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The Effectiveness of Synchronous and Asynchronous Blended Teaching Plan for Preschool Education Major Students at The Institute of Teacher Education in Ningxia Province, People Republic of China

Yeqiu Liu[1] and Athipat Cleesuntorn[2]

[1]Teaching and Technology Student of Graduate School of Business and Advanced Technology Management, Assumption University of Thailand

[2]Graduate School of Business and Advanced Technology Management, Assumption University of Thailand

[1]E- mail: Liuyeqiu092915@iCloud.com, ORCID ID: https://orcid.org/0009-0000-2240-4629

[2]Coreponding author e-mail: athipatcls@au.edu, ORCID ID: https://orcid.org/0000-0001-5566-0370

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Abstract

Background and Aims: In recent years, the role of choral conducting courses in China's basic education has been receiving more and more attention. A sudden increase in the demand for chorus and conducting courses in primary school has led to a shortage of teachers in this professional field in underdeveloped areas such as Ningxia. To efficiently train more primary school teachers who possess choral conducting skills for basic education has become the primary focus of colleges and universities offering primary school education majors. The purpose of this article is to explore whether synchronous and asynchronous blended teaching plans can achieve, or even surpass, the academic performance of traditional educational methods while enhancing the efficiency of the curriculum.

Methodology: This quasi-experimental study aims to investigate the effects of various teaching plans on participants' outcomes. The participants consist of students engaged in a chorus and conducting an education setting. In this research procedure, the 39 participants were divided into three groups, each experiencing a different teaching method: the traditional teaching plan group, the synchronous blended teaching plan group, and the asynchronous blended teaching plan group. After implementing the teaching plans, standardized tests are administered to all three groups to measure their learning outcomes and performance. The collected data, comprising participants' test scores, will undergo statistical analysis using ANOVA and the Paired T-test.

Result: The final research results indicated that there was no statistically significant difference in the performance of the three participant groups. In other words, all three teaching plans exhibited a positive effect on participants' performance, with similar degrees of improvement. When considering average scores in sub-subjects, participants in the blended program generally outperformed those in the traditional style.

Conclusion: The blended teaching plan combines the convenience of online teaching with the benefits of offline practical instruction. The researchers contend that employing a blended teaching approach can enhance course efficiency, offering a viable alternative to the traditional teaching method.

Keywords: Chorus and Conducting Course; Preschool Education Major; Synchronous Blended Teaching Plan; Asynchronous Blended Teaching Plan; Teaching Effectiveness

Introduction

In recent years, with the development of the economy, people no longer solely pursue material well-being life but also chase the enrichment of spiritual life. As a group activity in music art, the chorus is easier to accept by the masses because of its artistic characteristics, such as low input, low difficulty ease of joining, most vast participants and audience (Lu, L. 2008; Bao, L.Z. 2017). In 2011, the

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Education Bureau issued the "Music Curriculum Standards for Compulsory Education" clarifying the importance of chorus teaching (He, B.B. 2017; Shi, J. 2020). In this social context, Preschool schools also began to put forward requirements for music teachers to establish chorus groups and develop the chorus train.

However, in normal universities and some education institutes, the chorus and conducting course is a compulsory course for students majoring in music education in their freshman and sophomore years (Zhu, W. 2006). Jia, X.J. (2014) proposed many music teachers in Ningxia Preschool school were not music education majors, not even graduated from music-related schools. Simply, the development and research of music education is lagging here. The researchers believe that these problems can be improved if the curriculum plan for chorus conducting can be implemented in the preschool education major rather than only in the music major. The course is carried out according to the outline of the chorus and conducting course for music education majors, which is mainly aimed at developing the ability of preschool school teachers to organize choral conducting activities in class or on campus (Wang, X. 2017). An efficient training plan can be formulated to equip these preschool music teachers with the basic skills of chorus conducting in the future.

The blended learning method has been strongly advocated by educational practitioners as a promising method alternative to distance education using a blend of traditional face-to-face instruction and asynchronous/ synchronous online learning (Diep et al., 2017). Scott & Phil (2015) believed that other than the distance aspect, the synchronous online course and the physical classroom-based course are very much identical. However, considering the finding of Yip &Wong (2019) confirms that different individuals have different learning paces. Students may not have enough time when working in a synchronous environment to reflect deeply on either the content or their peers' comments before they are required to make responses. Also, some students feel impatient while waiting for others to respond (Rosenberg et al., 2017). The asynchronous blended teaching plan also be developed in this research. Asynchronous distance learning offers flexibility as students do not have to be online at the same time and they can self-place their studies (Hrastinski, S. 2008).

The researcher believed that using technology to develop a blended learning teaching plan to replace the traditional method could improve the chorus and conduct teaching more effectively.

Research Objectives

1. To determine which teaching plan can effectively enhance chorus and conducting teaching for students majoring in preschool education.

2. To ascertain the extent to which the three different teaching plans influence participants in achieving the course objectives.

Theoretical Framework

ADDIE Model

In this research endeavor, the formulation of the blended learning teaching plan is grounded in the systematic framework of the ADDIE Model. The ADDIE model, renowned for its adaptability and methodical rigor, stands as a stalwart construct within the realm of instructional design. It serves as a steadfast and enduring cornerstone, facilitating the creation of training programs and educational curricula over numerous years (Abernathy, D., 2019; Sammer, M. A. 2018).

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The strategic utilization of the ADDIE instructional design model assumes paramount importance, as it orchestrates the harmonization of pedagogical strategies with the distinct requisites of students and the available instructional resources. This alignment is pivotal for ameliorating the limitations inherent in conventional instructional paradigms, thereby culminating in an enhanced and refined facilitation of the knowledge propagation process (Sammer, M. A. 2018).

Figure 1 The ADDIE concept model. (Zhang, J. F. 2020)

Learning Theory

The influence of learning theory on students' educational progress is widely acknowledged, forming the underpinning rationale for curriculum design and execution. Three prominent learning theories—behaviorism theory, cognitivism theory, and constructivism theory—stand as exemplars in this domain.

However, the practical application of these theories often deviates from complete independence, as indicated by the findings of Nadir's et al. (2017) Research. Rather, these theories are frequently amalgamated in various permutations to suit specific courses or educational contexts. The precision in defining learning theories, furthermore, can sometimes be elusive.

In this study, the cornerstones for designing teaching activities chiefly draw upon cognitive theory and the theory of cognitive overload. Notably, the degree of cognitive engagement bears a direct correlation to academic achievements, as evidenced by the research of Sezan (2021). Cognitivism, accentuating cognitive prowess enhancement, and constructivism, highlighting active learning, emerge as suitable theoretical frameworks that lend support to the formulation and implementation of this curriculum.

Cognitive Load Theory

The cognitive load theory is a psychological framework rooted in cognitive science that posits that at times, students are presented with more instructional material than their limited cognitive capacities can effectively process. This discrepancy often arises due to educators not fully accounting for these cognitive constraints (Houichi, A. & Sarnou, D. 2020). Central to this theory is the emphasis on the pivotal role cognitive ability plays in shaping learning outcomes during the processes of learning and memory (Schnotz, W. & Kürschner, C. 2007).

Houichi &Sarnou (2020) provides a comprehensive elucidation of the distinct forms in which cognitive load manifests. Firstly, intrinsic load encapsulates the inherent complexity of the material and factors in students' proficiency levels in the subject matter. The second variant is extraneous load, arising from instructional elements that do not positively contribute to learning. This form redirects cognitive resources towards activities that lack relevance to performance and do not directly enhance the learning process. Lastly, germane load signifies a constructive and advantageous type of cognitive load. It encompasses the process of facilitating the transfer of information into long-term memory by prompting students to expend cognitive effort in comprehending the material.

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However, in the context of designing a choral and conducting a teaching plan, due consideration must be given to all three types of cognitive load—whether to incorporate or avoid each by pedagogical objectives and the cognitive capacities of learners.

Literature Review

Chorus and Conducting Course

The Yale School of Music(https://music.yale.edu/choral-conducting) defines the choral conducting program as one that prepares students for careers spanning the entire spectrum of the choral field. A chorus is a collective singing activity (Sun, P. 2003). This is achieved by helping students build and refine the core skills required of a conductor, as well as by further developing their musical voice.

In the context of this study, the choral conducting course is designed for preschool education majors, a common discipline in colleges and universities. Its primary objective is to enhance the capability of preschool teachers in organizing choral conducting activities within their classes or on campus (Wang, X. 2017).

Synchronous VS. Asynchronous Learning

The question of which online approach to employ in course design has long been a subject of contemplation for educational researchers. Much of this research has been centered around the comparison of synchronous and asynchronous classrooms. Asynchronous learning stands as a foundational methodology in e-learning.

Safavi (2008) defines asynchronous learning as a self-paced approach that enables participants to engage in the exchange of ideas or information without relying on simultaneous involvement from others. Smith (2009) holds the view that learners complete coursework, discussions, questions, and other activities at their own pace.

Synchronous learning, another fundamental methodology in e-learning, involves the exchange of ideas and information among one or more participants during the same period, as described by Higley (2013). In essence, synchronous learning emphasizes that participants' learning processes occur in real time and simultaneously (Chinyera et al., 2019).

The advantages and challenges of synchronous and asynchronous courses manifest in various aspects. Research suggests that synchronous and asynchronous classrooms can serve as substitutes for each other if there is no significant difference in learning effectiveness.

Blended Learning

Blended learning is often positioned as the fusion of independent study and group-based learning, drawing on the strengths of both traditional classroom instruction and distance education (William, W. L. 2002). Blended learning amalgamates the benefits of online and offline learning, making it particularly well-suited for practical courses.

Ling (2021) argues that a comprehensive blended course should encompass online modules, pre-class preparation, self-directed learning after classes, interactive components, a diverse array of learning materials, and student-centered offline discussion sessions.

Nichols (2020) delved into the issue of educational inequalities faced by many students during this period. Despite the evident advantages of blended learning courses, it's important to note that improperly selecting online education methods when combined with traditional teaching approaches can still adversely affect students' academic achievement.

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Tencent Meeting and WeChat

Tencent QQ, a widely adopted chat application in China, serves as a prominent communication platform. Embedded within the infrastructure of Tencent QQ, Tencent Meeting emerges as an integral component that facilitates real-time interactive online teaching. This virtual environment encompasses diverse teaching modes, including presentations through tools such as PPT, screen sharing capabilities, as well as provisions for interactive functions like whiteboards and teacher-led queries. Remarkably, Tencent QQ groups seamlessly integrate with distance teaching, accommodating up to 300 participants within an online classroom setting (Chai, L. D. 2021; Ling, J. Y. 2021).

Similarly, WeChat, a ubiquitous communication application in China, has garnered pervasive public usage for textual exchanges. Distinguishing itself with cost-free accessibility, WeChat exhibits a paramount advantage over other social software platforms. Notably, WeChat transcends conventional utility by serving as an efficacious platform to incubate ancillary functionalities, notably the creation of Mini-programs. Coined by Liu (2019) and Han (2020), the founder of WeChat, WeChat Mini-programs epitomize an enhanced degree of flexibility and accessibility, surpassing existing applications in terms of malleability and ease of access.

Preschool education major

Preschool education emerged as a novel academic discipline within the higher education system towards the close of the 20th century, aiming to nurture proficient and adept preschool teachers. Within the curriculum framework of preschool education, music education occupies a pivotal role, signifying its integral significance (Wu, Y. R. 2011).

A notable facet of the education landscape in China is the intrinsic incorporation of chorus and conducting skills as fundamental components within the skill assessment repertoire for national preschool and secondary school music educators. This underscores the essential nature of these proficiencies, deeming them requisite for every music teacher operating within the preschool and secondary school domains (Wang, X. 2017).

Conceptual Framework

In this study, the independent variable consists of three instructional approaches, while the dependent variable pertains to participants' proficiency levels in the 12 kinds of skills that require measurement throughout the course. The pre-test was administered during the first week, followed by two post-tests conducted in the sixth and eleventh weeks. These post-tests are respectively referred to as the "first-time post-test" and "last-time post-test," capturing participants' skill mastery at distinct points in time.

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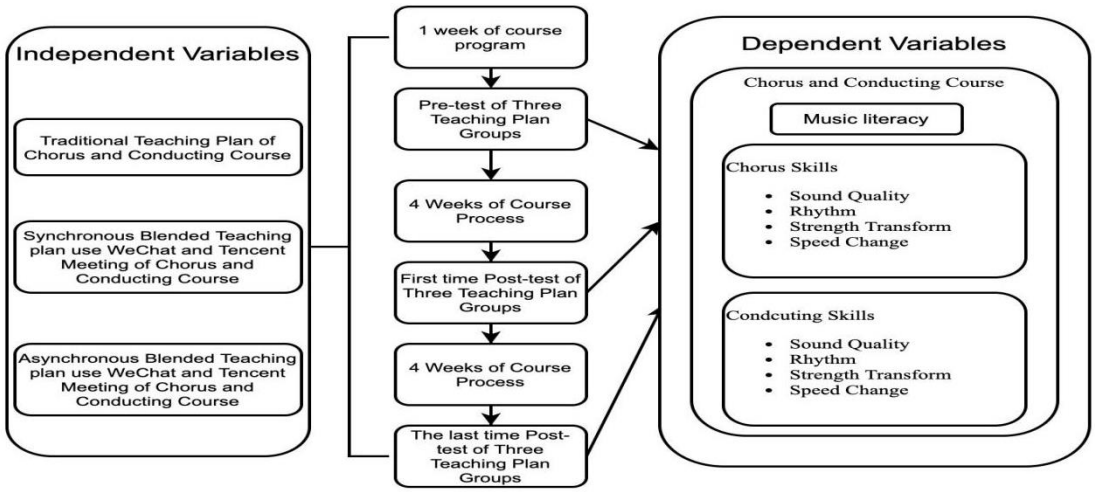

Figure 2 The Conceptual Framework

Methodology

Type of Research

Quasi-experimental research.

Population and Sample

Population*:* This research focuses on the population of preschool education students in Ningxia province. In China, the preschool education major falls under the category of applied undergraduate programs. Its primary objective is to cultivate adept professionals for the role of preschool teachers. The training goals and curriculum are intricately tailored to meet the specific knowledge and skills demanded by this profession (Zhao, T. T. 2018). It is important to note that in Ningxia province, a significant portion of preschool education students lack specialized or extensive exposure to music-related skills before their enrollment in the program.

Sample Size: To ensure statistically significant test results, an appropriate sample size is essential. In this study, each group comprised a minimum of 13 participants, determined using Statulator (https://statulator.com/SampleSize/ss2PM.html). This involved selecting 13 pairs at random, with an effect size of 0.85, yielding an 80% statistical power to detect mean differences significant at a two-sided p-value below 0.05.

Research process

The quasi-experiment spans 11 weeks, comprising five distinct phases. The research workflow is visually represented in Figure 3, encapsulating the experimental design and progression.

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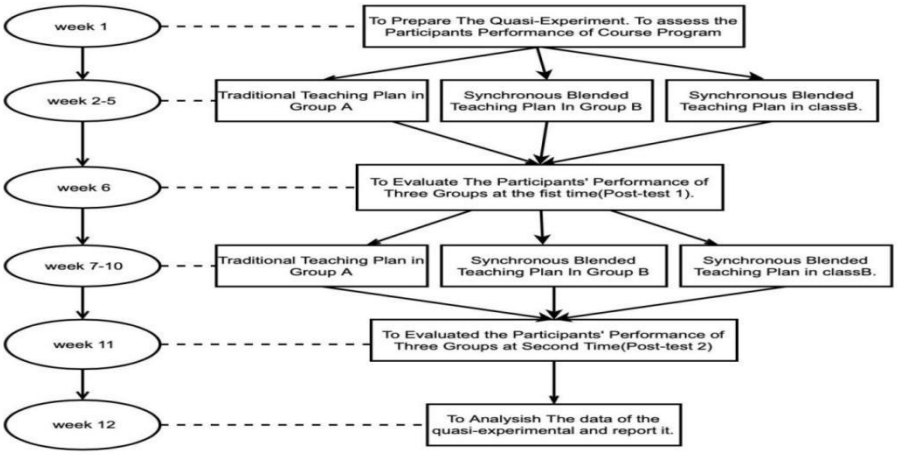

Figure 3 The Flow Chart of Quasi-Experiment Research

Research Tool

Traditional teaching plan program: Traditional classes use paper handouts, and are given a 45-minute face-to-face class twice per week. In one of the classes, the researcher would guide the participants to sort out the learning content of the course and the basic theory that includes music literacy and basic music reading skills, and the other is rehearsal class.

Synchronous blended teaching plan program: Synchronous classes use PDF format resources, and are given a 45-minute online class once per week with the learning content of the course and the basic theory. The other part is a face-to-face rehearsal class, once per week.

Asynchronous blended teaching plan program: *As*ynchronous classes use PDF format resources, and a 45-minute offline class uses video with the learning content of the course and the basic theory. The other part is a face-to-face rehearsal class, once per week.

Music literacy examination paper: The exam is a test paper to determine the level of the participants' stage music theory learning. Music basic theory knowledge is part of the content of the "Music Basic Literacy Examination course", The book has been a nationally applicable music literacy examination course. The part of the basic knowledge of choral and conducting by referring to two textbooks, Choral and Conducting Course (Third edition) and Chorus Conducting by Chen Guoquan. The first book has been used as a chorus course at the Conservatory of Music of Sichuan Conservatory of Music. The researchers modified some of the questions according to the books that have been published for more than five years and are used as textbooks.

Chorus and conducting performance criteria table: The scoring criteria utilized for the preschool education major choral music course in this study were primarily drawn from multiple sources. These sources encompassed the assessment criteria employed in the examination subjects and the distribution of scores within the choral conducting specialization at the Conservatory of Music at Ningxia University. Furthermore, the scoring regulations established by reputable institutions such as Sichuan Conservatory of Music, Wuhan Conservatory of Music, Zhejiang Conservatory of Music, and Central Conservatory of Music were also incorporated, thereby ensuring a comprehensive validation process.

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Table 1 The scoring table and criteria of Performance

Chorus Skills Scoring Criteria	Excellence	Good	Passing	Failure
Sound quality： Whether participants can be performed according to the timbre required by the work (Wang, X.T. 2014; Wang, F. 2022).	> 22	22—20	19—15	< 15
Rhythm： Whether participants can be performed the work by the correct rhythm (Wang, F. 2022).	> 22	22—20	19—15	< 15
Strength transform： Whether the participants can perform according to the strength sign of the work (Sun, P. 2003).	> 22	22—20	19—15	< 15
Speed Change： Whether the participant can sing according to the prescribed speed change mark (Peng, M. M. 2020).	> 22	22—20	19—15	< 15
Conduct gesture: When directing a multi-part chorus, you can use the correct and clearly correct meter conductor diagram (Sun, P. 2003).	> 22	22—20	19—15	< 15
Rhythm: When directing a multi-part chorus, he can correctly handle rhythm changes (Wang, 2022).	> 22	22—20	19—15	< 15
Volume: When directing a multi-part chorus, it can handle the strong and weed of volume changes in the correct way of directing (Wang, X-T. 2014).	> 22	22—20	19—15	< 15
Musicality: In a multi-part chorus, the melody of each part changes, and alternation can be directed with the clear conduct indicated (Peng, M. M. 2020).	> 22	22—20	19—15	< 15
Chorus Skills Totally Scores: Add the scores of the four chorus skills.	> 90	90—80	60—79	< 60
Conducting Skills Totally Scores: Add the scores of the four conducting skills.	> 90	90—80	60—79	< 60
Chorus and Conducting Course Scores: The value was added to 30 percent of Music literacy scores, and 35 percent of Chorus and Conducting skills total scores, respectively.	> 90	90—80	60—79	< 60

Data Collection

Three performance testing instruments were used in this study. Music literacy test papers, criteria tables for choral, and conducting skills tests. The total score of the basic chorus course is 100 points combined with three parts. The results expected could show the effectiveness difference between the

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three teaching plans. The examination paper score, the performance scale about choral skills and conducting skills, and the daily performance are all designed as 100 points. The music literacy examination accounts for 30 percent of the total score. Choral skills account for 35 percent and conducting skills for 35 percent. The final result is to add these three parts of scores together.

There are twice theory tests. The first time focuses on basic music knowledge and chorus knowledge. It will be conducted in week 6. The other one focuses on participants' conduction rehearsal-related abilities, conducted in week 11. The exam will be recorded and sent to the other two teachers who will be jointly assessed. To ensure fairness, three teachers would mark the table and take the average number as the final score.

Data Analysis

The data acquired from this study underwent analysis using SPSS 26.0 software. The outcomes of the ANOVA assessment unveiled no statistically significant distinctions ($P > 0.05$) among the three groups across 11 subject areas when comparing the first post-test results excluding musicality ($P < 0.05$). This signifies that participants under the asynchronous blended teaching plan demonstrated notably superior musical performance in the initial post-test compared to the traditional group. Notably, no statistically significant discrepancies were observed ($P < 0.05$) among the three groups across all subjects when evaluating the second post-test.

Furthermore, the paired samples t-test brought to light statistically significant differences ($p < 0.05$) within the three groups when comparing the pre-test and post-test 2 results. These results signify that the teaching plans employed across all three groups had a noteworthy and positive influence on the variables of scores.

Result

Table 2 Comparison of Three Groups Participants' mean score

Variable	Group	Mean Score	
		Post-test 1	Post-test 2
Music Literacy	Traditional	74.85	87.69
	Synchronous	80.08	89.54
	Asynchronous	82.08	88.74
Sound Quality	Traditional	18.69	20.08
	Synchronous	18.31	20.31
	Asynchronous	17.62	19.92
Rhythm Skills (Chorus)	Traditional	16.77	18.08
	Synchronous	16.62	19.54
	Asynchronous	17.46	18.85
Strength Transform	Traditional	17.00	18.69
	Synchronous	15.62	19.08
	Asynchronous	17.31	19.00
Speed Change	Traditional	16.15	18.08
	Synchronous	15.38	18.54
	Asynchronous	16.92	19.08

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Variable	Group	Mean Score	
		Post-test 1	Post-test 2
Chorus Skills	Traditional	68.31	74.92
	Synchronous	65.92	77.31
	Asynchronous	69.31	76.54
Conducting Gesture	Traditional	17.31	18.85
	Synchronous	17.38	19.08
	Asynchronous	18.23	19.85
Rhythm Skills (conducting)	Traditional	16.15	18.85
	Synchronous	16.92	18.92
	Asynchronous	16.85	18.38
Volume	Traditional	17.38	18.46
	Synchronous	16.85	18.38
	Asynchronous	17.85	18.54
Musicality	Traditional	14.85	17.69
	Synchronous	15.15	18.23
	Asynchronous	17.15	19.38
Conducting Skills	Traditional	65.69	73.85
	Synchronous	67.31	74.62
	Asynchronous	67.92	76.38
Course Scores (Totally)	Traditional	69.08	78.46
	Synchronous	70.77	80.23
	Asynchronous	71.15	80.23

From the perspective of the overall score of the course, the point average score, of the synchronous blended teaching plan group was 1.69 points higher than the traditional teaching plan group, and the asynchronous blended teaching plan group was 4.54 points higher than the traditional group. After all programs, the points of participants' average scores in the synchronous and asynchronous blended teaching plan group were 1.77 higher than the traditional group.

From the results of the subjects' scores. In the first post-test, the asynchronous blended teaching plan performed better than the traditional model and synchronous blended model in the 9 subjects besides sound quality. In the second post-test, the mean score of participants in two kinds of blended teaching plan groups was almost litter better than traditional groups.

Table 3 ANOVA Analysis Result of Chorus and Conducting Course Post-test

Variable	Group	Post-test1			Post-test 2		
		Homo	ANOVA		Homo	ANOVA	
		Sig.	F	Sig.	Sig.	F	Sig.
Music Literacy	Traditional Synchronous Asynchronous	.871	3.202	P> 0.05	.328	.674	P> 0.05

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Variable	Group	Post-test1			Post-test 2		
		Homo	ANOVA		Homo	ANOVA	
		Sig.	F	Sig.	Sig.	F	Sig.
Sound Quality	Traditional Synchronous Asynchronous	.455	.724	P> 0.05	.386	.105	P> 0.05
Rhythm Skills (Chorus)	Traditional Synchronous Asynchronous	.982	.427	P> 0.05	.581	1.789	P> 0.05
Strength Transform	Traditional Synchronous Asynchronous	.852	2.538	P> 0.05	.067	.207	P> 0.05
Speed Change	Traditional Synchronous Asynchronous	.548	1.671	P> 0.05	.435	.855	P> 0.05
Chorus Skills	Traditional Synchronous Asynchronous	.387	.706	P> 0.05	.072	.412	P> 0.05
Conducting Gesture	Traditional Synchronous Asynchronous	.279	1.332	P> 0.05	.144	1.254	P> 0.05
Rhythm Skills (conducting)	Traditional Synchronous Asynchronous	.692	1.190	P> 0.05	.025	.511	P> 0.05
Volume	Traditional Synchronous Asynchronous	.894	1.144	P> 0.05	.227	.034	P> 0.05
Musicality	Traditional Synchronous Asynchronous	.089	5.353	P< 0.05	.005	2.864	P> 0.05
Conducting Skills	Traditional Synchronous Asynchronous	.293	2.715	P> 0.05	.006	.679	P> 0.05
Course Scores (Totally)	Traditional Synchronous Asynchronous	.699	2.591	.089	.024	.651	P> 0.05

As Table 3 shows, in the first-time post-test, the variance test value of 11 kinds of variables is no significant difference (P> 0.05). The musicality was a significant difference (P< 0.05) in the performance in the first-time post-test among the three teaching plan groups. In the last time post-test, the variance test value of all kinds of variables showed no significant difference in their scores, P> 0.05.

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Combined with Table 2 and Table 3 results, consideration about the average score, the two blended teaching plan groups seem to perform better. In terms of the teaching effect of different subjects, the participants in the two blended teaching plan groups achieved the same level of academic achievement as the participants in the traditional teaching plan group in 11 different subjects. The researchers also observed that while there was no significant difference in grades among the three groups over the long term, participants in the asynchronous blended course did better in the more theoretical course in the short term.

Table 4 Comparison of the score before and after teaching in the three groups of subjects

Variable	Group	Pre - Post-test 2		Pre - Post 2		
		t	p	Homo	ANOVA	
				Sig.	F	Sig.
Music Literacy	Traditional	-12.488	P< 0.01	.080	0.391	P> 0.05
	Synchronous	-16.368	P< 0.01			
	Asynchronous	-25.152	P< 0.01			
Sound Quality	Traditional	-9.257	P< 0.01	.084	.009	P> 0.05
	Synchronous	-16.69	P< 0.01			
	Asynchronous	-9.257	P< 0.01			
Rhythm Skills (Chorus)	Traditional	-5.832	P< 0.01	.556	.805	P> 0.05
	Synchronous	-7.604	P< 0.01			
	Asynchronous	-2.882	P< 0.01			
Strength Transform	Traditional	-23.75	P< 0.01	.026	.079	P> 0.05
	Synchronous	-9.627	P< 0.01			
	Asynchronous	-10.859	P< 0.01			
Speed Change	Traditional	-14.031 -	P< 0.01	.699	2.845	P> 0.05
	Synchronous	8.2	P< 0.01			
	Asynchronous	-8.066	P< 0.01			
Chorus Skills	Traditional	-18.714	P< 0.01	.454	1.001	P> 0.05
	Synchronous	-12.397	P< 0.01			
	Asynchronous	-10.076	P< 0.01			
Conducting Gesture	Traditional	-7.704	P< 0.01	.338	.965	P> 0.05
	Synchronous	-9.912	P< 0.01			
	Asynchronous	-7.664	P< 0.01			
Rhythm Skills (conducting)	Traditional	-7.771	P< 0.01	.208	1.668	P> 0.05
	Synchronous	-12.738	P< 0.01			
	Asynchronous	-4.877	P< 0.01			
Volume	Traditional	-15.256	P< 0.01	.411	.384	P> 0.05
	Synchronous	-11.867	P< 0.01			
	Asynchronous	-9.304	P< 0.01			

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Variable	Group	Pre - Post-test 2		Pre - Post 2		
		t	p	Homo	ANOVA	
				Sig.	F	Sig.
Musicality	Traditional	-17.664	P< 0.01	.325	1.322	P> 0.05
	Synchronous	-11.436	P< 0.01			
	Asynchronous	-10.86	P< 0.01			
Conducting Skills	Traditional	-21.946	P< 0.01	.257	2.950	P> 0.05
	Synchronous	-14.631	P< 0.01			
	Asynchronous	-8.684	P< 0.01			
Course Scores (Totally)	Traditional	-32.154	P< 0.01	.454	1.001	P> 0.05
	Synchronous	-27.772	P< 0.01			
	Asynchronous	-16.546	P< 0.01			

The paired sample t-test results show that all of the variable test Sig (2-tailed) is 0.00 less than 0.01. The absolute values of the T-statistic are all larger than the t-critical value of 2.179 in the T-table (df=12). It can be considered that the participants of the three teaching programs showed positive improvement in their scores in all subjects.

The differences and variances among the three teaching plans in improving the overall performance of participants are shown. The P-value of 12 subjects was over 0.05 means there is no significant difference in learning achievement improvement level among the three groups as a whole course program of all subjects.

Discussion

The prevailing trend in contemporary education is the pursuit of greater teaching plan efficiency while ensuring teaching quality through the integration of science and technology. This study is to investigate whether the blended teaching plan of two kinds of chorus and conducting courses that the researcher designed for preschool education major students could achieve the same or even better effect than the traditional face-to-face teaching plan class.

Recent literature indicates that online teaching of choral conducting courses, particularly for beginners, has faced challenges due to technical limitations. Özer & Üstün (2020) noted that students in music departments didn't perceive web-based distance education as efficient as face-to-face instruction, particularly in applied courses. In the realm of music education, many teachers remain concerned that changes in learning modes may impact overall student performance (Kesendere et al., 2020).

However, the final results of this research demonstrate that participants in the two blended teaching plans achieved equivalent academic performance. In some skill areas, blended teaching plan participants even outperformed those in the traditional teaching plans. These findings suggest that the traditional teaching model may have the potential to be replaced in choral conducting courses in the future. In essence, As the point proposed by Diep (2017) and Akyürek (2020), students enrolled in chorus and conducting courses may have a wider array of learning mode options. They can choose teaching plans that align with their preferences, convenience, and habits. Furthermore, they can access innovative knowledge online, transcending the constraints of traditional classroom-based learning.

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These results also support the assertion that a blended curriculum can serve as a viable alternative to both traditional and exclusively online learning, capable of matching or surpassing the academic achievements of traditional classrooms. Additionally, it can ease the transition from conventional teaching methods to distance learning (Sakarya, G., & Zahal, O. 2020).

In conclusion, the finding result indicated that after eight weeks of teaching in the second two stages, the academic achievement of participants in the synchronous blended teaching plan group and the asynchronous blended teaching plan group reached the same achievement as that of the traditional teaching plan group and that the average score of the participants in two blended teaching plan groups is slightly higher than that of the traditional teaching group.

Recommendations

1. This research offers specific guidance and references for the training of preschool education students in chorus and conducting courses. The blended teaching program can also function as a transitional approach, gradually replacing traditional classroom instruction in the curriculum schedule.

2. For the theoretical knowledge and fundamental conducting gestures of the chorus and conducting course, online teaching can be fully adopted, whether in synchronous or asynchronous formats, as both can yield similar outcomes. It is advisable to employ synchronous online teaching for practical skill courses, such as sound quality, rhythm, tempo variations, dynamic control, and musicality in chorus and conducting courses. This approach ensures that students benefit from increased communication and feedback with instructors. Furthermore, it's beneficial to include a weekly rehearsal session, enabling students to practice the skills learned online and experience musicality more directly in a real-world setting.

3. Moreover, whether employing asynchronous or synchronous online teaching in the chorus and conducting courses, instructors should ensure high-quality audiovisual materials. In synchronous teaching, it's crucial to maintain a steady internet connection speed throughout the class. Regardless of the teaching format, effective teaching supervision should be guaranteed to support students' learning journey.

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