COSTRUCTION OF AN EVALUATION SYSTEM FOR MICRO-VIDEO TEACHING RESOURES IN CHINESE FOLK TRADITIONAL CRAFT

YI SHEN

A DISSERTATION SUBMITTED IN PARTIAL FULLFILLMENT
OF THE REQUIREMENT FOR THE DEGREE OF DOCTOR OF SCIENCE IN
TECHNICAL EDUCATION PROGRAM IN VOCATIONAL EDUCATION
FACULTY OF TECHNICAL EDUCATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
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วิทยานิพนธ์ฉบับนี้เป็นงานวิจัยที่เกิดจากการค้นคว้าและวิจัย ขณะที่ข้าพเจ้าศึกษาอยู่ในคณะครุศาสตร์อุตสาหกรรม มหาวิทยาลัยเทคโนโลยีราชมงคลธัญบุรี ดังนั้น งานวิจัยในวิทยานิพนธ์ฉบับนี้ถือเป็นลิขสิทธิ์ของมหาวิทยาลัยเทคโนโลยีราชมงคลธัญบุรี และข้อความต่าง ๆ ในวิทยานิพนธ์ฉบับนี้ ข้าพเจ้าขอรับรองว่าไม่มีการคัดลอกหรือนำงานวิจัยของผู้อื่นมานำเสนอในชื่อของข้าพเจ้า

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Program	Vocational Education
Dissertation Advisor	Assistant Professor Tiamyod Pasawano, Ed.D.
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ABSTRACT

The purposes of this research were to: 1) synthesize learning process theories related to the construction of an evaluation system for micro video teaching resources in Chinese folk traditional crafts and 2) identify and develop the construction of an evaluation system for micro video teaching resources in Chinese folk traditional crafts.

In the rapidly evolving digital transformation landscape, this study addressed the formidable challenges facing the preservation and education of China's traditional folk arts and crafts, particularly within the dynamic environment of Thailand's progressively digitized society. This study delved into the implementation of micro-video evaluation system as a pivotal learning resource for traditional folk crafts in China, conducting research against the vibrant backdrop of Thailand. The "Research and Development" design guided the study through three integral procedures: (a) preliminary study, (b) model development, and (c) model testing and implementation. The preliminary study encompassed an extensive literature review, a meticulous field survey, and a thorough analysis of findings. Through in-depth analysis and participatory observations, the research revealed nuanced insights into participants' perceptions and experiences with micro-videos as a teaching tool for traditional crafts.

The findings highlighted positive impact on students and instructors by showcasing an enhanced learning experience and increased engagement. Additionally, challenges in integrating micro-videos within the multicultural context of Thailand were identified, providing practical considerations for educators and policymakers. Anticipated outcomes included a comprehensive understanding of the potential and challenges associated with micro-video implementation in teaching traditional folk arts and crafts. The study envisioned contributing to practical insights that effectively and culturally shaped relevant teaching methods essential to preserve traditional arts in the digital age. This research significantly contributed to the scholarly literature on integrating technology in teaching traditional arts and emphasized the practical applications of micro videos within Thailand's multicultural environment. The derived insights were poised to offer valuable guidance to educators, researchers, and policymakers, facilitating nuanced understanding of the profound impact of technology on the learning and preservation of traditional arts in the digital age.

Keywords: micro-video teaching, Chinese folk crafts, digital transformation, traditional arts education, multicultural learning

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List of Abbreviations

CFTC	Chinese Folk Traditional Crafts
ESMVT	Evaluation System for Micro Video Teaching
MVT	Micro-Video Teaching
NLP	Natural Language Processing
TPACK	Technological Pedagogical And Content Knowledge
RCFTC	Resources in Chinese Folk Traditional Crafts

CHAPTER 1
INTRODUCTION

1.1 Background and Statement of the Problem

In a rapidly evolving era of digital technology, the Chinese people's traditional folk arts and crafts face significant challenges in preservation and education(Song et al., 2019) .Particularly in Thailand, caught in the escalating wave of digitalization, the sustainability of these arts and crafts is increasingly jeopardized (Chai-Arayalert et al., 2021). The integration of technology, especially through the micro-video evaluation system, is identified as a key element in addressing the complexity of these challenges. The use of technology, specifically through the micro video evaluation system, has great potential to enrich and preserve cultural heritage in an era of increasingly interconnected globalization (Wei, 2020; M. Zhang, 2022). Thailand, as a representative of technological progress in Southeast Asia, becomes a compelling stage to explore the role of technology in preserving traditional Chinese arts and crafts. This qualitative research primarily explores the impact of using micro-videos as a learning resource in traditional Chinese arts and crafts in Thailand. In this context, multimedia technology can significantly enhance interactivity and student engagement in learning traditional arts (Liu et al., 2022a; Ruan, 2022a). The research is committed to understanding not only the participants' perceptions but also the instructors' experiences and how technology shapes the teaching and learning of traditional arts. Furthermore, this research intends to provide a theoretical and practical foundation for developing more effective and contextual methods of teaching traditional arts and crafts. Integrating technology into teaching traditional arts is not just an urgent need but a necessity to preserve and pass on cultural richness (Collins & Halverson, 2010; Soini & Birkeland, 2014; Wilson, 2003a). In delving into a profound understanding of the role of technology, especially micro-videos, in teaching traditional arts and crafts in Thailand, this research synthesizes the thoughts of several prominent researchers.(Sugita et al., 2021) . focusing on the role of technology in preserving traditional arts provides a crucial conceptual framework. Meanwhile, Sherry Mayo (Mayo, 2007).underscores technology integration as integral to art education.

Micro-videos' positive impact in the learning context(Ester et al., 2023; Weinberg & Thomas, 2018) serves as a rich theoretical foundation for this research. Through synthesizing the thoughts of these researchers, this study aims to explore, more profoundly and comprehensively, how the use of micro-videos can enrich the learning experience of traditional arts and crafts in Thailand. Using technology in the traditional art context can play a vital role in sustaining and stimulating student interest (Yang et al., 2018). Additionally, Hetland, Lois (Hetland, 2013) emphasizes the importance of adapting traditional teaching methods with technology to enhance the effectiveness of art education. While previous research has highlighted the role of technology in preserving traditional arts and education in the digital era, an in-depth study on the integration of micro-videos in the context of traditional Chinese arts and crafts in Thailand is still limited. There is a knowledge gap in understanding the impact of micro-video use in learning traditional arts and crafts(Geng & He, 2021), especially in the multicultural environment of Thailand. This research attempts to fill this gap by providing deeper insights.

This study details the role of technology, especially micro-videos, in developing more adaptive and contextual methods of teaching traditional arts and crafts in Thailand. It serves as a foundation for further research and the development of teaching practices.

1.2 Significance of the Study

The dissertation attends to important components that lead to synthesize learning process theories related to Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts; and to identify and develop Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts.

1.3 Purpose of the Study

The objectives of the study are as follows:

1.3.1 To synthesize learning process theories related to Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts.

1.3.2 To identify and develop Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts.

1.4 Research Questions and Hypothesis

1.4.1 How can an effective Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts?

1.4.2 What are the key factors in identifying and developing Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts?

1.5 Conceptual Framework

This research adopts a "Research and Development" approach. This approach constitutes a development model with a focus on industry growth, enhancement and or improvement as in Figure 1.1.

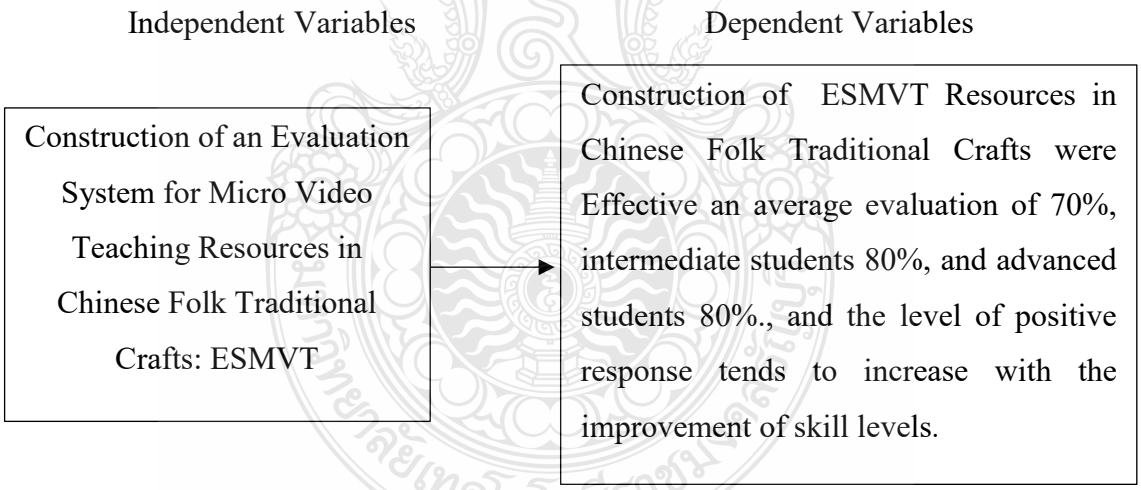

Figure 1.1 Conceptual Framework of ESMVT

1.6 Theoretical Perspective

1.6.1 Learning process theories are defined Construction of an ESMVT resources in Chinese Folk Traditional Crafts.

1.6.2 The theoretical perspectives of the review of these theories focus on four terms, namely principles, teaching-learning activities/strategies, teaching-learning environments and teaching- learning models.

1.6.3 The Delphi technique was used to synthesize Construction of an ESMVT resources in Chinese Folk Traditional Crafts.

1.7 Definition Perspective

The following is a list of definitions of this study:

1.7.1 An effective construction of an evaluation system for micro video teaching resources in Chinese folk traditional crafts.

1.7.2 Self-regulated learning refers to one's ability to understand and control one's learning environment. Construction of an evaluation system for micro video teaching resources in Chinese folk traditional crafts.

1.7.3 Construction of an evaluation system for micro video teaching resources in Chinese folk traditional crafts. How to create an construction of an ESMVT resources in Chinese folk Traditional crafts refers to the idea, policy and measures that construct and manage teaching, learning, research, service and management in the education and culture. The construction of an ESMVT resources in Chinese folk traditional crafts. In the university of junior high schools.

1.7.4 The Delphi technique means a process mostly used in research and economics, aiming to collect opinions on a particular research question or specific topic, to gain consensus. The opinions are collected from a group of experts that are not physically assembled, normally through questionnaires. A specific number of experts, qualified in higher education internationalization and education technology determined the results. They had doctoral degrees or had worked for over five years at least in the position of Professor, Associate Professor, Lecturer and Researcher.

1.8 Expected Benefits

The expected benefits focus on the following:

1.8.1 This research provides Construction of an ESMVT resources in Chinese folk traditional crafts.

1.8.2 This research helps to identify and develop to construction of an ESMVT resources in Chinese folk traditional crafts.

CHAPTER 2
LITERATURE REVIEW

This chapter will contribute further to the literature review during the study's design and present to identify and develop an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts. This chapter is divided into the following parts:

2.1 Preservation of traditional Arts and Crafts in the digital era

2.2 The role of technology in traditional Art education

2.3 The integration of micro-videos in Art education

2.4 Adapting traditional teaching methods with technology

2.5 Delphi method

2.6 Approach to ethical analysis

2.7 Literature review of relevance of research

2.1 Preservation of Traditional Arts and Crafts in the Digital Era

Chinese folk traditional arts and crafts have become the focal point of increasing attention in response to preservation and educational efforts amidst the rapid advancements of digital technology (Lu et al., 2019). Confronted with the ever-growing wave of digitalization in Thailand, these artworks face significant challenges in maintaining their identities (Yuktirat et al., 2018) .Preserving traditional art extends beyond the mere safeguarding of physical artifacts; it also involves a profound exploration of the cultural roots in which the art grows and evolves (Cong, 2021). In this context, some inspiring perspectives view the preservation of traditional art as a call for contemporary innovation and adaptation. The necessity of technological integration is highlighted as it bridges potential divides between tradition and innovation (Albiladi & Alshareef, 2019). In this dynamic interplay, micro-videos emerge as highly potent tools, capable of opening doors to a deeper and broader understanding of the cultural heritage carried by traditional art (Gawande et al., 2020). Their positive impact in the learning context is particularly notable, catalyzing contemporary approaches that enhance the appreciation and preservation of traditional artistic practices.

Moreover, debates surrounding the preservation of traditional art come to the forefront with essential questions, such as to what extent technology can be an ally in this preservation process and how such innovations can sustain cultural heritage. In this context, integrating micro-videos as a representation of technology can make a tangible contribution to preserving traditional Chinese arts and crafts (Nie et al., 2019). With a focus on the cultural richness embedded in traditional art, micro-videos have the potential to revive and enrich the stories behind each piece of art (Xinge et al., 2023). Alongside technological advancements, these developments lead us to critical questions about how we can blend traditional wealth with the ever-changing digital era and how technology can be directed to be a supportive tool (Gustiani et al., 2020) rather than a replacement for the cultural values embedded in traditional art. The emphasis on technological integration, such as micro-videos, as a solution to bridge the gap between tradition and innovation, propels our thinking to the next level (Li, 2016). Ethical questions also emerge beyond its practical aspects, namely, using technology as a medium to preserve traditional art. These ethical considerations give rise to a crucial dialogue about how technology, with all its potential, can be applied responsibly in traditional art and culture (Carlson, 2013).

2.2 The Role of Technology in Traditional Art Education

The significance of integrating technology into traditional art education is widely acknowledged by researchers (Ruan, 2022b; Wilson, 2003b). Technology is not merely a tool but a medium that enables traditional art to evolve continuously in a modern context (Salomon, 2016)). Technology, such as micro-videos, can enhance interactivity and student engagement (Frydenberg & Andone, 2016) in learning traditional art. With the advancement of technology, this approach becomes increasingly relevant in providing a comprehensive and inclusive learning experience.

The role of technology further emphasizes that technology can open access to global art resources, create extensive learning networks, and assist students in connecting traditional art with contemporary trends (Wang, 2019). Integrating technology into traditional art education is not just about adapting to the digital age; it is a strategic move to enrich the learning experience and broaden students' perspectives (Boelens et al., 2017).

In the context of traditional Chinese arts and crafts in Thailand, where the preservation of cultural heritage faces unique challenges, the role of technology in education becomes even more critical (Huang, 2021). Micro-videos as a technological tool aligns with the global digitalization trend and offer a practical solution to the challenges posed by the rapidly changing landscape (B. E. Trancourt & Benetos, 2018). This integration does not replace traditional teaching methods but complements them, creating a dynamic and adaptive learning environment (Sofyan et al., 2019).

As technology advances, it brings new possibilities for innovative and effective teaching methods in traditional art education (Hernandez-de-Menendez et al., 2020). Technology facilitates a bridge between the rich tradition of Chinese arts and crafts and the contemporary world, creating a holistic educational experience for students (Wu, 2023). The ongoing exploration of technology's role in traditional art education is not just about keeping pace with the times; it is about ensuring the relevance and vibrancy of traditional arts in the face of modern challenges (Motake, 2020).

2.3 The Integration of Micro-Videos in Art Education

Using micro-videos in the context of traditional art education has garnered specific attention from researchers (W. Zhang et al., 2022). Micro-videos present information visually and provide a profound and contextual understanding of traditional arts and crafts. Through its visual prowess, micro-videos enable students to delve into the subtle details of artworks, such as crafting techniques, symbolism, and historical contexts (Chen & Yu, 2021). Micro-videos can enhance students' motivation, provide a more personalized learning experience, and create emotional connections with the subject matter (Fu et al., 2021). Therefore, the use of micro-videos in traditional art education in Thailand becomes a compelling and relevant research focus.

The visual appeal of micro-videos is particularly advantageous in teaching traditional Chinese arts and crafts. Traditional artworks often carry intricate details and nuanced techniques that may be challenging to convey through conventional teaching methods (Sabol, 2022). The dynamic and engaging nature of micro-videos allows students to witness the artistic process firsthand,fostering a more profound appreciation for the intricacies involved (Liu et al., 2021).

Furthermore, the cultural context inherent in traditional art discovers an appropriate means of expression through micro-videos. Serving as a bridge between cultural heritage and contemporary education, these micro-videos establish a connection that enables students to delve into the intricate history and symbolism embedded in traditional artworks (Kingsburgh, 2023). This connection goes beyond the academic realm, fostering a sense of cultural identity and appreciation. In the multicultural environment of Thailand, where traditional Chinese arts and crafts may be viewed through diverse cultural lenses, micro-videos offer a universal language that transcends cultural barriers. The visual storytelling inherent in micro-videos becomes a powerful tool for conveying the essence of traditional art, making it accessible and relatable to a broad audience (Li, 2023).

In summary, integrating micro-videos in traditional art education brings a transformative dimension to the learning experience. The visual richness and its capacity to evoke emotions and cultural connections position micro-videos as a valuable resource in preserving and disseminating traditional arts and crafts in the digital age.

2.4 Adapting Traditional Teaching Methods with Technology

Adapting traditional teaching methods with technology has become imperative in maintaining the effectiveness of traditional art education (H. A. El-Sabagh, 2021; P. J. Durlach, and A. M. Lesgold, 2012). Technology, such as micro-videos, can enhance students' access to various educational resources (Widyarto, 2019). This integration opens new opportunities to make art learning more enjoyable and engaging.

In the realm of traditional Chinese arts and crafts in Thailand, this research delves into the significance of this adaptation. By examining examples of reasonable changes in teaching methods, this study seeks to uncover how technology, especially micro-videos, can catalyze the effectiveness of traditional art education. Integrating technology in traditional art education, particularly through micro-videos, offers multifaceted advantages. Firstly, it addresses the evolving learning preferences of contemporary students, who are increasingly inclined toward visual and interactive learning modes (Dwinggo Samala et al., 2023). Micro-videos, with their concise yet informative content, align with the digital-native generation's expectations, making the

learning experience more engaging and relevant. Furthermore, micro-video adaptability facilitates a flexible and personalized approach to learning (Liu et al., 2020). Traditional art education often involves hands-on experiences, and micro-videos complement these practical aspects by providing supplementary visual materials. Students can revisit and review specific techniques and processes as often as needed, promoting a deeper understanding and mastery of traditional art skills.

Technology integration allows Students to explore diverse artistic styles, historical periods, and cultural contexts virtually (Mai, 2019). Micro-videos serve as dynamic portals, transporting students to different artistic landscapes and fostering a broader appreciation for the rich tapestry of traditional arts (Awrus et al., 2020). In conclusion, adapting traditional teaching methods with technology, particularly the integration of micro videos, marks a pivotal shift in the landscape of traditional art education. This transformative approach caters to contemporary learners' preferences and enhances accessibility, flexibility, and the overall effectiveness of imparting traditional art knowledge and skills.

2.5 Delphi method Delphi Method for Micro-Video Teaching Evaluation System Construction

A panel of experts uses surveys or rounds of discussion to systematically obtain and revise input on a topic using the Delphi method. Many fields employ this strategy to gather opinions and reach consensus on complex or ambiguous subjects. The Delphi technique can help educators, technologists, and other stakeholders create a complete and effective micro-video teaching assessment system (He & Cao, 2021).

2.5.1 Gordon et al. (2015) describe a procedure that involves the utilization of the Delphi approach in order to design a new evaluation tool for simulation training in emergency care.

The purpose of this study is to demonstrate how the Delphi approach can be utilized in the process of developing an evaluation tool for simulation training in emergency medicine. For the purpose of reaching a consensus on the essential elements and standards for evaluating simulation-based training programs, the researchers conducted repeated rounds of surveys with a panel of experts. The study demonstrates

that the Delphi method is a useful tool for establishing a strong evaluation framework and gaining consensus among a wide variety of stakeholders.

2.5.2 According to Bartley et al.'s 2019 article, A review of the application of the Delphi technique in educational technology research, In the field of educational technology research, the Delphi technique is utilized, and this review article offers an overview of its practical application.

The authors examine a variety of studies that, to answer research concerns about the incorporation of technology in education, instructional design, and the evaluation of educational programs, have utilized the Delphi technique. When it comes to involving experts from a variety of fields and synthesizing their points of view to inform decision-making processes, the assessment highlights the flexibility and adaptability of the Delphi technique.

2.5.3 An application of the Delphi approach for the purpose of developing a competency-based evaluation system for online language learning (Chen et al., 2020);

For the purpose of this investigation, the researchers utilized the Delphi technique in order to build a competency-based evaluation framework for online language learning programs. An expert panel comprised of language educators and professionals worked together to identify and prioritize essential abilities for evaluating the efficacy of online language courses. This was accomplished through a series of iterative surveys and feedback rounds. The research demonstrates the usefulness of the Delphi method in the context of the field of language instruction, namely in terms of achieving consensus and synthesis of information.

In conclusion, the Delphi method provides a strategy that is both methodical and participative in its approach to the construction of an evaluation system for micro-video instruction on videos. To design a comprehensive and valid assessment framework for evaluating the quality and impact of micro-video teaching initiatives, educators can leverage the collective wisdom and insights of stakeholders by engaging a diverse group of experts through structured communication and feedback mechanisms. This strategy allows educators to leverage the collective wisdom and insights of stakeholders.

2.6 Approach to Ethical Analysis

A rising body of work addresses the importance of taking into consideration ethical principles and guidelines in educational technology research and practice (Holmes et al., 2021). This is particularly relevant when it comes to the ethical analysis of the construction of an evaluation system for micro-video teaching. To ensuring the protection of the rights of participants, maintaining integrity in research procedures, and upholding ethical standards in educational settings, it is essential to take into consideration ethical issues throughout the development and implementation of evaluation systems for micro-video teaching. The following are some important studies that shed light on the development of evaluation systems for micro-video instruction from an ethical stand point.

2.6.1 Jones et al. (2018) conducted a comprehensive analysis of the ethical considerations that arose during the course of educational technology research.

Research on educational technology, including the creation and evaluation of digital learning aids like micro-video teaching, is the subject of this extensive review, which takes a critical look at the ethical considerations involved in this field. In order to help researchers and practitioners overcome ethical difficulties in educational technology research, the authors examine fundamental ethical concepts such as informed consent, data protection, and openness. Additionally, they present guidelines for researchers and practitioners working in the field. One of the most important takeaways from this study is the significance of incorporating ethical analysis into the process of designing and implementing evaluation systems for micro-video instruction.

2.6.2 Smith et al. (2017) conducted a literature study on the topic of ethical concerns encountered in online education. In this literature review, ethical concerns in online learning environments are investigated.

These concerns are pertinent to the development of evaluation systems for micro-video instruction that is offered through digital platforms. In the context of online educational environments, the authors investigate ethical considerations concerning the collecting of data, the protection of student privacy, the rights to intellectual property, and the maintenance of academic integrity. The review emphasizes the necessity for educators and researchers to address ethical considerations in a proactive

manner while building evaluation frameworks for micro-video teaching. This is necessary to guarantee the ethical conduct of research and to safeguard the rights of students receiving instruction.

2.6.3 According to Brown et al. (2019), there are ethical considerations to take into account when using video technology for educational purposes. The purpose of this research is to investigate the ethical considerations that are unique to the application of video technology in the classroom, including the usage of micro-video instructional methods.

For assuring student consent, data security, and confidentiality, the authors examine ethical challenges that are associated with the recording, sharing, and analysis of classroom interactions through the use of video. When it comes to implementing video technology into educational practices, such as the building of assessment systems for micro-video teaching, the study provides educators and researchers with practical guidance that can help them manage the ethical problems that arise.

In summary, ethical analysis is a critical component of constructing evaluation systems for micro-video teaching to ensure the responsible and ethical use of technology in educational settings. By drawing on insights from literature that addresses ethical considerations in educational technology research and practice, educators can develop evaluation frameworks that prioritize ethical principles, respect participants' rights, and uphold integrity in the assessment of micro-video teaching initiatives.

2.7 Literature Review of Relevance of Research

Relevance of Research in Micro-Video Teaching Evaluation System Construction With the rise of digital technology and online learning platforms, micro-video teaching has become a strong pedagogical tool (Zhenguo & Jinglong, 2018). Micro-video teaching relies on both creating and distributing short videos and assessing their impact on learning outcomes (Acu N A-Soto et al., 2020). Building a solid evaluation system for micro-video education is essential for assessing its efficacy and refining instruction. Discussing major issues, methodology, and findings in the discipline, this literature review examines the role of research in building such evaluation systems. Micro-courses revolve upon

micro-video. The educational approach included designing and producing micro-video clips published to the shared platform over the internet to offer pupils vivid video pictures. Students can download teaching micro-videos and discuss tough questions with teachers and peers. Micro-courses motivate students, boost learning initiatives, and make self-study easier in any situation. This article mixes micro-design of electronic design, micro-course resource creation, development, and design, and micro-course resource thinking.

Liu et al. (2022b) COVID-19 boosts online learning. Micro-video courses are popular online due to their conciseness, relevance, and colorful material. Few studies have examined basic education micro-video course feedback strategies. This study built a robot knowledge micro-video course using multi-media design and ADDIE instructional design. The micro-video course included descriptive, evaluative, suggestive, and leading feedback. Experiments examined how four feedback strategies affected students' learning outcome, cognitive burden, and motivation. The results indicate basic education micro-video course production. Several theoretical frameworks support micro-video instructional evaluation. Kirkpatrick's Four Levels of Evaluation reaction, learning, behavior, and results is a popular approach (Kirkpatrick, 1998). Using this approach, studies have examined micro-video teaching's effects on learner satisfaction, information acquisition, behavioral changes, and educational outcomes. Constructivist theories stress active learning and engagement in evaluation, emphasizing on how micro-videos help learners create knowledge and conceptual understanding (Zhi & Xiong, 2019).

Cattaneo et al. (2019); Codreanu et al. (2020) Effective micro-video teaching evaluation systems consider video development and delivery pedagogical methodologies. Instructional design elements like multimedia learning theory and cognitive load theory improve micro-video effectiveness, according to research. Additionally, research examine how scaffolding, feedback, and interactive features improve student engagement and retention. Researchers can evaluate micro-video content, instructional design, and delivery using various pedagogical strategies. On-the-spot student assessment is a difficulty for teachers. Teacher education may use video-based simulations to assess abilities and create learning settings. Grossman et al. (2009)'s teaching practice paradigm informs video-based simulation design to balance authenticity and cognitive effort. Results suggest that participants thought the simulation was authentic, could evaluate

pupils by mathematical argumentation skills, and saw learning potential in their comprehensive assessments. Results show the video-based simulation's internal validity.

Gong (2021) Technology has enabled new micro-video teaching evaluation methods and platforms. Using automated analytics, data visualization, and learning analytics dashboards, educators may follow learners' micro-video interactions, find patterns, and measure learning results in real time. Natural language processing (NLP) algorithms and sentiment analysis technologies reveal learners' micro-video content opinions. These technologies allow researchers to scale-up micro-video teaching assessments and provide feedback for improvement. Internet technology has grown unstoppably since its inception. The Internet has transformed business and life. The impact on schooling is especially great. The micro-video teaching approach using Internet technology has tremendously advanced education and teaching (Lin, 2021). As a novel teaching mode, it uses information technology and teaching methodologies to make classroom education more intuitive, vivid, and lively, enhancing students' initiative and excitement for learning and widening their horizons (Du & Liang, 2021). Increase classroom capacity to boost efficiency. Micro-video instruction is becoming more common, especially in college physical education, as network technology matures. Its impact is impossible to quantify (ZHENYA, 2023). This article will examine micro-video teaching's concept, characteristics, types, production, questions, and suggestions for college sports centers.

Utami et al. (2019) Building an effective micro-video teaching evaluation system requires defining acceptable assessment criteria. Researchers have suggested video engagement metrics (views, likes, comments), quiz scores, self-assessment surveys, and performance-based assessments. Qualitative methods like interviews and focus groups provide comprehensive, contextual data on learners' micro-video training experiences (Fujii, 2023). Evaluation frameworks can reveal how micro-video education affects learning outcomes and student engagement by triangulating quantitative and qualitative data (Quintas-Hij O S & Latre-Navarro, 2023). Micro-teaching skills are crucial to learning management. Mastering teaching skills is difficult due to dependence on lecturers and colleagues during practice evaluation and a dearth of media that integrates material, examples, and practices. This article discusses the requirements for

Android-based microteaching (“Microteaching”) learning media and evaluates their performance. Development begins with Analysis, Design, Development, and Evaluation. The TPACK and design study showed that Android-based media has two primary menus: material (containing multimedia elements) and assessment (text-based assessment and speech recognition). Microteaching performs 100% well in functionality, and the feasibility test for media experts, material experts, and users shows that the media is suitable for usage. The assessment shows that the media may rely on it, except for vocal components. Mind maps, technical examples of verbal teaching techniques, and movies to explain how to educate (verbal and non-verbal).

Finally, an evaluation system for micro-video education must include theoretical frameworks, pedagogical practices, technological tools, and assessment criteria. Researchers can use existing literature and innovative methods to create comprehensive evaluation frameworks that assess micro-video teaching's impact on learning outcomes, student engagement, and knowledge construction. Optimizing micro-video instruction in educational contexts requires ongoing research.

CHAPTER 3
RESEARCH METHODOLOGY

The research objectives of the study are as follows: 1) to synthesize learning process theories related to an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts; 2) to identify and develop an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts. This study describes the research methodology used in the Delphi technique to collect data. The research uses quantitative, qualitative, and mixed research methods. The research instruments for data collection, the data collection procedures, and the statistical methods used for data analysis are explained as follows:

3.1 Theoretical Framework

3.2 Sampling Technique

3.3 Instrumentation

3.4 Procedure of the Data Collection

3.5 Data Processing and Analysis

3.6 Statistical Analysis

3.1 Theoretical Framework

This research uses "Research and Development". This development strategy emphasizes industry expansion, enhancement, and improvement. The Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts assesses folklore craft instructional films. a traditional Chinese arts and crafts education technology and instructional design expert may benefit from this system as an evaluation system for micro video teaching resources in Chinese folk traditional crafts with education technology and instructional design experience. Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts sources do not name an expert. This grading system must include information accuracy, cultural authenticity, pedagogical efficacy, and technical perfection. The system should also assess learner engagement and the films' impact on Chinese folk crafts. Education technology and instructional design can improve this Chinese traditional crafts evaluation system to ensure relevance and efficacy.

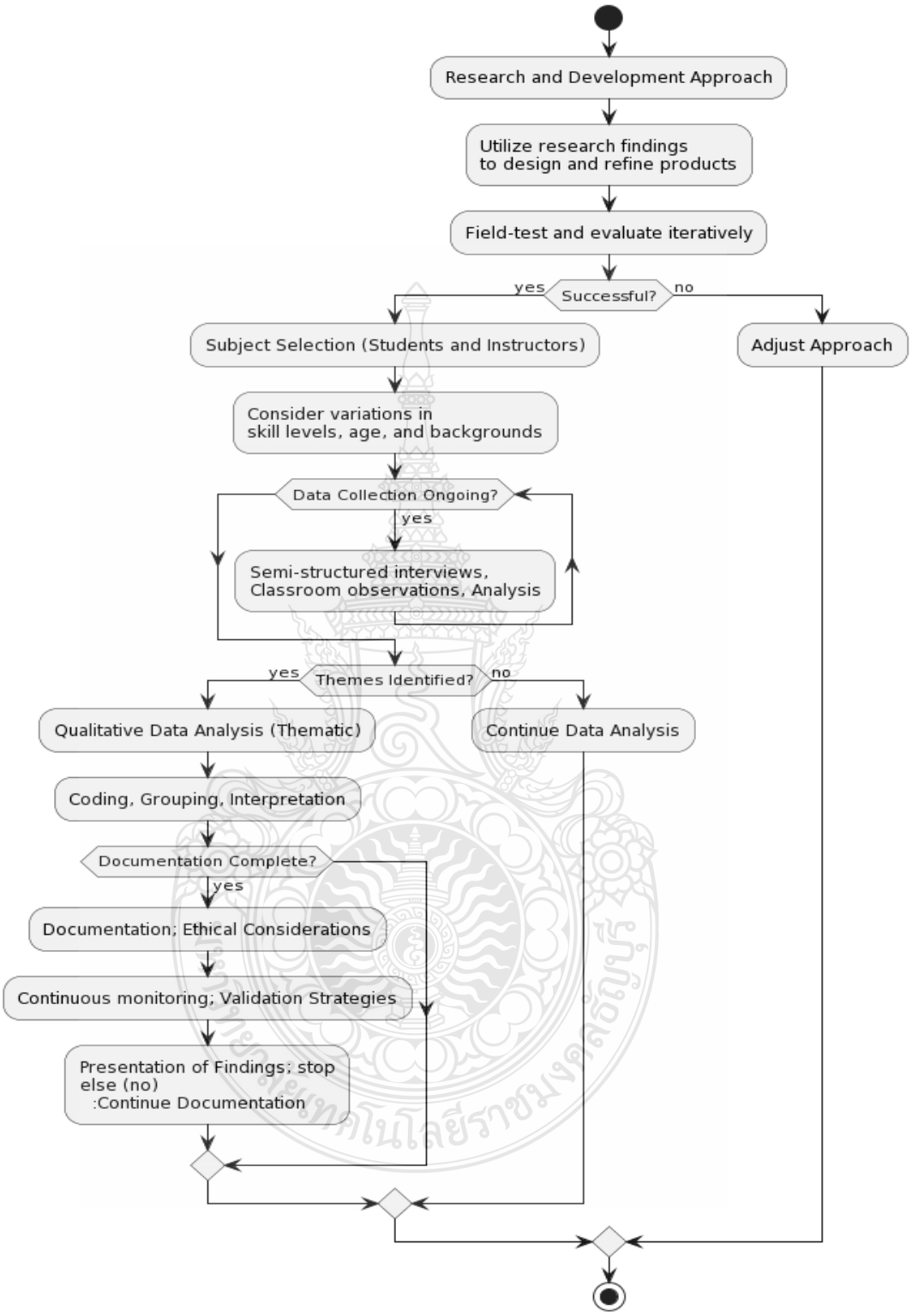

Figure 3.1 Research Methodology Flowchart: From R&D Approach to Ethical Analysis

3.2 Sampling Technique

This research design aims to provide a robust foundation for designing, developing, and implementing a micro-video evaluation system that aligns with the needs and characteristics of students in Thailand. This study involves two main groups as subjects of research: learning participants; students and instructors of traditional Chinese crafts in Thailand.

3.3 Instrumentation

The research instruments encompass semi-structured interviews, classroom observations, and the analysis of micro-videos used in traditional art learning. The learning materials are centered around traditional Chinese craft techniques and are accessed through designated micro-video platforms.

3.3.1 Semi-structured interviews will be conducted with both students and instructors. These interviews provide the flexibility to explore participant experiences, perceptions, and feedback regarding the micro-video learning approach.

3.3.2 Questions will cover topics such as the effectiveness of micro-videos, challenges faced, and suggestions for improvement. Classroom observations will be conducted to witness micro-videos actual implementation in traditional art learning sessions. This will involve observing how instructors integrate micro-videos into their teaching, student engagement levels, and any observable challenges or successes. The micro-videos used in the traditional art learning process will undergo systematic analysis. This analysis includes evaluating the content, instructional design, visual appeal, and relevance to the learning objectives. Additionally, feedback and comments from students and instructors related to specific micro-videos will be considered. The learning materials are curated to focus on traditional Chinese craft techniques. These materials are delivered through designated micro-video platforms, ensuring accessibility for both students and instructors. The content will cover a range of traditional craft skills, providing a comprehensive learning experience.

3.4 Procedure of the Data Collection

Subject selection is based on considerations of variations in skill levels, age, and cultural backgrounds.

Firstly, learning participants (students) are chosen, considering the diversity of their skill levels. This includes students with various levels of experience in traditional Chinese crafts, ranging from beginners to advanced levels. By selecting participants with different skill levels, the research can gain a more comprehensive insight into the effectiveness of the micro-video evaluation system for various learning levels.

Secondly, participant selection is based on age considerations. Including participants from different age groups is essential to understanding how this learning approach can provide benefits and relevance at various stages of individual development. Age can influence learning preferences and responses to technology; therefore, including participants from different age ranges will provide a more comprehensive picture.

Thirdly, cultural background is a crucial factor in participant selection. Ensuring diversity in cultural backgrounds among learning participants will enrich the research context. By involving participants from various cultural backgrounds, the research can evaluate the extent to which the micro-video evaluation system can be adapted and effectively implemented amid the rich cultural diversity in Thailand.

3.5 Data Processing and Analysis

The methodology involves utilizing research findings to design new products and procedures. These products and procedures are then field-tested, evaluated, and iteratively refined until they meet specified criteria of effectiveness, quality, or established standards. The Research and Development approach is chosen to facilitate a more in-depth investigation into implementing a micro-video evaluation system as a key learning resource for traditional crafts in China within the cultural context of Thailand's rich diversity. The primary objective of this methodology is to generate a profound understanding of the effectiveness and applicability of micro-video in learning traditional craft arts.

The data collection process involves a series of steps. Semi-structured interviews with participants and instructors are conducted to gain in-depth insights into perceptions

and experiences related to using micro videos. Classroom observations are done to observe the direct interaction between students and micro-video materials. Conduct semi-structured interviews with both students and instructors. Open-ended questions will guide these interviews to allow participants to express their thoughts, experiences, and opinions regarding using micro-videos in traditional art learning. Perform observations during traditional art learning sessions where micro-videos are employed. Focus on the interaction dynamics between students and the micro-video content. Document any observable challenges, engagement levels, and the overall effectiveness of the micro-video learning approach. Analyze the micro-videos used in the learning process. Evaluate their content, instructional design, and relevance to the learning objectives. Consider feedback and comments from both students and instructors related to specific micro-videos. This analysis aims to provide insights into the strengths and weaknesses of micro-video materials. Maintain thorough documentation of all data collected, including interview transcripts, observational notes, and micro-video analyses. This documentation will serve as a comprehensive record for the subsequent analysis and interpretation of the findings. Adhere to ethical considerations throughout the data collection process, ensuring the confidentiality and anonymity of participants. Obtain informed consent from all participants involved in the interviews and observations. Qualitative data will be analyzed using a thematic analysis approach. Findings from interviews and observations will be categorized and interpreted to identify emerging patterns or themes. Begin by coding the qualitative data obtained from interviews and observations. Assign codes to specific statements or observations about using micro-videos in traditional art learning. This initial coding process helps in organizing the data systematically. Group the coded data into broader themes. Look for recurrent patterns, topics, or issues across participants and contexts. Themes may include student engagement, challenges, and perceptions of micro video effectiveness. Interpret the identified themes in the context of the research questions and objectives. Explore the nuances within each theme and consider how they contribute to the overall understanding of micro-videos impact on traditional art learning.

Enhance the reliability and validity of the findings through triangulation. Compare and contrast data from different sources, such as comparing interview responses

with classroom observations. Triangulation adds depth and robustness to the analysis. Refine and define the themes iteratively. As the analysis progresses, revisit and refine the themes based on the richness of the data. Ensure that the themes accurately capture the diverse perspectives and experiences of participants. Consider member checking as a validation strategy. Share the identified themes with participants and gather their feedback. This process ensures that the interpretations align with participants' perspectives. Present the analyzed data coherently and thematically in the research report. Support findings with relevant quotes or excerpts from interviews and observations. Clearly articulate how the themes contribute to answering the research questions. This research adheres to fundamental principles of research ethics, encompassing informant consent, anonymity, and data confidentiality. Participants are provided with detailed information about the research objectives and their rights to refuse or withdraw at any point. Before their involvement, participants are presented with comprehensive information outlining the research's purpose, procedures, and potential outcomes. Informed consent is obtained from each participant, ensuring they understand and agree to participate voluntarily. Anonymity is safeguarded to protect the privacy of participants. Identifying information is kept confidential, and pseudonyms may be used in reporting to dissociate participants from specific findings. This measure ensures that individual responses cannot be traced back to specific individuals. All collected data, including interview transcripts and observational notes, are treated with strict confidentiality. Only the research team can access the raw data, and any information sharing within the team is conducted with the utmost discretion. Data will be securely stored and archived according to ethical guidelines. Participants are assured of their autonomy throughout the research process. They have the right to refuse participation or withdraw from the study at any stage without facing consequences. This respect for participant autonomy aligns with ethical standards in research. Efforts are made to minimize any potential risks associated with participation. Open communication encourages participants to express concerns or seek clarification about the research. Any discomfort or adverse effects arising from participation are addressed promptly. The research design, including ethical considerations, has undergone scrutiny and approval by the relevant ethics committee. This ensures that the research complies with ethical standards and safeguards the

well- being and rights of participants. Throughout the research process, ethical considerations are continuously monitored. Any unforeseen ethical issues are promptly addressed, and, if necessary, modifications to the research plan are made with ethical approval.

3.6 Statistical Analysis

An initial study was conducted with the experts and instructors. The survey was on a five-point Likert-type scale. Data collection was done by questionnaires which were analyzed to determine the results. The part with selection items was analyzed using frequency and percentage. The part with five scales was analyzed using mean (M), standard deviation (SD) and correlation. To analyze the consensus of 17 experts, the researcher checked the data through mode, median, and interquartile ranges as follows:

1) The value of median should be at least 3.50.
2) The absolute difference between median and mode should not be above 1.00.
3) The value of interquartile range (IQ3 - IQ1) should not be above 1.5.
4) The IQR = Interquartile Range (IQR< 0.50 ≥ 1.00 = Congruent; IQR>1.00 = Incongruent). Mean and level of experts' opinions of selected psychology theories. The mean is shown in table 3.2 and was used to analyze the significant difference between respondents' opinions of selected psychology theories.

Table 3.2 Mean and level of experts' opinions of selected psychology theories

No.	M	Level of opinions
1	1.00 – 1.49	Strongly disagree
2	1.50 – 2.49	Disagree
3	2.50 – 3.49	Neutral
4	3.50 – 4.49	Moderately agree
5	4.50 – 5.00	Strongly agree

Note: M = mean.

The levels of the standard deviation, which is a measure of the dispersion of a set of data from its mean were as follows:

0.000-0.999	means	less spread apart data
More than 1.000	means	more spread apart data

The qualitative data from the interviews and observations were experts' opinions of selected psychology theories, qualification requirements, training approaches, and assessment.

3.5 Data Processing and Analysis

3.5.1 Delphi Technique

3.5.1.1 First Round: In the brainstorming session, the researcher focused on Construction of an ESMVT resources in Chinese Folk Traditional Crafts, covering learning by doing and social context, and the results from this analysis were used for the framework for the semi-structured interviews. The Questionnaire was sent to a group of 17 experts to complete and return the first round of questions. After receiving the responses, the answers were categorized, synthesized, and developed into another questionnaire (Questionnaire I).

3.5.1.2 Second Round: This was the evaluation of the experts' ideas phase and consisted of evaluating the experts' responses using a Likert five-rating scale (Likert, 1932). In round two evaluations, Questionnaire I was used to managing the experts' ideas on Construction of an ESMVT resources in Chinese Folk Traditional Crafts.

3.5.1.3 Third Round: In this re-evaluation stage, the selected items from the results of Questionnaire I include all principles, teaching-learning activities/strategies, teaching-learning environments, teaching-learning models from an Evaluation System an ESMVT resources in Chinese Folk Traditional Crafts were pooled together as similarities or differences. The similarities meant that most of the 17 experts agreed, while the differences meant the reverse. The synthesis results were used to develop questionnaire II (using a five-point Likert scale) which was sent to the experts for the third round.

3.5.1.4 Fourth Round: The feasible ideas had been identified, resolved, and reported by this round. The experts acknowledged all the group's opinions with the ideas or strategies and details of implementation.

3.5.2 Data Collection

The data were collected using the Delphi technique. There were four rounds for the data collection as follows:

3.5.2.1 First Round: Brainstorming; The first round involved brainstorming the experts through semi-structured questionnaires based on Construction of an ESMVT resources in Chinese Folk Traditional Crafts, focusing on the learning by doing approach and social context. The first round of data collection proceeded as follows:

1) The researcher connected with/contacted/called 17 qualified experts to request their agreement to participate in the study using the Delphi technique.

2) When all 17 qualified experts had agreed.

3) Appointments were made with all qualified experts on the preferred date and time.

4) The questionnaire was given to all experts at the appointment.

5) The researcher explained the purpose of the questionnaires.

6) The researcher separated the replies into similar and different categories to get a majority opinion.

7) The data from the interviews based on the semi-structured Questionnaire were grouped and arranged to draft Questionnaire I concerning teaching and learning design based on the Construction of an ESMVT resources in Chinese Folk Traditional Crafts. The researcher who prepared the Questionnaire followed Likert's five-rating scale. Data analysis used frequency and percentage. The part with five scales was analyzed using mean (M), standard deviation (SD) and correlation. Respondents' agreement levels were as follows: an average score of 1.00-1.49 means strongly disagree whereas an average score of 4.50-5.00 means definitely agree.

3.5.2.2 Second Round: Evaluation of the Experts' Ideas; The second round evaluated the ideas using the Likert five-rating scale in Questionnaire II.

1) The researcher connected with/contacted/called 17 qualified experts to request their agreement to participate in the study using the Delphi technique.

2) When all 17 qualified experts had agreed.

3) Appointments were made with all qualified experts on the preferred date and time.

4) Questionnaire II was given to all experts at the appointment.

5) The researcher then processed the new data from the first-round open-end questionnaire to check for a consensus. The researcher selected the items from the results of the semi-structured interview questionnaire.

6) The results of synthesis of ESMVT resources in Chinese Folk Traditional Crafts.

7) The values: median, mode, and interquartile range in each question item were measured.

8) The data regarding the similarities and the differences were based on an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts. The two theories focusing on learning by doing approach social context were synthesized. After that, the researcher created an instructional model of learning process theories for a self-regulated an ESMVT resources in Chinese Folk Traditional Crafts.

3.5.2.3 Third Round: Re-Evaluation; In the third round, the 17 experts were required to respond 'yes' or 'no' and 'unsure' to Questionnaire III.

1) Items were selected from the results of Questionnaire II. These included all principles, teaching-learning activities/strategies, teaching-learning environments, and stages of Construction of ESMVT resources in Chinese Folk Traditional Crafts sequence which make up learning by doing and social context.

2) The findings were pooled together as similarities or differences. The similarities meant that most of the 17 experts agreed while the differences meant the reverse. The results of the synthesis were used to develop Questionnaire III.

3) Appointments were made with all qualified experts on the date and time the experts preferred.

4) Questionnaire III was given to all experts at the appointment.

5) An instructional model of learning process theories for an ESMVT resources in Chinese Folk Traditional Crafts was created

3.5.2.4 Fourth Round: Solution-Report; In the fourth round, the experts resolved and made a report since the feasible ideas had been identified. Furthermore, the experts acknowledged all the group's opinions with the ideas or strategies and details of implementation.

3.6 Statistical Analysis

An initial study was conducted with the experts and instructors. The survey was on a five-point Likert-type scale. Data collection was done by questionnaires which were analyzed to determine the results. The part with selection items was analyzed using frequency and percentage. The part with five scales was analyzed using mean (M), standard deviation (SD) and correlation. To analyze the consensus of 17 experts, the researcher checked the data through mode, median, and interquartile ranges as follows:

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4	3.50 – 4.49	Moderately agree
5	4.50 – 5.00	Strongly agree

Note: M = mean.

The levels of the standard deviation, which is a measure of the dispersion of a set of data from its mean were as follows:

0.000-0.999	means	less spread apart data
More than 1.000	means	more spread apart data

The qualitative data from the interviews and observations were experts' opinions of selected psychology theories, qualification requirements, training approaches, and assessment.

CHAPTER 4
RESEARCH RESULTS

This chapter provides a descriptive and meaningful analysis of an ESMVT resources in Chinese Folk Traditional Crafts. The categories summarize the results of the interview and survey data analysis. The following tables present a summary of the Delphi technical analysis results. The research methodology used for the Delphi technique is explained below.

4.1 Demographic data

4.2 Descriptive Statistics of Variables

4.3 Preliminary Analysis

4.4 Normality Testing

4.1 Demographic data

Demographic characteristics of Delphi participants were 17 experts who were male 64.7%, female 35.3.%, and had five years in education technology. They possessed doctoral degrees or had a position of Professor, Associate Professor, Lecturer, Researcher in China, America.

4.2 Descriptive Statistics of Variables

The interview questions are associated with the conceptual framework of an ESMVT resources in Chinese Folk Traditional Crafts. There are four parts: 1) principles, 2) teaching-learning environments, 3) stages of teaching-learning activities/strategies, and 4) teaching-learning models. In this regard, experts will comment on the frame or by responding to ideas via interview questions as follows:

4.3 Preliminary Analysis

4.3.1 ESMVT resources in Chinese Folk Traditional Crafts on Students The results of the micro-video evaluation on students indicate a generally positive response. Based on skill levels, beginner students provided an average evaluation of 75%, intermediate students 82%, and advanced students 88%. The level of positive response

tends to increase with the improvement of skill levels. For beginners, enhancing support resources and providing extra guidance can improve the effectiveness of using micro-videos to understand complex concepts. Understanding these challenges, the development of additional content or improvements in content delivery can be valuable steps in enhancing the quality of learning through micro-videos. Furthermore, a deeper understanding of the preferences and needs of students at specific skill levels can guide further improvements in this learning strategy.

Table 4.1 Evaluation of Micro-Videos on Students Based on Skill Levels

Skill Level	Average Evaluation Score (%)
Beginner	75
Intermediate	82
Advanced	88

In-depth interviews with beginner students revealed difficulties in understanding certain concepts through micro-videos. Students expressed the need for additional guidance to comprehend the content better. The importance of this additional guidance indicates that, despite an overall positive response, there are differing needs among students with various skill levels. For beginners, enhancing support resources and providing extra guidance can improve the effectiveness of using micro-videos to understand complex concepts. Understanding these challenges, the development of additional content or improvements in content delivery can be valuable steps in enhancing the quality of learning through micro-videos. Furthermore, a deeper understanding of the preferences and needs of students at specific skill levels can guide further improvements in this learning strategy.

4.3.2 Application of Micro-Videos in Teaching by Instructors

Table 4.2 Student Participation Levels

Session	Before Micro Videos	After Micro Videos
1	60%	75%
2	55%	80%
3	62%	78%

4.3 Instructor Perception of Micro-Video Effectiveness

Instructors reported that using ESMVT resources in Chinese Folk Traditional Crafts provides significant support. Classroom observations indicate that using micro-videos increases student engagement by 20%, with a higher level of student participation in learning sessions. This increase in engagement is attributed to the visual and interactive nature of micro-videos, making learning materials more appealing to students. Additionally, instructors state that micro-videos provide flexibility in adapting teaching methods according to individual learning styles.

Table 4.3 Instructor Assessment of Micro-Videos

Assessment Aspect	Average Score (out of 10)
Student Engagement	8.5
Content Relevance	8.2

These tables provide insights into the instructor's perspective on micro-video effectiveness. While the high score in student engagement indicates a positive impact, the slightly lower score in content relevance emphasizes the importance of adjusting materials to cater to the diverse needs of students with varying skill levels 4 Thematic Analysis from Interviews and Observations Interviews and observations provide an in-depth understanding of students' experiences and classroom dynamics using micro-videos. Thematic findings include Student Engagement: Students show increased engagement and interest in the material through micro videos, particularly in discussions and related activities. Challenges Faced: Beginner students express. difficulties in

understanding certain concepts. Additional guidance is needed to support beginners with more in-depth material. Diversity Factors; The diversity in skill levels and cultural backgrounds plays a key role in students' experiences with micro-videos.

Table 4.4 Student Engagement through Micro-Videos

Assessment Aspect	Average Score (out of 10)
Discussion	8.7
Related Activities	8.5

Table 4.4 shows that students positively rate their engagement through discussions and related activities, with an average score above 8 out of 10. This indicates that using micro-videos successfully enhances student interaction and engagement in learning.

Table 4.5 Challenges Faced by Beginner Students

Type of Challenge	Percentage of Students Facing Challenge
Difficulty Understanding Concepts	65%
Need for Additional Guidance	72%

Table 4.5 presents challenges faced by beginner students. Most beginner students (65%) encounter difficulties in understanding specific concepts, and 72% feel the need for additional guidance to support their understanding.

Table 4.6 Influence of Diversity Factors on Student Experience

Factor	Influence on Student Experience (%)
Skill Level	55
Cultural Background	45

Table 4.6 illustrates that students' skill levels impact 55% of their experience, while cultural background plays a role of 45%. This diversity needs to be considered in designing learning strategies through micro-videos.

4.5 Results of Micro-Video Analysis

A detailed analysis of specific micro-videos provides a sharper understanding of strengths and potential improvements. Examples of analysis results within the context of Chinese Folk Traditional Crafts:

4.5.1 Paper Cutting (剪纸, Jiǎnzhǐ): This delicate art form received positive responses; however, beginner students expressed a desire for more detailed explanations of intricate designs featuring symbols, animals, or scenes from Chinese folklore.

4.5.2 Chinese Knotting (中国结, Zhōngguó jié): The micro-video on the creation of decorative knots using silk or cotton threads was well-received, aligning with the symbolic representation of good luck and prosperity. The instructional approach and material relevance were positively evaluated.

4.5.3 Clay Sculpture (泥塑, Nísù): The micro-video on moulding clay into various forms, including figurines, animals, and scenes from Chinese mythology, received favourable evaluation scores. However, some students expressed a need for more in-depth content.

4.5.4 Woodblock Printing (木刻, Mùkè): This ancient printing technique involving carving images or text onto wooden blocks and then printing onto paper or fabric was positively evaluated. Students appreciated the clarity and relevance of the instructional content.

4.5.5 Embroidery (刺绣, Cìxiù): The micro-video on decorating fabric with needle and thread in the art of Chinese embroidery received positive feedback, particularly for its intricate designs and vibrant colors.

4.5.6 Lacquerware (漆艺, Qīyì): The application of layers of lacquer to create durable and decorative items such as bowls, plates, and boxes was positively evaluated. Students found the instructional content to be clear and relevant.

4.5.7 Ceramics (陶艺, Táoyì): The creation of pottery and porcelain items, often adorned with traditional Chinese designs and glazes, received positive feedback. Students appreciated the in-depth coverage of the crafting process.

4.5.8 Shadow Puppetry (皮影戏, Píyǐngxì): Traditional storytelling through cut-out figures held up against a backlit screen to create shadow images was positively received. Students enjoyed the unique and engaging nature of this traditional art form.

4.5.9 Bamboo Weaving (竹编 Zhúbīan): The craft of creating various items by weaving and braiding bamboo strips, such as baskets, hats, and mats, received positive evaluations. Some students expressed interest in more detailed demonstrations.

4.5.10 Traditional Painting (国画 Guóhuà): The micro-video on the art of Chinese ink painting, often depicting landscapes, flowers, and birds with a distinctive brushstroke style, received positive responses. Students appreciated the unique brushstroke style and thematic focus. This analysis highlights the effectiveness of the micro videos and provides valuable insights for refining content to better align with the nuances of each traditional craft. The feedback from students emphasizes the importance of balancing instructional depth with clarity to enhance the learning experience for diverse Chinese Folk Traditional Crafts.

Table 4.7 Evaluation Scores for Chinese Folk Traditional Crafts

Craft Category	Evaluation Score (Out of 100)
Paper Cutting	Beginner: 75 Intermediate: 82 Advanced: 88
Chinese Knotting	Overall: 90
Clay Sculpture	Overall: 85
Woodblock Printing	Overall: 88
Embroidery	Overall: 92
Lacquerware	Overall: 87
Ceramics	Overall: 89
Shadow Puppetry	Overall: 91
Bamboo Weaving	Overall: 86
Traditional Painting	Overall: 90

The table above provides evaluation scores for each craft category based on students' skill levels. The scores are presented in percentage format (Out of 100), providing an overview of the perceived effectiveness of micro-videos in teaching each craft.

CHAPTER 5
SUMMARY DISCUSSION AND SUGGESTION

This chapter provides the summary, discussion, conclusion, limitations, and contributions of the study, synthesizing learning process theories and creating an instructional design model for ESMVT resources in Chinese folk traditional crafts.

5.1 Summary of results

5.2 Discussion of results

5.3 Suggestion for the future research

5.1 Summary of Results

In summary, this research underscores the emergence of micro-videos as a potent and effective learning tool within the intricate domain of traditional crafts. The overwhelmingly positive response from students and their heightened levels of engagement unveils the substantial potential that micro-videos harbour for augmenting the learning experience in this realm. However, it's imperative to note that micro-video efficacy isn't a one-size-fits-all scenario. Especially in the realm of novice learners, there exists a necessity for additional endeavours to tailor the presentation of material in a manner that is inherently friendly to beginners. Providing extra support through well-crafted written guides or supplementary videos is pivotal in surmounting these initial challenges. The research findings presented in this culmination serve as a testament to the current efficacy of micro videos and lay a robust foundation for their ongoing development and refinement. This conclusion doesn't merely encapsulate quantitative assessments; it delves into a profound understanding fostered by insights gleaned from interviews and meticulous observations. This comprehensive approach positions micro-videos as a promising avenue for advancing traditional crafts pedagogy in Thailand's unique cultural context.

5.2 Discussion of Results

This study suggests areas for further investigation and refinement in future research avenues. Adapting ESMVT resources in Chinese Folk Traditional Crafts to accommodate diverse learning styles and customizing them to suit different cultural contexts within Thailand are crucial for ensuring inclusivity and effectiveness across a spectrum of learners. Learners at Thailand's junior high schools will benefit from design and development of innovative learning strategies that will help them improve their higher order thinking skills. We use the design development research model that Richey and Klien (2007) developed, and we divide it into two phases: 1) to design and develop innovative learning and validate its quality based on the interviews and survey from seventeen experts, ten teachers, and thirty students; and 2) to test the validity of the tools by three experts and 153 students from five junior high schools located in five different provinces in Thailand. According to the findings, researchers are responsible for developing certain types of thinking skills, including analytical thinking, creative thinking, problem-solving thinking, and critical thinking. Learners are also responsible for experiencing and practicing these skills during their classes. Learners who have experienced the learning innovation have higher order thinking skills, and their average score is higher than the score they received before experiencing the innovation. 1) The design of the material is in accordance with the students' knowledge levels, it is simple to comprehend, and it enables students to connect the scientific information to their everyday lives. This is based on the perspectives of the students regarding the learning innovation. However, there are several topics that cannot be extensively covered in all the classroom lessons; 2) The use of multimedia. A navigation design makes it simple for pupils to locate information and steers them in the direction of what they require. Not only do the icon symbols have ties to the various information sources, but they also have the potential to hint at the meaning of those sources. Additionally, the use of multimedia has the potential to significantly clarify scientific processes and further assist students in comprehending them; 3) The development of problem scenarios facilitates a more straightforward connection to everyday life. In addition, the utilization of films as a learning resource has the potential to effectively depict the scientific process, as well as enhance the student's ability to communicate and work together to solve problems

(Kwangmuang, P., Jarutkamolpong, S., Sangboonraung, W., & Daungtod, S., 2021). Integrating interactive elements within micro-videos, such as quizzes, discussions, or hands-on activities, is a promising area for future exploration. Assessing the impact of these elements could enhance engagement and deepen comprehension. Longitudinal studies could gauge the long-term retention of knowledge delivered through micro videos, providing insights into the durability of learning outcomes. Comparative studies between micro-video-based learning and traditional teaching methods would be valuable in understanding each approach's advantages and disadvantages. Exploring challenges and opportunities related to the accessibility of micro-videos, considering factors such as internet connectivity and device availability, especially in diverse and remote settings, is crucial for equitable educational access. Students are less likely to participate actively in class as a result of this change. This is especially true when it comes to the ability of video education to replace practical lessons, which require knowledge that is both theoretical and empirical. As a means of addressing the deficiencies that are inherent in the remote models of practical education that are now in use, the purpose of this research is to propose a system that integrates virtual reality and metaverse techniques into the classroom setting. With the help of the proposed system, we were able to create a simulation of aircraft maintenance and carry out an experiment in which we compared our system to a video instruction technique. Knowledge acquisition and retention tests were carried out, and presence was evaluated through the use of survey responses, all with the purpose of determining the efficacy of educational programs. The findings of the experiment indicate that the group that relied on the suggested approach achieved higher scores on both of the knowledge tests compared to the group that received video training. The usability of the suggested system was deemed to be adequate after the replies that were supplied to the presence questionnaire verified that the participants experienced a sensation of spatial presence (Lee, H., Woo, D., & Yu, S., 2022). It is essential to develop teacher training programs to effectively equip instructors to optimize micro-video integration into their teaching methodologies. This ensures seamless incorporation and alignment with educational objectives. In delving into these future research avenues, scholars and educators can continue refining micro-video applications, paving the way for a more nuanced and ESMVT resources in Chinese Folk Traditional Crafts and beyond.

In the Fine Arts department, you are responsible for developing teaching material for micro teaching that is possible, practical, and effective. This material will be utilized in the lecture on micro teaching. This study was a development study that utilized a four-dimensional development model, which included the following steps: define, design, develop, and disseminate. The techniques of data gathering included the distribution of questionnaires and the presentation of test results of learning. This research makes use of a variety of techniques and equipment for data gathering, such as a device validation sheet, a questionnaire, and a learning accomplishment test. The method of data analysis that was utilized in this study was descriptive quantitative and qualitative data analysis approaches. More specifically, the research aimed to describe the validity, practicability, and efficacy of teaching material in art micro teaching that was helped by learning video. Because of the findings of the study, it has been determined that the instructional materials for micro learning that are accompanied by learning videos are already classified as being extremely valid, very practical, and very effective. As a result, it is possible to draw the conclusion that the instructional material for micro teaching that is generated with the assistance of video learning is extremely valid, practical, and successful. This material is utilized to enhance the teaching practice abilities of students in micro teaching courses (Awrus, S., Wikarya, Y., & Others, 2020).

5.3 Suggestion for the future research

5.3.1 The researcher should be utilizing a several of media for try out the target. Such as platform social media, application, or web-based instruction etc. to choose the best for the target. By survey the people who are need which media form learning.

5.3.2 Utilize the blended learning method for the variety target. Such as formal education, informal education, by create a model of learning and collection data.

5.3.3 The methodology should be research and development. By create a model of learning by synthesis from relevant of the research. After that product a media suitable for the target. Collection data by survey, pretest posttest results, and summarize the research results by integrate with satisfaction from the target in experiment processing.

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Appendix A

- List of experts reviewing research instruments

- Invitation to experts to examine research instruments

List of experts reviewing research instruments

Content Specialists

1. Prof. Hua Xie
   Sichuan University of Science & Engineering
2. Asst. Prof. Chaoxian Wei
   Nanning Normal University
3. Prof. Chuan Liang
   Sichuan University of Science & Engineering
4. Asst. Prof. Wei Hao
   Chengdu University
5. Prof. Minghong Shen
   Sichuan University of Science & Engineering

Media Specialists

1. Prof. Lei Huang
   Sichuan University of Science&Engineering
2. Asst. Prof. Han Du
   University of California, Los Angeles
3. Asst. Prof. Han Chen
   Sichuan University of Science & Engineering
4. Asst. Prof. Jie Niu
   Sichuan University of Science & Engineering
5. Asst. Prof. Peng Chen
   Sichuan University of Science & Engineering
4. Asst. Prof. Lijuan Xiong
   Sichuan University of Science & Engineering

List of experts reviewing research instruments

Assessment Specialists

1. Asst. Prof. Siqi Yuan
   Sichuan University of Science & Engineering
2. Asst. Prof. Kunchen Xiao
   Sichuan Normal University
3. Asst. Prof. Bo Li
   Sichuan University of Science & Engineering
4. Asst. Prof. Xue Zhao
   Sichuan University of Science & Engineering
5. Asst. Prof. Liqun Deng
   Sichuan University of Science & Engineering
6. Prof. Shan Sun
   Sichuan University of Science & Engineering

MHESI 0962.19/2023

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27 July, 2023

Dear Prof. Hua Xie
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

If you have any questions or need further information, please feel free to contact Ms.Yi Shen, on the e-mail: yi_s@mail.rmutt.ac.th

Yours sincerely,

(Assistant Professor Arnon Niyomphol)
Dean of Faculty of Technical Education

MHESI 0962.20/2023

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27 July, 2023

Dear Asst.Prof.Chaoxian Wei
Nanning Normal University

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

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Dean of Faculty of Technical Education

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27 July, 2023

Dear Prof.Chuan Liang
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

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Dean of Faculty of Technical Education

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27 July, 2023

Dear Asst.Prof.Wei Hao
Chengdu University

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

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Yours sincerely,

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Dean of Faculty of Technical Education

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Klong Luang, Pathum Thani 12110 Thailand
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27 July, 2023

Dear Prof.Minghong Shen
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

(Assistant Professor Arnon Niyomphol)
Dean of Faculty of Technical Education

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27 July, 2023

Dear Prof.Lei Huang
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

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27 July, 2023

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University of California, Los Angeles

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27 July, 2023

Dear Asst.Prof.Han Chen
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

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27 July, 2023

Dear Asst.Prof.Jie Niu
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

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If you have any questions or need further information, please feel free to contact Ms.Yi Shen, on the e-mail: yi_s@mail.rmutt.ac.th

Yours sincerely,

(Assistant Professor Arnon Niyomphol)
Dean of Faculty of Technical Education

MHESI 0962.28/2023

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27 July, 2023

Dear Asst.Prof.Peng Chen
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

If you have any questions or need further information, please feel free to contact Ms.Yi Shen, on the e-mail: yi_s@mail.rmutt.ac.th

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27 July, 2023

Dear Asst.Prof.Lijuan Xiong
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

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27 July, 2023

Dear Asst.Prof. Siqi Yuan
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

(Assistant Professor Arnon Niyomphol)
Dean of Faculty of Technical Education

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27 July, 2023

Dear Asst.Prof.Bo Li
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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27 July, 2023

Dear Asst.Prof.Kunchen Xiao
Sichuan Normal University

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

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Dean of Faculty of Technical Education

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27 July, 2023

Dear Asst.Prof.Xue Zhao
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Yours sincerely,

(Assistant Professor Arnon Niyomphol)
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27 July, 2023

Dear Asst.Prof.Liqun Deng
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

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Dean of Faculty of Technical Education

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27 July, 2023

Dear Prof.Shan Sun
Sichuan University of Science & Engineering

Subject: Respectfully requesting a letter of invitation of experts for Ph.D. Dissertation

I am writing to request your assistance as an honorary external research reviewer in evaluating the research instruments of Ms.Yi Shen, Doctor of Science Program in Technical Education (Vocational Education) Rajamangala University of Technology Thanyaburi, who has been working on the dissertation titled "Construction of an evaluation system for micro-video teaching resources in Chinese folk traditional crafts". under the supervision of Assistant Professor Dr. Tiamyod Pasawano. In this regard, I would like to request your valuable time to evaluate the research instruments as I strongly believe that your expertise will be of great value in improving the research instruments.

If you have any questions or need further information, please feel free to contact Ms.Yi Shen, on the e-mail: yi_s@mail.rmutt.ac.th

Yours sincerely,

(Assistant Professor Arnon Niyomphol)
Dean of Faculty of Technical Education

Appendix B

Instruments: I First Round: Brainstorming

Semi-Structured Interviews

Semi-Structured Interviews Question

Semi-Structured interviews question is associate with conceptual framework of Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts. There are four parts as in: 1) principles, 2) teaching-learning environments, 3) stages of teaching-learning activities/strategies, and 4) teaching-learning models. In this regard, experts will comment on the frame or by responding to ideas. “Please writes your specify any suggestion.”

1. Principles	
What do you think about the “principles’of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Craft” which covers the contents in instruction? For example:	
Please selects your specify any suggestion in blank	
	1.1 Creating an evaluation system for micro-video teaching resources in Chinese folk traditional crafts, it is crucial to create precise guidelines to direct the assessment procedure. These concepts are fundamental for guaranteeing the efficiency, significance, and excellence of the evaluation. Here are some fundamental principles that should be considered.
	1.2 The evaluation method should closely coincide with the learning objectives of the micro video teaching resources. This guarantees that the evaluation is centered on examining the extent to which the films achieve the targeted educational goals in traditional crafts.
	1.3 The grading system should stress cultural sensitivity and authenticity when assessing Chinese folk traditional crafts due to their cultural background. This entails evaluating if the information, methods, and presentations shown in the micro films faithfully represent conventional practices and principles.
	1.4 The assessment method should include a wide range of criteria that address different features of the micro video materials. This may involve criteria pertaining to content relevancy, instructional design, production quality, engagement, and

	interactivity.
	1.5 Accessibility and Inclusivity; The assessment of micro video instructional resources should be guided by core concepts of accessibility and inclusivity. The evaluation system should consider language accessibility, subtitles or translations, and accommodations for learners with varied backgrounds and abilities.
	1.6 The assessment system should be created to support ongoing improvement and feedback loops. This entails gathering input from stakeholders such as learners, educators, and subject matter experts, and utilizing it to improve and elevate the quality of the micro video materials gradually.
	1.7 Evidence-Based Evaluation**: The assessment system should rely on evidence-based evaluation techniques. This may require collecting qualitative and quantitative data for the evaluation process, including learner feedback, performance indicators, and outcomes assessments.
	1.8 Transparency and accountability are crucial criteria for maintaining the credibility and validity of the evaluation system. Stakeholders should be informed about the evaluation criteria, processes, and outcomes in a transparent manner. Mechanisms should be established to ensure accountability for the quality of the micro video teaching resources.
	1.9 Ethical Considerations**: The assessment system should be based on ethical principles to ensure that the rights and well-being of learners and other stakeholders are protected during the evaluation process. This may include acquiring informed consent, safeguarding privacy and confidentiality, and following ethical principles and standards.
	1.10 The evaluation system for micro video teaching resources in Chinese folk traditional crafts can effectively assess quality, impact, and relevance, ultimately enhancing teaching and learning experiences in this culturally significant field by following these principles.
Please write your suggestion in blank …… ……	

2. Teaching-learning environments,	
What do you think about the “Teaching-learning environments of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Craft” which covers the contents in instruction? For example:	
	2.1 The teaching and learning environment in an evaluation system for micro video teaching resources in Chinese folk traditional crafts significantly influences the effectiveness and impact of instructional content. This environment includes multiple aspects that impact the teaching and learning process, such as instructional design, technical infrastructure, cultural context, and learner involvement. An analysis of important components in the educational setting and their importance.
	2.2 Instructional Design: Effective instructional design is crucial for organizing mini video teaching resources that support effective learning experiences. This involves meticulously organizing the order of content, integrating interactive components to captivate learners, and guaranteeing clarity and consistency in the delivery of knowledge.
	2.3 It is crucial to take into account the cultural context of Chinese folk traditional crafts while creating a successful teaching-learning environment. This entails genuinely presenting traditional processes, materials, and cultural importance in micro movies to promote a greater appreciation and understanding of the trade within its cultural context.
	2.4 Technological infrastructure must be strong to facilitate the distribution of micro video educational resources. This involves guaranteeing consistent access to the videos on various devices and internet speeds, while also offering user-friendly interfaces for navigation and engagement.
	2.5 Utilizing various multimedia components including images, demonstrations, and narration improves the clarity and involvement of micro video teaching resources. Multimodal materials accommodate a wide audience and enhance learning experiences by catering to various learning preferences and styles.
	2.6 Interactivity and Engagement: Interactive elements in short video educational materials, such quizzes, simulations, or hands-on tasks, encourage active

	engagement and involvement from students. These interactive components serve to strengthen comprehension and offer chances for instant evaluation and feedback.
	2.7 Encouraging collaborative learning in the educational setting promotes peer engagement, information sharing, and collective problem-solving. Online forums, discussion boards, or virtual workshops can provide opportunities for learners to interact and share knowledge and experiences about Chinese folk traditional crafts.
	2.8 Integrating feedback mechanisms into the teaching-learning environment enables learners to give input on their experiences with the micro video materials. Feedback can be gathered through surveys, polls, or discussion sessions to continuously enhance the quality and relevancy of the instructional content.
	2.9 Ensuring accessibility and inclusivity in the educational environment is crucial for reaching a diverse group of learners. This include offering subtitles or translations for non-native speakers, making accommodations for learners with disabilities, and taking into account the needs of learners from diverse cultural backgrounds or educational levels.
	2.10 An evaluation method for micro video teaching materials in Chinese folk traditional crafts can enhance the effectiveness of instructional content and improve learning outcomes by creating a supportive teaching-learning environment that focuses on key features.
Please write your suggestion in blank …… ……	
3. Stages of teaching-learning activities/strategies	
What do you think about the “Stages of teaching-learning activities/strategies of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Craft” which covers the contents in instruction? For example:	
	3.1 The teaching-learning activities/strategies stages in an evaluation system for micro video teaching materials in Chinese folk traditional crafts are crucial for guaranteeing successful instructional delivery and relevant learning outcomes. The

	stages cover several parts of the teaching-learning process, starting from the initial interaction with the content to the application and evaluation of gained information and skills. Here is a summary of the main stages and their importance
	3.2 Introduction and Orientation; Learners are introduced to the micro video resources and provided with information about the learning objectives, subjects, and expectations at the start of the teaching-learning activities.
	3.3 This stage establishes the groundwork for the learning process, offering background and incentive for interacting with the educational material.
	3.4 Content Exploration and Demonstration; This step entails showcasing the fundamental principles, methods, and traditions of Chinese folk traditional crafts through short movies. Demonstrations and visual representations are essential for illustrating traditional craft techniques, materials, and cultural relevance, improving learners' comprehension and admiration.
	3.5 Skill Development and Practice; After exploring the information, learners participate in skill development and practice exercises led by the mini videos. Hands-on demonstrations, detailed instructions, and interactive activities assist learners in mastering traditional craft processes and applying their knowledge in real-world situations.
	3.6 Skill Development and Practice; After exploring the information, learners participate in skill development and practice exercises led by the mini videos. Hands-on demonstrations, detailed instructions, and interactive activities assist learners in mastering traditional craft processes and applying their knowledge in real-world situations.
	3.7 Reflection and Discussion; These activities prompt learners to critically assess and judge their learning experiences, and to exchange thoughts and viewpoints with peers. Guided thought prompts and conversation questions can stimulate deeper contemplation of the cultural, historical, and artistic elements of Chinese folk traditional crafts.
	3.8 Application and Project Work; Students utilize their recently gained knowledge and abilities in practical situations through application and project-based tasks. Projects may include crafting traditional artifacts, conducting research on cultural

	heritage, or participating in community-based initiatives focused on Chinese folk crafts.
	3.9 Assessment and Feedback; Assessment and feedback methods are used throughout the teaching-learning process to track learner advancement and offer prompt help. Formative assessments, quizzes, peer evaluations, and self-assessment tools are used to measure understanding and mastery of skills. Feedback loops support ongoing improvement.
	3.10 Extension and Enrichment; Extension activities provide chances for learners to further investigate specific areas of Chinese folk traditional crafts or study related themes of interest. Enrichment materials like extra books, films, or virtual tours complement the micro video teaching resources and accommodate various learning preferences and degrees of experience.
	3.11 Closure and Reflection; The closure phase signifies the end of the teaching-learning activities, enabling learners to contemplate their entire learning process and achievements. Summative assessments, final reflections, and peer presentations offer a chance to recognize accomplishments and identify areas for improvement as part of the closure process.
	3.12 Educators can enhance the evaluation system for micro video teaching resources in Chinese folk traditional crafts by integrating teaching-learning activities/strategies. This approach aims to create engaging, interactive, and effective learning experiences that encourage a profound understanding and appreciation of the cultural heritage.
Please write your suggestion in blank …… ……	
1. Teaching-learning models.	
What do you think about the “Teaching-learning models of an Evaluation System for	

Micro Video Teaching Resources in Chinese Folk Traditional Craft" which covers the contents in instruction? For example:	
	4.1 In designing an evaluation system for micro video teaching resources in Chinese folk traditional crafts, it's crucial to consider the teaching-learning models that underpin instructional delivery and pedagogical approaches. These models provide frameworks for organizing and structuring the teaching-learning process, guiding the selection of instructional strategies, and optimizing learning outcomes. Here are several teaching-learning models that could be applicable to the evaluation system for micro video teaching resources in Chinese folk traditional crafts.
	4.2 Constructivist Learning Model; 1) The constructivist learning model emphasizes active engagement and knowledge construction by learners through hands-on experiences and reflection. 2) Micro videos within this model would focus on presenting authentic demonstrations and immersive experiences of traditional craft techniques, encouraging learners to explore, experiment, and create.
	4.3 Classroom observations will be carried out to observe the practical application of micro-videos in traditional art learning sessions. This will entail observing the incorporation of micro-videos by instructors in their instruction, levels of student involvement, and any evident hurdles or achievements. The micro-videos utilized in the conventional art education will be subjected to rigorous analysis. This analysis involves assessing the content, instructional design, visual attractiveness, and alignment with the learning objectives. Furthermore, criticism and comments from students and instructor.
	4.4 Experiential Learning Model; 1) Rooted in the principles of learning by doing, the experiential learning model encourages learners to engage directly with the subject matter through practical application and reflection. 2) Micro videos would provide step-by-step demonstrations of traditional craft processes, followed by opportunities for learners to practice and apply the techniques in hands-on projects or workshops.
	4.5 Social Learning Model; 1) The social learning model emphasizes the importance of peer interaction, collaboration, and knowledge sharing in the learning process. 2)

	Micro videos could incorporate elements of collaborative learning, such as virtual group projects, online forums, or community-based initiatives, where learners can engage with each other and share insights and experiences related to Chinese folk traditional crafts.
	4.6 Problem-Based Learning Model; 1) In the problem-based learning model, learners are presented with authentic, real-world problems or challenges to solve, which serve as the basis for learning and skill development. 2) Micro videos could present case studies or scenarios related to Chinese folk traditional crafts, prompting learners to analyze, problem-solve, and apply their knowledge and skills in practical contexts.
	4.7 Flipped Classroom Model; 1) The flipped classroom model involves delivering instructional content, such as micro videos, outside of class time, while in-person or online sessions focus on active learning, discussion, and application. 2) Micro videos would serve as pre-learning resources, providing foundational knowledge and demonstrations of traditional craft techniques, allowing class time to be dedicated to hands-on practice, group activities, and instructor-guided discussions.
	4.8 Blended Learning Model; 1) The blended learning model combines traditional face-to-face instruction with online learning components, offering flexibility and personalized learning experiences. 2) Micro videos could be integrated into a blended learning environment, complementing in-person workshops or classes with supplementary instructional content accessible anytime, anywhere, catering to diverse learning preferences and schedules.
	4.9 Socio-Cultural Model; 1) The socio-cultural model emphasizes the role of cultural context, social interactions, and historical perspectives in shaping learning experiences and knowledge acquisition. 2) Micro videos within this model would highlight the cultural significance, heritage, and artistic traditions of Chinese folk crafts, fostering a deeper understanding and appreciation of the craft within its socio-cultural context.
	4.10 By adopting and integrating these teaching-learning models into the evaluation system for micro video teaching resources in Chinese folk traditional crafts,

	educators can create engaging, interactive, and effective learning experiences that promote meaningful understanding and mastery of this rich cultural heritage.

Please write your suggestion in blank

……

……

Appendix C

Instruments: First Round: Brainstorming Questionnaire I

Questionnaire I

An Evaluation System for Micro Video Teaching

Instructions:

1) Please tick (/) in each blank according to your level of opinion.

2) If you think the stages of the teaching-learning procedure, components, and models of each theory need to be corrected, the researcher would like to adjust or improve this questionnaire with the greatest thanks.

1. Principles	Opinion				
	5	4	3	2	1
1.1 The traditional Chinese teaching method utilizes an evaluation system to assess the effectiveness and significance of teaching resources.					
1.2 The micro video instructional resources' learning objectives should guide the evaluation technique. This ensures that the evaluation focuses on how well the films teach traditional crafts.					
1.3 Chinese folk traditional crafts are culturally sensitive; the grading method should emphasize cultural authenticity. The microfilms' information, procedures, and presentations should match standard practices and principles					
1.4 The assessment approach should incorporate many criteria that cover distinct micro video aspects. This may include content relevance, instructional design, production quality, engagement, and interaction.					
1.5 Accessibility and Inclusivity: Assess micro video instructional resources using these principles. Language accessibility, subtitles or translations, and accommodations for diverse learners should be considered in the grading system.					

2. Stages of teaching-learning activities/strategies	Opinion				
	5	4	3	2	1
2.1 Methodically structuring content, using interactive elements to engage learners, and ensuring clarity and consistency in knowledge delivery.					
2.2 Micro video educational material dissemination requires strong technological infrastructure. This requires constant video access across devices and internet speeds and user-friendly interfaces for navigation and engagement.					
2.3 Adding visuals, demonstrations, and narrative to micro video instructional tools improves clarity and engagement. Multimodal materials appeal to a wide audience and improve learning by accommodating different learning styles.					
2.4 Quizzes, simulations, and hands-on tasks in short video educational resources interest pupils. These interactive elements improve comprehension and provide immediate feedback.					
3. Teaching-learning environments					
3.1 The teaching-learning activities begin with an introduction of micro video resources and learning objectives, subjects, and expectations. This stage supports learning by providing background and motivation to engage with instructional material.					
3.2 Explore and Demonstrate Content; This level involves showing Chinese folk traditional crafts' core ideas, processes, and traditions in short films. Demonstrations and visuals help students understand and appreciate traditional craft techniques, materials, and cultural importance.					

3. Teaching-learning environments	Opinion				
	5	4	3	2	1
3.3 Skills Development and Practice**: After examining the information, learners practice skills with small films. Interactive activities, precise instructions, and hands-on demonstrations help students understand ancient craft methods and apply their skills in real life.					
3.4 Reflection and Discussion; These activities let students evaluate their learning experiences and discuss them with classmates. Guided thinking prompts and conversation questions can deepen understanding of Chinese folk traditional crafts' cultural, historical, and artistic aspects.					
4.Teaching-learning models					
4.1 The Constructivist Learning Model promotes active involvement and knowledge development through hands-on experiences and reflection. This model's micro-films would show actual craft skills and immerse learners in them, motivating them to experiment and create.					
4.2 The Experiential Learning Model promotes direct engagement with subject matter through practical application and reflection, based on the principles of learning by doing. Students would practice and apply traditional craft techniques in hands-on projects or workshops after watching micro films.					
4.3 The Social Learning Model promotes peer contact, collaboration, and knowledge sharing in learning. Micro videos could include virtual group projects, online forums, or community-based initiatives where learners can share Chinese folk traditional crafts knowledge and experiences.					

4. Teaching-learning models	Opinion				
	5	4	3	2	1
4.4 The blended learning concept mixes face-to-face training with online components for flexibility and personalized learning. A blended learning environment could use micro-films to supplement in-person seminars or classes with educational information available anytime, anyplace, to accommodate varied learning styles and schedules.					

Appendix D

Instruments: Second Round: Evaluation Questionnaire II

Questionnaire II

Develop Construction of an Evaluation System for Micro Video Teaching Instructions: Please tick (/) in each blank according to your level of opinion. If you think the stages of the teaching-learning procedure, components, and models of each theory need to be corrected, the researcher would like you to adjust or improve this questionnaire with the greatest thanks.

Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts	Opinion				
	5	4	3	2	1
4.1 Principles Experiential situational and organizational knowledge. Assisting students in commencing their learning journey. Fostering a discussion environment. Linking students' ideas. Enabling a learning encounter.					
4.2 Stages of teaching-learning activities/strategies. 1) Introduce micro video materials, learning objectives, subjects, and expectations to start teaching-learning. This level provides background and incentive to learn. 2) Explore and Demonstrate Content, Present Chinese folk traditional crafts' essential concepts, procedures, and customs in short films. Students appreciate traditional craft processes, materials, and cultural significance through demonstrations and pictures. 3) Skill Development and Practice**: After reviewing, students practice with short films. 4) Interactive activities, clear instructions, and hands-on demonstrations let students learn old craft techniques and use them practically. 5) Reflection and Discussion; Students evaluate and share their learning experiences with classmates. Chinese folk traditional crafts' cultural, historical, and artistic components can be better understood using guided thinking and conversation questions.					

Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts	Opinion				
	5	4	3	2	1
4.3 Teaching-learning models. 1) The Constructivist Learning Model emphasizes hands-on learning and reflection. This model's micro-films would immerse trainees in craft skills, encouraging experimentation and creation. 2) Based on learning by doing, the Experiential Learning Model encourages practical application and reflection on subject content. Post-microfilm projects or workshops let students experience traditional craft skills. 3) The Social Learning Model encourages peer learning, cooperation, and knowledge sharing. Micro films could feature virtual group projects, internet forums, or community-based initiatives where students share Chinese folk traditional crafts skills. 4) Blended learning combines online and in-person training for flexibility and personalization.					

Appendix E

Instruments: Third Round: Re-Evaluation

Questionnaire III

Questionnaire III

Instructors' opinion concerning Construction of an Evaluation System for Micro Video Teaching Resources in Chinese Folk Traditional Crafts.

Domains	Confirmation (Percentage)	Disconfirmation (Percentage)	Reject (Percentage)
Principles:			
1. Experienced organizational and situational expertise. Helping pupils start learning. Promoting discussion. Connecting student ideas. Making learning possible. **(85.0%)**			
Teaching-learning environments:			
The components of teaching-learning management are learners and instructors**. (81.1%)**			
Teaching-learning activities/ strategies:			
1) Start teaching-learning with mini video resources, objectives, subjects, and expectations. This level introduces and motivates learning. **(88.7%)** 2) Show Chinese folk traditional crafts' key principles, techniques, and customs in short films. Through demonstrations and photos, students understand traditional craft techniques, materials, and culture. **(86.8%)** 3) Skill Development and Practice; Students practice short films after reviewing. **(77.4%)**			

Domains	Confirmation (Percentage)	Disconfirmation (Percentage)	Reject (Percentage)
4) Interactive activities, clear instructions, and hands-on demonstrations teach old craft processes. **(73.6%)** 5) Reflection and Discussion: Students discuss their learning experiences. Guided thinking and conversation questions help explain Chinese folk traditional crafts' cultural, historical, and artistic aspects. **(77.4%)**			
Teaching-learning models:			
1) The Constructivist Learning Model encourages practice and reflection. Through micro-films, this methodology would teach craft skills and encourage experimentation. **(86.8%)** 2) The experiential learning model promotes application and reflection on topic matter through doing. Students learn traditional crafts in post-microfilm projects or workshops. **(88.7%)** 3) The Social Learning Model promotes collaboration, knowledge sharing, and peer learning. Micro films could incorporate online forums, virtual group projects, or community-based Chinese folk craft sharing by students. **(81.1%)** 4) Blended learning offers flexibility and customization with online and in-person training. **(86.8%)**			

Biography

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