrument

**Dear** Attachment A set of research instrument

Mrs.Tang Yunmin is a graduate student in Doctor of Education Program in Digital technology management for Education of Bansomdejchaopraya Rajabhat University. She is undertaking research entitled "E-education Strategy for the College Broadcasting and Hosting Art In Shaanxi Province"

The thesis advisory committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. In this regard, we would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Yours faithfully,

(Assistant Professor Dr.Thanaput Chanchaoren)  
Vice Dean of Graduate School for Dean of Graduate School

Bansomdejchaopraya Rajabhat University  
Tel.+662-473-7000  
[www.bsru.ac.th](http://www.bsru.ac.th)  
E-mail: grad@bsru.ac.th

Appendix C  
Research Instrument

**The ten questions of e-education of Broadcasting and Hosting Art  
in Shaanxi Province**

Q1. What do you think are the current challenges or issues in the e-education of Broadcasting and Hosting Art?
Q2. What do you think about how teacher professional development can contribute to enhancing the e-education of Broadcasting and Hosting Art?
Q3. What do you think about how curriculum design might be leveraged to improve the e-education of Broadcasting and Hosting Art?
Q4. What do you think about how teaching methodologies can be optimized to promote the e-education of Broadcasting and Hosting Art?
Q5. What do you think in what ways learning resources can be developed or improved to support the e-education of Broadcasting and Hosting Arts?
Q6. What do you think about how the learning environment can be structured or enhanced to facilitate the e-education of Broadcasting and Hosting Art?
Q7. What do you think about how the e-education of Broadcasting and Hosting Arts can be tailored according to learner characteristic?
Q8. What do you think about the role that educational technology can play in advancing the e-education of Broadcasting and Hosting Art?
Q9. What do you think about how learning outcomes might be better supported through the e-education of Broadcasting and Hosting Art?
Q10. What do you think about what assessment strategies should be employed to effectively evaluate the e-education of Broadcasting and Hosting Art?



Ref.No. MHESI 0643.14/51

Bansomdejchaopraya Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

6 February 2025

**Subject:** Invitation to validate research instrument

**Dear** Attachment A set of research instrument

Mrs.Tang Yunmin is a graduate student in Doctor of Education Program in Digital technology management for Education of Bansomdejchaopraya Rajabhat University. She is undertaking research entitled "E-education Strategy for the College Broadcasting and Hosting Art In Shaanxi Province"

The thesis advisory committee has considered that you are an expert in this topic. Your recommendations would be useful for further improvement of this research instrument.

With your expertise, we would like to ask your permission to validate the attached research instrument. In this regard, we would like to avail ourselves of this opportunity to express our sincere thanks and appreciation for your help.

Yours faithfully,

(Assistant Professor Dr.Thanaput Chanchaoren)  
Vice Dean of Graduate School for Dean of Graduate School

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Tel.+662-473-7000  
[www.bsru.ac.th](http://www.bsru.ac.th)  
E-mail: grad@bsru.ac.th

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	5	4	3	2	1
	<b>1. Teacher proficiency</b>					
1	Advanced implementation and professional development in intelligent instructional systems					
2	Constructing a synergistic “Teacher-Learner-Platform” ecosystem					
3	Upgrading the hardware ecosystem to enable 5G live-stream instruction					
4	Cross-platform integrative practica for experiential teaching					
5	Employing an intelligent learning-analytics platform					
6	Development of omni-media pedagogical resources					
7	Establishment of an online repository of instructional programmes					
8	Design of gamified online learning modules with progressive stages					
9	Cultivation of a distinguished Teacher-brand (Teacher“IP”)					
10	Creation of a metaverse-based innovative teaching-research community					
11	Data-driven instructional improvement					
12	Engagement in digital education competitions to advance pedagogy through contest					
13	Dissemination of best practices in e-education through collaborative sharing					
	<b>2. Course Design</b>					
14	Mandarin Pronunciation and Phonetic AI Assessment					
15	Broadcasting Creation: Celebrity Narration Video Library					
16	News Commentary: Hot Topic Repository					
17	Personal Podcast Production					
18	AI-Powered Virtual Host Tools					
19	commerce Live Streaming and Product Promotion					

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	5	4	3	2	1
20	Digitally-Driven Content Creation and Production					
21	Cross-Platform Content Creation Practice					
22	Modular Micro-Courses					
23	Weekly Live Streaming Practical Training					
24	Gamified Learning Reward Mechanisms					
25	Multi-Role Collaborative Simulation Exercises					
26	Big Data-Driven Personalized and Customized Learning					
	<b>3. Teaching Methods</b>					
27	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction					
28	Learning Management System (LMS)-Mediated Task Assignment and Workflow Management					
29	AI-Prompted Cueing to Support Guided Practice and Learning Recall					
30	Micro-Task Design for Incremental Learning Units					
31	Gamified Points-and-Levels Progression with Badge-Based Checkpoints					
32	Team-Versus-Team Competitive Tournaments for Collaborative Learning					
33	Trend-Driven Online Discussion Forums to Spark Topic-Based Engagement					
34	Danmaku-Enabled Interactive Instruction (Bullet-Comment Overlay Teaching)					
35	Online Showcase and Peer (or Expert) Critique of Student Creations					
36	Cultivating Social-Learning Communities via Online Forums or Community of Practice					
37	Skill-Based Digital Badging and E-Portfolio for Student Learning Records					

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	5	4	3	2	1
	<b>4. Leaning Resources</b>					
38	Broadcasting & Hosting Creative Foundations (China Communication University Open-Course MOOC)					
39	Putonghua Proficiency Test App					
40	Peiyinxu (Dubbing Show) App					
41	Sentence-Master App					
42	CCTV News App					
43	People 's Daily Insight Commentary App					
44	Ximalaya Broadcasting and Hosting Masters 'Classic- Reading App					
45	The Paper News App					
46	Douyin: Anchors Speak the News					
47	Self-Developed Digital E-Learning Resources					
	<b>5.Learning Environment</b>					
48	Creating immersive, low-distraction digital learning spaces					
49	Developing professional-grade e-learning terminals					
50	Utilizing software tools to construct a comprehensive learning ecosystem					
51	Providing unified, standardized, And user-friendly learning platforms					
52	Incorporating diverse digital content					
53	Establishing fixed learning rituals and fostering a sense of belonging					
54	Showcasing exemplary works on the platform to enhance collective identity					
55	Offering both online and offline learning packages					
56	Organizing student co-creation of projects to be included in the resource library					
57	Designing real-time interactive features to prevent the					

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	5	4	3	2	1
	"silent majority"					
58	Recording personalized audio feedback					
59	Cross-platform exhibition of outstanding works					
60	Generating data-driven learning reports through the platform					
	<b>6. Learner Characteristics</b>					
61	Making good use of electronic resource libraries					
62	Cloud-based port operation training camp					
63	AI intelligent follow-up training					
64	Virtual studio training					
65	Online live broadcast practical training					
66	Fragmented learning design					
67	Project-based practice					
68	Reverse scheduling					
69	Establishing personal learning spaces					
70	Achievement visualization					
71	Personal digital IP workshop					
72	Community-based mutual learning					
	<b>7. Educational Technology</b>					
73	AI Real-Time Error Correction and Personalized Tutoring					
74	New Media Content Generation and Collaboration					
75	Flipped Classroom: Micro-Lectures and Online Q&A					
76	Virtual Scene Simulation					
77	Real-World Task-Based Project Driving					
78	Stable and User-Friendly Digital Platforms					
79	Gamified Learning with Virtual Rewards, Including Points and Rankings					
80	Tracking and Analyzing Learning Behavior Data					

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	5	4	3	2	1
81	Personalized Learning Path Recommendations					
	<b>8. Learning Outcomes</b>					
82	Mandarin Phonetics & Vocalization Audio					
83	News-Broadcasting Video Collection					
84	Portfolio of News-Broadcasting Videos					
85	Voice-Over Demo Reel					
86	Impromptu Oral Expression Video Archive					
87	Short-Form Video Production Portfolio					
88	Large-Scale Event Hosting Videos & Planning					
89	Mandarin Proficiency Test Certificate (PSC)					
90	Showcase of Professional Learning Outcomes					
91	Honors Certificates from Event & Competition Activities					
92	Broadcaster/Host Qualification Certificate					
	<b>9. Learning Assessment</b>					
93	Quantitative Assessment of Phonetic Norm Compliance					
94	Logical Content Structuring Analysis					
95	Evaluation of Emotional Expression Appropriateness					
96	Technical Specification Review of Work					
97	Statistical Analysis of Learning Behavior Data					
98	Interdisciplinary Application Detection					
99	Evaluation of Hosting Effectiveness in Real-World Scenarios					
100	Industry Mentor Review					
101	Analysis of New Media User Data					
102	Vocational Competence Assessment					

## Appendix D

The Results of the Quality Analysis of Research Instruments

The index of objective congruence (IOC)  
E-education Strategies for the College Broadcasting and Hosting Art in  
Shaanxi Province

Items	E-education Strategies for the College Broadcasting and Hosting Art	Experts					IOC	Validity
		1	2	3	4	5		
	<b>1. Teacher Proficiency</b>							
1	Advanced implementation and professional development in intelligent instructional systems	1	1	1	1	1	1	Validity
2	Constructing a synergistic Teacher-Learner-Platformecosystem	1	1	1	1	1	1	Validity
3	Upgrading the hardware ecosystem to enable 5G live-stream instruction	1	0	1	0	1	0.6	Validity
4	Cross-platform integrative practica for experiential teaching	1	1	1	1	1	1	Validity
5	Employing an intelligent learning analytics platform	1	1	0	1	1	0.8	Validity
6	Development of omni-media pedagogical resources	1	1	0	1	0	0.6	Validity
7	Establishment of an online repository of instructional programmes	1	0	1	0	1	0.6	Validity
8	Design of gamified online learning modules with progressive stages	1	1	0	1	1	0.8	Validity
9	Cultivation of a distinguished Teacher-brand (Teacher “IP”)	1	0	1	1	1	0.8	Validity
10	Creation of a metaverse-based Innovative teaching-research community	0	1	1	1	0	0.6	Validity



Items	E-education Strategies for the College Broadcasting and Hosting Art	Experts					IOC	Validity
		1	2	3	4	5		
	Simulation Exercises							
26	Big Data-Driven Personalized and Customized Learning	1	1	1	1	0	0.8	Validity
	<b>3.Teaching Methods</b>							
27	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction	1	1	0	1	1	0.8	Validity
28	Learning Management System (LMS)-Mediated Task Assignment and Workflow Management	1	1	1	1	1	1	Validity
29	AI-Prompted Cueing to Support Guided Practice and Learning Recall	1	1	1	1	1	1	Validity
30	Micro-Task Design for Incremental Learning Units	1	1	1	1	1	1	Validity
31	Gamified Points-and-Levels Progression with Badge-Based Checkpoints	1	1	1	1	1	1	Validity
32	Team-Versus-TeamCompetitive T ournaments for Collaborative Learning	1	1	1	1	1	1	Validity
33	Trend-Driven Online Discussion Forums to Spark Topic-Based Engagement	1	1	1	1	1	1	Validity
34	Danmaku-EnabledInteractive Instruction (Bullet-Comment Overlay Teaching)	0	1	1	0	1	0.6	Validity
35	Online Showcase and Peer (or Expert) Critique of Student Creations	1	1	1	1	1	1	Validity
36	Cultivating Social-Learning	1	0	1	1	1	0.8	Validity

Items	E-education Strategies for the College Broadcasting and Hosting Art	Experts					IOC	Validity
		1	2	3	4	5		
	Communities via Online Forums or Community of Practice							
37	Skill-Based Digital Badging and E- Portfolio for Student Learning Records	1	0	1	1	0	0.6	Validity
	<b>4.learning resources</b>							
38	Broadcasting & Hosting Creative Foundations (China Communication University Open Course MOOC)	1	1	1	1	1	1	Validity
39	Putonghua Proficiency Test App	1	1	1	1	1	1	Validity
40	Peiyinxu (Dubbing Show) App	1	1	1	1	1	1	Validity
41	Sentence Master App	0	1	1	0	1	0.6	Validity
42	CCTV News App	1	1	1	1	1	1	Validity
43	People’s Daily Insight Commentary App	1	1	1	1	1	1	Validity
44	Ximalaya Broadcasting and Hosting Masters ’Classic-Reading App	1	1	1	1	1	1	Validity
45	The Paper News App	1	1	1	1	1	1	Validity
46	Douyin: Anchors Speak the News	1	1	1	1	1	1	Validity
47	Self-Developed Digital E-Learning Resources	1	1	1	1	1	1	Validity
	<b>5.Learning Environment</b>							
48	Creating immersive, low-distraction digital learning spaces	1	1	0	1	1	0.8	Validity
49	Developing professional-grade e- learning terminals	1	1	1	1	1	1	Validity
50	Utilizing software tools to construct a comprehensive learning ecosystem	1	0	1	1	0	0.6	Validity

Items	E-education Strategies for the College Broadcasting and Hosting Art	Experts					IOC	Validity
		1	2	3	4	5		
51	Providing unified, standardized, And user-friendly learning platforms	1	1	1	1	1	1	Validity
52	Incorporating diverse digital content	1	1	1	1	1	1	Validity
53	Establishing fixed learning rituals and fostering a sense of belonging	1	1	1	1	1	1	Validity
54	Showcasing exemplary works on the platform to enhance collective identity	1	1	1	1	1	1	Validity
55	Offering both online and offline learning packages	1	1	0	1	1	0.8	Validity
56	Organizing student co-creation of projects to be included in the resource library	1	1	1	0	0	0.6	Validity
57	Designing real-time interactive features to prevent the "silent majority"	1	1	1	1	1	1	Validity
58	Recording personalized audio feedback	1	0	1	0	1	0.6	Validity
59	Cross-platform exhibition of outstanding works	1	1	1	1	1	1	Validity
60	Generating data-driven learning reports through the platform	1	0	1	0	1	0.6	Validity
	<b>6.Learner Characteristics</b>							
61	Making good use of electronic resource libraries	1	1	1	1	1	1	Validity
62	Cloud-based port operation training camp	1	0	0	1	1	0.6	Validity
63	AI intelligent follow-up training	1	1	1	1	1	1	Validity
64	Virtual studio training	1	1	1	0	1	0.8	Validity

Items	E-education Strategies for the College Broadcasting and Hosting Art	Experts					IOC	Validity
		1	2	3	4	5		
65	Online live broadcast practical training	1	0	1	1	1	0.8	Validity
66	Fragmented learning design	1	1	1	1	0	0.8	Validity
67	Project-based practice	1	1	1	1	1	1	Validity
68	Reverse scheduling	0	1	1	0	1	0.6	Validity
69	Establishing personal learning spaces	1	1	1	1	1	1	Validity
70	Achievement visualization	1	1	1	1	1	1	Validity
71	Personal digital IP workshop	1	1	1	1	0	0.8	Validity
72	Community-based mutual learning	1	1	0	1	1	0.8	Validity
	<b>7. Educational Technology</b>							
73	AI Real-Time Error Correction and Personalized Tutoring	1	1	0	1	1	0.8	Validity
74	New Media Content Generation and Collaboration	1	1	1	1	1	1	Validity
75	Flipped Classroom: Micro-Lectures and Online Q&A	1	1	1	1	1	1	Validity
76	Virtual Scene Simulation	1	1	0	1	1	0.8	Validity
77	Real-World Task-Based Project Driving	1	1	1	1	1	1	Validity
78	Stable and User-Friendly Digital Platforms	1	1	1	1	1	1	Validity
79	Gamified Learning with Virtual Rewards, Including Points and Rankings	1	1	1	1	1	1	Validity
80	Tracking and Analyzing Learning Behavior Data	1	1	1	1	1	1	Validity
81	Personalized Learning Path Recommendations	1	1	1	1	1	1	Validity
	<b>8.Learning Outcomes</b>							







Ref.No. MHESI 0643.14/ 92

Bansomdejchaopraya  
Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

6 April 2025

Subject: Request permission to collect data by attending interviews and Questionnaires

Dear

Mrs.Tang Yunmin is a graduate student in Doctor of Education Program in Digital technology management for Education of Bansomdejchaopraya Rajabhat University. She is undertaking research entitled "E-education Strategy for the College Broadcasting and Hosting Art in Shaanxi Province", supervised by the thesis advisory committee as follows.

- |   |               |
|---|---------------|
| 1.Associate Professor Dr.Pong Horadal           | Major Advisor |
| 2.Assistant Professor Dr.Kanakorn Sawangcharoen | Co-Advisor    |
| 3.Associate Professor Dr.Sombat Teekasap        | Co-Advisor    |

In this regard, the student has applied the Delphi Method in her research. The thesis advisory committee and the student have considered that you are an expert in this field. Therefore, Graduate School would like to invite you to be an expert to provide the student with suggestions for her research.

Thank you for your kind considerations.

Yours faithfully,

(Assistant Professor Dr.Thanaput Chanchaoren)

Vice Dean of Graduate School for Dean of Graduate School

Graduate School

Tel.+662-473-7000 ext. 1814

E-mail: grad@bsru.ac.th

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
	<b>1.teacher proficiency</b>								
1	Advanced implementation and professional development in intelligent instructional systems	5.0	5.0	0.5					
2	Constructing a synergistic Teacher-Learner-Platform ecosystem	5.0	5.0	0.0					
3	Upgrading the hardware ecosystem to enable 5G live-stream instruction	4.0	4.0	1.0					
4	Cross-platform integrative practice for experiential teaching	5.0	5.0	0.0					
5	Employing an intelligent learning analytics platform	5.0	4.0	0.5					
6	Development of omni-media pedagogical resources	5.0	4.0	0.0					
7	Establishment of an online repository of instructional programmes	5.0	4.0	0.0					
8	Design of gamified online learning modules with progressive stages	4.0	4.0	0.5					
9	Cultivation of a distinguished Teacher-brand (Teacher “IP”)	4.0	4.0	0.5					
10	Creation of a metaverse-based innovative teaching-research community	3.0	3.0	0.0					
11	Data-driven instructional improvement	4.0	4.0	1.0					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
12	Engagement in digital education competitions to advance pedagogy through contest	5.0	5.0	0.5					
13	Dissemination of best practices in e-education through collaborative sharing	5.0	5.0	1.0					
	<b>2. Course Design</b>								
14	Mandarin Pronunciation and Phonetic AI Assessment	5.0	5.0	0.0					
15	Broadcasting Creation: Celebrity Narration Video Library	5.0	5.0	0.0					
16	News Commentary: Hot Topic Repository	4.0	4.0	0.0					
17	Personal Podcast Production	3.0	3.0	1.0					
18	AI-Powered Virtual Host Tools	4.0	4.0	0.5					
19	commerce Live Streaming and Product Promotion	5.0	5.0	0.5					
20	Digitally-Driven Content Creation and Production	5.0	5.0	0.0					
21	Cross-Platform Content Creation Practice	5.0	5.0	0.0					
22	Modular Micro-Courses	5.0	5.0	0.0					
23	Weekly Live Streaming Practical Training	4.0	4.0	0.5					
24	Gamified Learning Reward Mechanisms	5.0	5.0	0.0					
25	Multi-Role Collaborative Simulation Exercises	4.0	4.0	1.0					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
26	Big Data-Driven Personalized and Customized Learning	5.0	3.0	0.0					
	<b>3.Teaching Methods</b>								
27	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction	5.0	5.0	0.0					
28	Learning Management System (LMS)-Mediated Task Assignment and Workflow Management	5.0	5.0	0.0					
29	AI-Prompted Cueing to Support Guided Practice and Learning Recall	5.0	5.0	0.0					
30	Micro-Task Design for Incremental Learning Units	5.0	5.0	0.5					
31	Gamified Points-and-Levels Progression with Badge-Based Checkpoints	5.0	5.0	0.0					
32	Team-Versus-Team Competitive Tournaments for Collaborative Learning	5.0	5.0	0.5					
33	Trend-Driven Online Discussion Forums to Spark Topic-Based Engagement	5.0	5.0	0.0					
34	Danmaku-Enabled Interactive Instruction (Bullet-Comment Overlay Teaching)	3.0	3.0	1.0					
35	Online Showcase and Peer (or Expert) Critique of Student	5.0	5.0	0.0					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
	Creations								
36	Cultivating Social-Learning Communities via Online Forums or Community of Practice	4.0	4.0	0.5					
37	Skill-Based Digital Badging and E-Portfolio for Student Learning Records	4.0	4.0	0.5					
	<b>4.learning resources</b>								
38	Broadcasting & Hosting Creative Foundations (China Communication University Open Course MOOC)	5.0	5.0	0.0					
39	Putonghua Proficiency Test App	5.0	5.0	0.0					
40	Peiyinxu (Dubbing Show) App	5.0	5.0	0.0					
41	Sentence Master App	4.0	4.0	1.0					
42	CCTV News App	5.0	5.0	0.0					
43	People's Daily Insight Commentary App	5.0	5.0	0.5					
44	Ximalaya Broadcasting and Hosting Masters ' Classic-Reading App	5.0	5.0	0.0					
45	The Paper News App	4.0	4.0	1.0					
46	Douyin: Anchors Speak the News	5.0	5.0	0.0					
47	Self-Developed Digital E-Learning Resources	5.0	5.0	0.5					
	<b>5.Learning Environment</b>								
48	Creating immersive, low-distraction digital learning spaces	5.0	5.0	0.0					
49	Developing professional-grade e-learning terminals	5.0	5.0	0.0					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
50	Utilizing software tools to construct a comprehensive learning ecosystem	3.0	3.0	1.0					
51	Providing unified, standardized, And user-friendly learning platforms	5.0	5.0	0.0					
52	Incorporating diverse digital content	5.0	5.0	0.0					
53	Establishing fixed learning rituals and fostering a sense of belonging	4.0	4.0	0.5					
54	Showcasing exemplary works on the platform to enhance collective identity	5.0	5.0	0.0					
55	Offering both online and offline learning packages	5.0	5.0	0.0					
56	Organizing student co-creation of projects to be included in the resource library	5.0	5.0	0.5					
57	Designing real-time interactive features to prevent the "silent majority"	5.0	5.0	0.0					
58	Recording personalized audio feedback	4.0	4.0	1.0					
59	Cross-platform exhibition of outstanding works	5.0	5.0	0.0					
60	Generating data-driven learning reports through the platform	4.0	4.0	0.5					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
	<b>6.Learner Characteristics</b>								
61	Making good use of electronic resource libraries	5.0	5.0	0.0					
62	Cloud-based port operation training camp	4.0	4.0	0.5					
63	AI intelligent follow-up training	5.0	5.0	0.0					
64	Virtual studio training	5.0	5.0	0.0					
65	Online live broadcast practical training	4.0	4.0	0.0					
66	Fragmented learning design	5.0	5.0	0.5					
67	Project-based practice	5.0	5.0	0.0					
68	Reverse scheduling	3.0	3.0	1.0					
69	Establishing personal learning spaces	4.0	4.0	0.0					
70	Achievement visualization	5.0	5.0	0.0					
71	Personal digital IP workshop	4.0	4.0	0.5					
72	Community-based mutual learning	4.0	4.0	0.5					
	<b>7.Educational Technology</b>								
73	AI Real-Time Error Correction and Personalized Tutoring	5.0	5.0	0.0					
74	New Media Content Generation and Collaboration	5.0	5.0	0.0					
75	Flipped Classroom: Micro-Lectures and Online Q&A	5.0	5.0	0.0					
76	Virtual Scene Simulation	5.0	5.0	0.5					
77	Real-World Task-Based Project Driving	5.0	5.0	0.0					
78	Stable and User-Friendly Digital	5.0	5.0	0.0					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
	Platforms								
79	Gamified Learning with Virtual Rewards, Including Points and Rankings	5.0	5.0	0.0					
80	Tracking and Analyzing Learning Behavior Data	4.0	4.0	0.5					
81	Personalized Learning Path Recommendations	4.0	4.0	0.0					
	<b>8.Learning Outcomes</b>								
82	Mandarin Phonetics & Vocalization Audio	5.0	5.0	1.0					
83	News-Broadcasting Video Collection	5.0	5.0	0.0					
84	Portfolio of News-Broadcasting Videos	5.0	5.0	0.0					
85	Voice-Over Demo Reel	5.0	5.0	1.0					
86	Impromptu Oral Expression Video Archive	5.0	5.0	0.5					
87	Short Form Video Production Portfolio	5.0	5.0	0.0					
88	Large-Scale Event Hosting Videos & Planning	4.0	4.0	0.0					
89	Mandarin Proficiency Test Certificate (PSC)	5.0	5.0	0.0					
90	Showcase of Professional Learning Outcomes	5.0	5.0	0.0					
91	Honors Certificates from Event & Competition Activities	5.0	5.0	1.0					

No	E-education Strategies for the College Broadcasting and Hosting Art	Md	Mo	IQR	5	4	3	2	1
92	Broadcaster/Host Qualification Certificate	4.0	4.0	0.5					
	<b>9.learning assessment</b>								
93	Quantitative Assessment of Phonetic Norm Compliance	4.0	4.0	0.5					
94	Logical Content Structuring Analysis	4.0	4.0	0.5					
95	Evaluation of Emotional Expression Appropriateness	5.0	5.0	0.5					
96	Technical Specification Review of Work	5.0	5.0	0.0					
97	Statistical Analysis of Learning Behavior Data	4.0	4.0	0.0					
98	Interdisciplinary Application Detection	3.0	3.0	1.0					
99	Evaluation of Hosting Effectiveness in Real-World Scenarios	4.0	4.0	0.5					
100	Industry Mentor Review	5.0	5.0	0.0					
101	Analysis of New Media User Data	5.0	5.0	0.0					
102	Vocational Competence Assessment	5.0	5.0	0.0					

### Lists of experts in Focus Group

No	Experts	Experience (Years)	Professional Title	Work Unit
1	Ma Guangchao	Chief Announcer	17	China Education Television
2	Tie Wei	Professor	33	Xi'an University of Finance and Economics
3	Zhao Wei	Professor Senior Editor	30	Xi'an Peihua University
4	Zhu Xiaoyu	Professor	34	Shaanxi Normal University
5	Zhou Donghua	Professor	37	Northwest University
6	Li Yaming	Professor	17	Shaanxi University of Science and Technology
7	Fan Qiang	Associate Professor	17	Xi'an International Studies University
8	Chen Jie	Announcer -in-Chief	42	Shaanxi TV Station
9	He Daqing	Announcer -in-Chief	43	Xi'an TV Station

Ref.No. MHESI 0643.14/ 465



Bansorndejchaopraya  
Rajabhat University  
1061 Itsaraparb Hirunrujee  
Thonburi Bangkok 10600

6 June 2025

**Subject:** Invitation to join a focus group discussion as an expert

**Dear**

**Attachment:** A focus group discussion schedule

Ms.Tang Yunmin is a graduate student in Doctor of Education Program in Digital technology management for Education of Bansorndejchaopraya Rajabhat University. She is undertaking research entitled "E-education Strategy for the College Broadcasting and Hosting Art in Shaanxi Province", supervised by the thesis advisory committee as follows.

- |   |               |
|---|---------------|
| 1.Associate Professor Dr.Pong Horadal           | Major Advisor |
| 2.Assistant Professor Dr.Kanakorn Sawangcharoen | Co-Advisor    |
| 3.Associate Professor Dr.Sombat Teekasap        | Co-Advisor    |

In this regard, the student has applied the Delphi Method in her research.The thesis advisory committee and the student have considered that you are an expert in this field. Therefore, Graduate School would like to invite you to be an expert to join the focus group discussion to provide the student with suggestions for her research.

Thank you for your kind considerations.

Yours faithfully,

(Assistant Professor Dr.Thanaput Chanchaoren)

Vice Dean of Graduate School for Dean of Graduate School

Graduate School  
Tel.+662-473-7000 ext. 1814  
E-mail: grad@bsru.ac.th

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	Result			
		Pass	Modify	Add	Delete
	<b>1.teacher proficiency</b>				
1	Constructing a synergistic "Teacher-Learner-Platform" ecosystem				
2	Advanced implementation and professional development in intelligent instructional systems				
3	Design of gamified online learning modules with progressive stages				
4	Engagement in digital education competitions to advance pedagogy through contest				
5	Dissemination of best practices in e-education through collaborative sharing				
6	Cross-platform integrative practica for experiential teaching				
7	<b>Development</b> of omni-media pedagogical resources				
8	Establishment of an online repository of instructional programmes				
	Suggestion:				
	<b>2.Course Design</b>				
9	Mandarin Pronunciation and Phonetic AI Assessment				
10	Broadcasting Creation: Celebrity Narration Video Library				
11	Cross-Platform Content Creation Practice				
12	commerce Live Streaming and Product Promotion				
13	Gamified Learning Reward Mechanisms				
14	Big Data-Driven Personalized and Customized Learning				

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	Result			
		Pass	Modify	Add	Delete
	Suggestion:				
	<b>3.Teaching Methods</b>				
15	Learning Management System (LMS)-Mediated Task Assignment and Workflow Management				
16	Micro-Task Design for Incremental Learning Units				
17	Gamified Points-and-Levels Progression with Badge-Based Checkpoints				
18	Team-Versus-Team Competitive Tournaments for Collaborative Learning				
19	Trend-Driven Online Discussion Forums to Spark Topic- Based Engagement				
20	Online Showcase and Peer (or Expert) Critique of Student Creations				
21	Skill-Based Digital Badging and E-Portfolio for Student Learning Records				
22	AI-Prompted Cueing to Support Guided Practice and Learning Recall				
23	Cultivating Social-Learning Communities via Online Forums or Community of Practice				
24	Technology-Enhanced Intelligent Diagnostic Assessment and Stratified Instruction				
	Suggestion:				
	<b>4.Leaning Resources</b>				
25	Putonghua Proficiency Test App				
26	CCTV News App				

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	Result			
		Pass	Modify	Add	Delete
27	Ximalaya Broadcasting-and-Hosting Masters 'Classic-Reading App				
28	Douyin: Anchors Speak the News				
29	Broadcasting & Hosting Creative Foundations (China Communication University Open-Course MOOC)				
30	People 's Daily Insight Commentary App				
31	Peiyinxu (Dubbing Show) App				
32	Self-Developed Digital E-Learning Resources				
	Suggestion:				
	<b>5.Learning Environment</b>				
33	Developing professional-grade e-learning terminals				
34	Creating immersive, low-distraction digital learning spaces				
35	Establishing fixed learning rituals and fostering a sense of belonging				
36	Designing real-time interactive features to prevent the "silent majority"				
37	Offering both online and offline learning packages				
38	Showcasing exemplary works on the platform to enhance collective identity				
39	Organizing student co-creation of projects to be included in the resource library				
40	Recording personalized audio feedback				
	Suggestion:				

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	Result			
		Pass	Modify	Add	Delete
	<b>6.Learner Characteristics</b>				
41	AI intelligent follow-up training				
42	Project-based practice				
43	Achievement visualization				
44	Making good use of electronic resource libraries				
45	Virtual studio training				
46	Online live broadcast practical training				
47	Establishing personal learning spaces				
48	Personal digital IP workshop				
	Suggestion:				
	<b>7.Educational Technology</b>				
49	Stable and User-Friendly Digital Platforms				
50	New Media Content Generation and Collaboration				
51	Flipped Classroom: Micro-Lectures and Online Q&A				
52	Virtual Scene Simulation				
53	AI Real-Time Error Correction and Personalized Tutoring				
54	Gamified Learning with Virtual Rewards, Including Points and Rankings				
55	Tracking and Analyzing Learning Behavior Data				
56	Personalized Learning Path Recommendations				
	Suggestion:				

No	E-education Strategies for the College Broadcasting and Hosting Art in Shaanxi Province	Result			
		Pass	Modify	Add	Delete
	<b>8.Learning Outcomes</b>				
57	Portfolio of News-Broadcasting Videos				
58	Portfolio of Literary & Artistic Works				
59	Short-Form Video Production Portfolio				
60	Voice-Over Demo Reel				
61	Mandarin Proficiency Test Certificate (PSC)				
62	Showcase of Professional Learning Outcomes				
	Suggestion:				
	<b>9.learning assessment</b>				
63	Technical Specification Review of Work				
64	Statistical Analysis of Learning Behavior Data				
65	Analysis of New Media User Data				
66	Industry Mentor Review				
67	Vocational Competence Assessment				
68	Technical Specification Review of Work				
	Suggestion:				

Appendix E  
Certificate of English

**BSRU**

**BANSOMDEJCHAOPTIMA**  
RAJABHAT UNIVERSITY

This is to certify that

***Miss Tang Yunmin***

Achieved BSRU English Proficiency Test (BSRU-TEP) level

**C1**

Given on 15<sup>th</sup> August 2025o



Assistant Professor Dr Kulsirin Aphiratvoradej

Director

## Appendix F

The Document for Acceptance Research



## African Educational Research Journal

www.netjournals.org


**Date:** February 10, 2026

**Ref:** AERJ-2026-010

**Title:** *E-education strategies for teaching broadcasting and hosting arts in colleges in Shaanxi Province*

**Yunmin Tang**

Bansomdejchaopraya Rajabhat University  
Bangkok  
Thailand



### Acceptance Letter

Dear Yunmin Tang,

We are pleased to inform you that your manuscript, titled "*E-education strategies for teaching broadcasting and hosting arts in colleges in Shaanxi Province*," by authors "**Yunmin Tang, Pong Horada, Kanakorn Sawangcharoen and Sombat Teekasap**," has been accepted for publication in the *African Educational Research Journal*.

The manuscript will be published in Volume 14, Issue 1, February 2026.

The final Galley Proof will be sent to you via email as an Acrobat PDF (Portable Document Format) file. Please note that at this stage, only essential corrections to errors in the text or figures will be permitted. Any other alterations will not be acceptable.

We congratulate you on this achievement and thank you for choosing the *African Educational Research Journal* as the platform for your research. Should you have any questions or require further assistance, please do not hesitate to contact us.



Best regards,



Ejofodomi Triumphant  
Manager  
Net Journals



## Researcher Profile

**Name-Surname:** Yunmin Tang  
**Birthday:** May 18, 1984  
**Place of Birth:** Liaocheng City, ShanDong Province, China

### **Educational background:**

- Master of Radio and Television Art, graduated from Shaanxi Normal University, in June 2012
- Mathematics education, Nanyang Normal University, in 2009

### **Work experience:**

- Mathematics teacher, Jinan Engineering Polytechnic, 2005-Present
- Mathematics teacher, Jinan Finance School, 2002-2005

### **Office Location:**

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