

**THE LEARNING MANAGEMENT THROUGH THE DIRECT
INSTRUCTION MODEL TO IMPROVE VOCAL MUSIC SKILLS
FOR SECONDARY 5 (GRADE 11) STUDENTS**

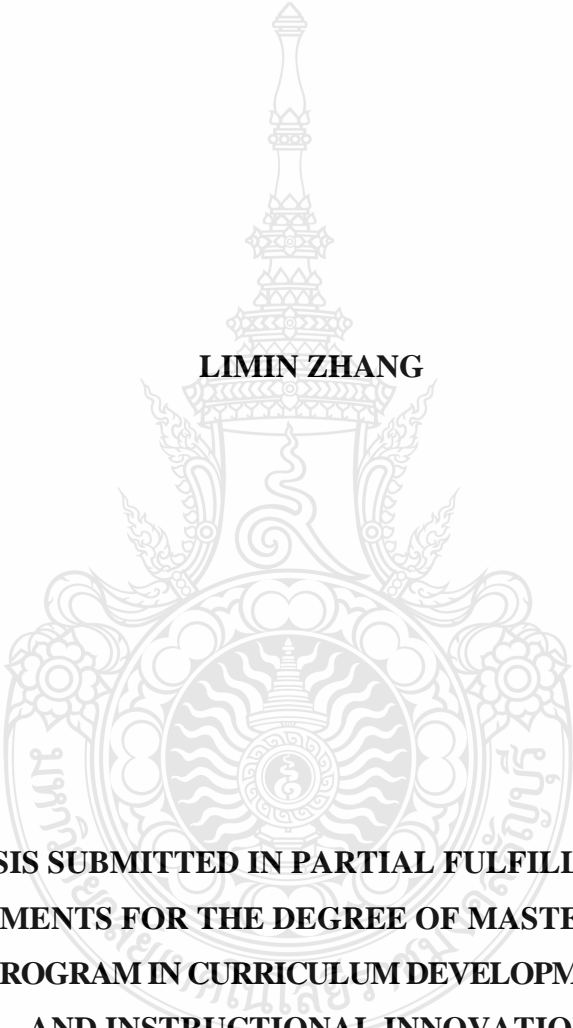
LIMIN ZHANG



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION
PROGRAM IN CURRICULUM DEVELOPMENT
AND INSTRUCTIONAL INNOVATION
FACULTY OF TECHNICAL EDUCATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
ACADEMIC YEAR 2022
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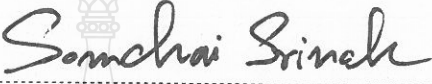
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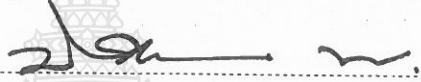


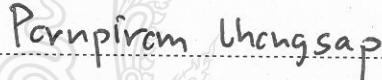
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Thesis Title The Learning Management through the Direct Instruction Model
to Improve Vocal Music Skills for Secondary 5 (Grade 11) Students
Name – Surname Mrs. Limin Zhang
Program Curriculum Development and Instructional Innovation
Thesis Advisor Assistant Professor Rossarin Jermtaisong, Ph.D.
Academic Year 2022

THESIS COMMITTEE



..... Chairman
(Associate Professor Somchai Sinok, Ph.D.)


..... Committee
(Assistant Professor Pranom Punsawai, Ph.D.)


..... Committee
(Mr. Pornpirom Lhongsap, Ph.D.)


..... Committee
(Assistant Professor Rossarin Jermtaisong, Ph.D.)

Approved by the Faculty of Technical Education, Rajamangala University of
Technology Thanyaburi in Partial Fulfillment of the Requirements for the Master's Degree


..... Dean of Faculty of Technical Education
(Assistant Professor Arnon Niyomphol, M.S.Tech.Ed.)

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ABSTRACT

The objectives of the study were to: 1) compare the vocal music skills of the Secondary 5 (Grade 11) students before and after learning management through the traditional method, 2) compare the vocal music skills of the Secondary 5 (Grade 11) students before and after learning management through direct instruction model, and 3) compare the vocal music skills of the Secondary 5 (Grade 11) students between those after learning through the traditional method with those after learning through the direct instruction model.

The sample group was 30 Secondary 5 (Grade 11) students at Beijing Modern Music School, in Beijing, China in the academic year 2022. The samples were selected by cluster random sampling. The instruments consisted of: 1) the learning management plan using the traditional method, 2) the learning management plan using the direct instruction model, and 3) the assessment form of vocal music skills.

The statistics used to analyze the data were mean, standard deviation, independent samples t-test, and dependent samples t-test. The results showed that: 1) the vocal music skills the Secondary 5 (Grade 11) students after learning through the traditional method were higher than those before learning at the statistical significance level of .05; 2) the vocal music skills of the students after learning through the direct instruction model were higher than those before learning at the statistical significance level of .05; and 3) the vocal music skills of the students after learning through direct instruction model were higher than those after learning through the traditional method at the statistical significance level of .05.

Keywords: traditional method, direct instruction model, vocal music skills

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CHAPTER 1

INTRODUCTION

1.1 Background and Statement of the Problems

Music education was an important part of the art education system. A good music education popularization and development environment could help students build healthy and positive characters, cultivate good moral qualities, and cultivate people's sentiments (Song Zhifei, 2021, p.92). In 2021, the General Office of the State Council of China issued the "Opinions on Strengthening and Improving Aesthetic Education in the New Era", which included the learning of music, art, calligraphy, and other art courses for primary and secondary school students. Moreover, the issue mentioned also involved participation in school-organized art practice activities in the academic requirements and explored the integration of art subjects into the academic requirements. The issue also had an impact on the scope of the junior and senior academic level examinations by incorporating music and art into the scoring subjects of the senior high school entrance examination.

The use of pedagogy could provide better technical support for students to learn music. The characteristics of music were "invisible and intangible", with many abstract concepts, and students needed to have a certain artistic foundation. On the other hand, some students were not influenced by a good musical environment; therefore, learning music required understanding, imagination, and sensibility. There were certain difficulties in learning and understanding music as well. As a result, students couldn't understand the teacher's teaching content and couldn't improve their grades. To help middle school students understand and increase their interest in music, including helping them better grasp the knowledge of music theory, the role of the teacher was to convey the tests, rules, and actions to the students in the most direct way possible (Darling-Hammond, L., 2017, pp.291-309). It was necessary to make the students interested in the musical content, and the musical content should be easy to understand. These problems were also one of the problems of middle school music teaching.

The process of learning vocal music was abstract. It was found that the comprehension abilities of middle school students were weak, which led to an increase in difficulties in learning, undoubtedly. The movement states of the various vocal organs and resonance organs of the human body when singing and the mutual coordination of the muscles were invisible and intangible. Students couldn't directly and intuitively see their own vocal status. The whole learning process was almost entirely based on experience and feelings. For this reason, the learning efficiency of vocal music was relatively low (Zeng Qingxing, 2020, pp.18-19). Learning vocal music wasn't as fun as simply learning to sing. Practicing vocals was very boring, and pulling high notes was very painful. The process of learning vocal music was very comprehensive, including music theory, sight-singing, listening, piano, and others, which were boring and incomprehensible. Basic courses were interspersed in the process of learning vocal music. Students not only needed to maintain a good attitude but also needed to maintain interest and motivation in learning.

The development of learners in such skills involved the use of the direct instruction model (DI), an approach to learning that was used in the music and arts fields. The direct instruction model also had the function of improving the learning of music. Students were able to grasp details more accurately and firmly, make abstract things more concrete, and facilitate understanding. The direct instruction model attached great importance to the transformation of students from imitation to their own practical application. In the teaching process, the two links of imitation-singing and practice, rehearsal and performance—teachers used multimedia such as video and audio to repeatedly stimulate students' feelings. This allowed students to imitate accurately with repeated practice so that they could master and flexibly use the situation. This method had a significant effect on improving students' performance.

The direct instruction model was organized by bringing in skills incrementally, giving students the opportunity to learn and apply these skills before being asked to learn another new skill. Only 15% of each class was provided new content, and the remaining 85% of each class was reviewed. The application of the knowledge that students had already learned was carried out in the order of cognitive development so that students could systematically master basic knowledge and skills (Zhang Zhiguo, 2015, p.4). For

that reason, the direct instruction model, under the theoretical support of linguistics, psychology, and pedagogy, resulted in several major processes, such as introduction and display, understanding and modeling, imitation and practice, communication and application, error correction, and consolidation. In this study, the direct instruction model was applied to middle school music classes, which could effectively improve the skills of vocal students. Under the guidance of teachers, students could gradually comprehend music through music education, improving their musical literacy and promoting their all-around development.

1.2 Research Questions

1.2.1 Was there a significant difference in vocal music skills of Secondary 5 (Grade 11) students between before and after learning with the traditional method?

1.2.2 Was there a significant difference in vocal music skills of Secondary 5 (Grade 11) students between before and after learning with the direct instruction model?

1.2.3 Was there a significant difference in vocal music skills of Secondary 5 (Grade 11) students between those who received learning through the traditional method and those who received learning through the direct instruction model?

1.3 Purpose of the Study

1.3.1 To compare the vocal music skills of students before and after learning management through the traditional method

1.3.2 To compare the vocal music skills of students before and after learning management through the direct instruction model

1.3.3 To compare the vocal music skills of students between those learning through the traditional method and those learning through the direct instruction model

1.4 Research Hypothesis

The researcher will test the following hypotheses at a significance level of 0.05:

1.4.1 It was found that there was a significant difference in vocal music skills of Secondary 5 (Grade 11) students between before and after the learning management through the traditional method.

1.4.2 It was found that there was a significant difference in vocal music skills of Secondary 5 (Grade 11) students between before and after the learning management through the direct instruction model.

1.4.3 It was found that there was a significant difference in vocal music skills of Secondary 5 (Grade 11) students between the learning management through the traditional method and the learning management through the direct instruction model.

1.5 Scopes of the Study

1.5.1 Population and Sample

1.5.1.1 Population

The population in this study: the 200 Secondary 5 (Grade 11) students studying at Beijing Modern Music School, Beijing, China, in the academic year 2023.

1.5.1.2 Sample

The sample in this study: the 30 students in Secondary 5 (Grade 11), selected by cluster random sampling and studying at Beijing Modern Music School, Beijing, China, in academic year 2023.

1.5.2 Variables

1.5.2.1 Independent Variable: learning management consisting of two methods: the traditional method, and the direct instruction model.

1.5.2.2 Dependent Variable: vocal music skills on Vocal music Skills.

1.5.3 Scope of Contents

The learning management through the direct instruction model, Vocal Technology Subjects, Vocal Music Skills Courses. It was 16 academic hours for high school students, and the learning contents include:

Unit 1: Understand the background and plot of the song for 4 hours.

Unit 2: Analyze song features and techniques for 4 hours.

Unit 3: Learn to sing sheet music and lyrics, sing emotionally, and integrate songs with personal characteristics for 4 hours.

Unit 4: Accurate and complete singing of a song, expressive performance for 4 hours.

1.5.4 Scope of Time (Time: History/Current Situation)

The duration of this research project was from September 2022 to March 2023.

1.6 Definition of Terms

For ease of understanding, the following terms were defined conceptually and operationally:

1.6.1 The direct instruction model was a model for teaching that emphasized well-developed and carefully planned lessons designed around small learning increments and clearly defined and prescribed teaching tasks. It consisted of 3 steps: 1) reviewing previously learned material, 2) stating objectives, 3) presenting new material, 4) guided practice, and 5) independent practice.

1.6.2 The learning management through the direct instruction model was a process of learning management that emphasized well-developed and carefully planned lessons designed around small learning increments and clearly defined and prescribed teaching tasks. It consisted of 3 steps: 1) reviewing previously learned material, 2) stating objectives, 3) presenting new material, 4) guided practice, and 5) independent practice.

1.6.3 The learning management through the traditional method was a process of learning management that used the normal method. It consisted of 3 steps: 1) introduction, 2) learning activity, and 3) conclusion.

1.6.4 Vocal music skills were performed with only the human voice, producing music without any instrumental accompaniment. Instrumental music was recorded lines of music performed by various instruments, such as the clarinet, guitar, trumpet, or others, that did not have any vocal lines included. It was measured by a practice vocal music skills assessment.

1.6.5 The student referred to a person studying in Secondary 5 (Grade 11) at Beijing Modern Music School, Beijing, China, in the academic year 2023.

1.7 Conceptual Framework

Since this research paper will employ experimental research design, the framework below will serve as the researcher's guide in the conduct of the study:

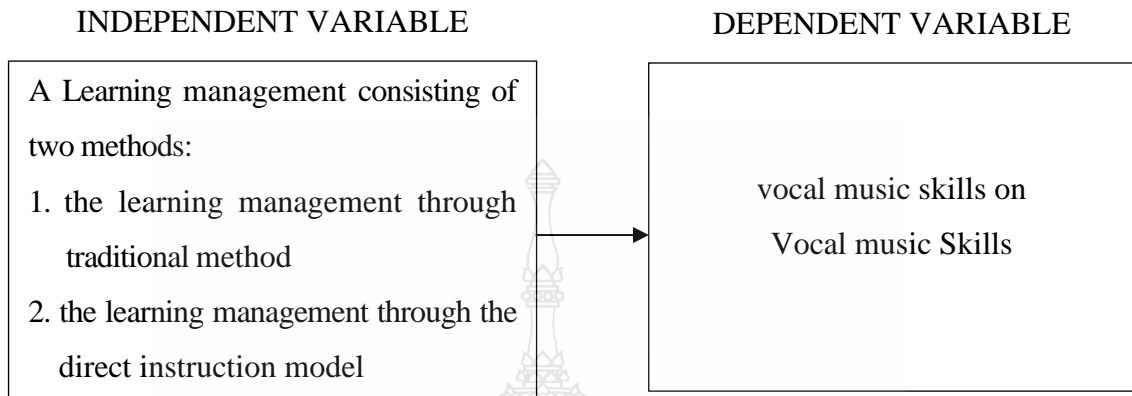


Figure 1.1 Conceptual Research Framework

1.8 Benefits

1.8.1 It was conducive to strengthen students' learning effectiveness, improving students' vocal music skills.

1.8.2 Obtain innovative vocal music skills through the direct instruction model which improves vocal music skills.

CHAPTER 2

REVIEW OF THE LITERATURE

The researcher studied the research in title the learning management through the direct instruction model to improve vocal music skills of Secondary 5 (Grade 11) at Beijing Modern Music School, Beijing, China which has studied the collection of documents and related research to be used as the basis for research as the following topics :

- 2.1 The Learning Management
 - 2.1.1 Definition of the learning management
 - 2.1.2 The importance of learning management
 - 2.1.3 Types of learning management
- 2.2 Direct Instruction Model
 - 2.2.1 Definition of direct instruction model
 - 2.2.2 Importance of direct instruction model
 - 2.2.3 Benefits of the direct instruction model
- 2.3 Skill
 - 2.3.1 Definition of skill
 - 2.3.2 Ways to improve the quality of students' skill
 - 2.3.3 Evaluation of the quality of study skill
- 2.4 Related Research
 - 2.4.1 Domestic studies
 - 2.4.2 Foreign studies

2.1 The Learning Management

2.1.1 Definition of the learning management

Learning management refers to the process in which teachers create a conducive learning environment in the classroom to encourage students' active participation in classroom learning activities, enabling them to accomplish the teaching objectives.

According to He Huangyan, Zhang Wei, Shen Aiming, and Wei Yan (2019, p.125), the quality of learning management directly determined the quality of

teaching activities and was closely linked to the overall atmosphere of the teaching process. As a result, researchers consistently placed high value on it. Learning management played a vital role throughout the teaching process, providing assurance for effective classroom teaching activities.

Wang Weijun et al. (2016, p.68) believed that Learning Management was a process that utilized principles and methods from management science and teaching theory to effectively employ management functions such as planning, organization, coordination, and control. Its objective was to ensure the smooth and efficient operation of all elements within the teaching process. The Learning Management System (LMS) primarily provided an online learning environment for students and facilitated online teaching for teachers, while simultaneously managing all members within the environment. Teaching management encompassed essential aspects such as teaching plan management, teaching organization management, and teaching quality management. According to Xu Zhenguo et al. (2017, p.64), learning management differs from traditional learning by emphasizing five core elements: interoperability and integration, personalization, analysis and learning assessment, collaboration, and accessibility. Additionally, it incorporates universal design and places a strong focus on standardization, component development, and practical exploration. This approach empowers learners to shape and develop their learning curriculum, aligning it with their individual needs and goals.

2.1.2 Based on the functions offered by popular curriculum management systems worldwide, it can be deduced that the fundamental elements of a curriculum management system (CMS) include:

- 1) Student registration management
- 2) Course catalog and content management
- 3) Teaching activities and process management
- 4) Evaluation of student learning progress and performance management
- 5) Management of learning communities
- 6) Relevant learning tools
- 7) Tracking and recording the learning journey
- 8) Aggregating management records for reporting purposes

In conclusion, the effective implementation of the learning management mechanism relies on the school's allocation of human, financial, and material resources. Liao Zhuoyi and Yin Ke (2022, p.242) argue that the learning management process necessitates a dedicated team of teachers responsible for learning management. This team should have access to relevant online education platform data and exercise their rights regarding education, disciplinary measures, coercion, and restraint. Simultaneously, learning management should occur in a transparent and equitable manner, with fairness, justice, and openness. This fosters student confidence in learning management and cultivates self-discipline in their academic pursuits.

2.1.2 The importance of learning management

Learning management holds significant importance within the school system. It was a crucial process that enables managers to utilize specific management methods to ensure teaching activities align with the institution's goals for talent development, while also serving as a guarantee for maintaining a structured teaching environment.

According to Li Chao and Zhou Hong (2018, p.113), learning management encompasses a range of methods employed to manage teaching affairs, including curriculum design, course delivery, progress tracking, reporting, and implementation. Teachers are responsible for disseminating teaching materials to learners, managing exams and assignments, monitoring learners' progress, and overseeing the overall learning process. Thus, it forms a comprehensive system involving both teachers and students.

Learning management encompasses more than just administrative tasks; it was a science that encompasses both administrative and academic management functions. It involves understanding the objective laws and internal relationships within teaching, as well as the organization and management of teaching activities. Teaching work holds a central position within the school system, being the most frequent, extensive, and fundamental aspect of school operations. In simple terms, learning management can be defined as the management of teaching activities. It has always been an integral part of school management and a fundamental responsibility of school leaders. Learning management serves as the foundation and guarantee for the smooth operation of teaching activities, and it also plays a crucial role in the professional growth of teachers, educational reforms, and various other aspects, making it of immense significance for schools.

Xu Zhenguo et al. (2017, p.64) believed that the new type of learning management differs from traditional learning and primarily encompasses five core elements: interoperability and integration, personalization, analysis and learning assessment, collaboration, and accessibility and universal design. Moreover, in terms of standards, component development, and practical exploration, it becomes more robust, empowering learners to shape and develop their learning curriculum to align with their individual needs and goals.

According to Chen Qian (2008, p.12), art education was considered an aesthetic activity that requires teacher behaviors and activities promoting student cooperation and participation within the classroom. This includes aspects such as the physical environment, classroom order, addressing students' behavioral issues, guiding learning processes, and fostering a sense of responsibility among students.

Terry Anderson (2017, p. 8) stated that a learning management system provides a secure environment, recognized and supported by institutions, which effectively stores and manages copyrighted content and data concerning student privacy. Additionally, it offers various tools for communication and collaboration. Students can leverage diverse learning resources, tools, applications, off-campus experts, and peers to create a personalized learning experience.

In conclusion, learning management has evolved with complex functions and varying levels. It serves as a powerful technical support system, assisting teachers in conducting teaching activities and facilitating teaching interactions. Consequently, it promotes the effective development of autonomous learning and collaborative learning.

2.1.3 Types of learning management

In communication, interaction refers to the exchange of information between the sender and the receiver. As a result, interaction occurs in various forms of teaching and learning activities.

According to Zhang Hanyu et al. (2013, pp.39-40):

1) Moore's classification of interaction in distance education categorizes interactions into three types: learner interaction with learning content, learner-teacher interaction, and learner interaction with other learners.

2) Bates' interaction classification identifies two distinct types of interaction in learning: the individualized and independent relationship between the learner and the learning material, and interactive activities.

3) Northrup's interactive classification analyzes learner interactions in online courses and divides them into two categories: content interaction and social interaction. Content interaction primarily involves the interaction between learners and course content. From the perspective of tool interactivity, the author supports three learning management systems: Blackboard, Moodle, and Sakai.

Terry Anderson believes that in this competitive environment, the development of learning management systems has introduced new tools. Some of the most promising tools include:

1) Large-scale learning analytics systems that allow teachers to proactively monitor students' individual and collective learning progress through various learning activities.

2) Personalization systems that create student profiles based on learning analysis of student behavior and generate personalized content and feedback accordingly.

3) Collaboration tools for creating groups, utilizing convenient wikis or fusion systems like Google Docs or Graphite. These tools enable simultaneous or asynchronous creation and editing of files by students.

4) Project management tools that enable teachers (and sometimes students) to create groups, assign members, set deadlines, and collaborate on projects.

5) Peer grading tools that control document exchange, allowing students not only to learn from each other but also to provide feedback to their peers.

6) Individual and group blogging and reflection tools that enable students to monitor and evaluate their own learning, enhancing their learning compared to others and improving their independent learning skills.

7) Resource search and adding functions within the learning management system platform, enabling the search and integration of multimedia content from open learning object libraries and non-open textbook publishing websites.

8) Mobile applications that focus on developing mobile capabilities aligned with institutional strategic goals to support mobile learning.

9) Cloud environment that saves costs and reduces the need for skilled system operators by transitioning to a cloud-hosted learning management system.

Liao Zhuoyi and Yin Ke (2022, p.242) propose steps for learning management:

1) The first step was to promptly send SMS, WeChat, or other messages to remind students when their learning progress was delayed. Direct communication and admonishment followed by calling the student directly and setting a deadline for progress completion.

2) The third step was one month before the final exam of the subject. If the student's learning progress still did not meet the standard, the learning manager had the right to cancel the student's examination qualification for the subject and require them to retake it.

In conclusion, when teachers selected a learning management system, they should have thoroughly explored the distinctive functions of various systems, utilized a variety of interactive tools comprehensively, and integrated different teaching systems. This approach would have better promoted effective interaction and learning for distance learners.

2.2 Direct Instruction Model

2.2.1 Definition of direct instruction model

The direct instruction model was developed as an instructional technology system to pursue basic instructional goals. In direct instruction, learning involved active participation and absorption of ideas, skills, and information directly presented by teachers.

Direct Instruction (DI) referred to academically focused, teacher-directed classroom instruction that utilized sequenced and structured materials. It encompassed teaching activities where goals were clear to students, sufficient time was allocated for instruction, and feedback provided to students was immediate and academically oriented. In contrast, traditional lessons involved instructors verbalizing information while students passively took notes. Instructors believed that students had "empty minds" to be filled with knowledge, and students were expected to record and absorb that knowledge (Slavin, 1991, p.231).

Direct Instruction (DI) was an instructional model developed in the 1960s that emphasized well-developed and well-planned lessons designed around small learning increments and clearly defined and prescribed instructional tasks. It was based on the theory that providing clear instructions to eliminate misunderstandings could significantly improve and expedite learning.

Direct Instruction was a systematic method of presenting material in small steps, pausing to check student understanding, and ensuring active and successful participation by all students (Rosenshine, 1986, p. 60). Rosenshine argued that if teachers expected students to learn something, they should teach them directly. Direct teaching was a teacher-centered strategy where information was primarily provided by teachers. The teacher's role was to communicate facts, rules, and action sequences to students in the most direct way possible. In direct teaching, learning involved active participation and assimilation of ideas, skills, and information directly presented by the teacher (Skinner, 2010, p.35). Direct Instruction (DI) was a comprehensive system of instruction that included classroom management, quality of teacher-student interactions, curriculum material design, instructional sequencing, feedback, and explicit teaching strategies (Huitt, 2005, p.277).

According to Yu Suhong (2013, p.4), all students were believed to be capable of learning. Direct teaching held the belief that every child could learn if taught carefully. Teachers should have high expectations for all students, especially in promoting the progress of students at risk. The failure of students to learn was seen as the failure of teachers to teach. Ultimately, teachers were responsible for students' learning. A student's race, family background, social class, or other factors were not the reasons for low grades, and students should not be blamed for learning failures. While teachers directly presented content to students in direct teaching, they also needed to closely attend to the needs of students in the process of curriculum design and teaching implementation, ensuring successful learning for all students.

The direct instruction process consists of six stages of teaching, as summarized below (Rosenshine, 1986, p.62):

- 1) Revised previous work.
- 2) Provided clarity and logical steps.
- 3) Offered guided exercises.
- 4) Provided feedback and corrective actions.

5) Facilitated independent practice.

6) Conducted revision to consolidate learning.

Gunter, Estes, and Schwab (2002, p.77) described the direct instruction process with the following six stages:

1) Reviewed previously learned material, emphasizing the connections between what was already known and what needed to be learned. This involved reviewing prerequisite knowledge for the new material and identifying important connections with the new material. Learning strategies useful for the new material were also addressed.

2) Stated objectives, ensuring that lesson objectives were clearly communicated and written on the board using language that the students could understand. The purpose of stating objectives was to set the students' expectations regarding what they would learn.

3) Presented new material, providing clear and detailed instructions to give students the opportunity to absorb the new material. The material was organized in a step-by-step manner, with each step building on the previous ones.

4) Facilitated guided practice, allowing students to attempt the skill with the assistance of the teacher and, possibly, other students. The teacher typically guided the students through the skill step by step.

5) Supervised independent practice, closely monitoring students' independent practice to correct misconceptions and verify their acquisition of the skill or knowledge. If any student failed to acquire the skill, they could be practicing errors.

In conclusion, the direct teaching mode, as its name suggested, aimed to teach children directly and focused on helping them master fundamental skills such as reading, writing, arithmetic, and memorization. In this model, learning was the most crucial measure of a child's success. Teachers played a vital role in the direct teaching model. The research employed the five-step process of direct instruction, which included the following: reviewing previously learned material, stating objectives, presenting new material, facilitating guided practice, and promoting independent practice.

2.2.2 Importance of direct instruction model

Direct teaching has been found to be more effective than most other teaching strategies (Geoffrey Lowe and Steven Belcher, 2012, p.13). It has been identified as a potential teaching method for classroom music, and a specific direct instruction (DI) program was created for this study. The intervention steps are outlined, and the findings are presented, followed by a discussion of their implications. The study demonstrates that direct teaching significantly enhances students' musical literacy outcomes, enabling them to actively participate in applied music activities (Geoffrey Lowe and Steven Belcher, 2012, p.13).

1) Direct instruction allows teachers to tailor their instruction to the specific needs of their students. Direct teaching involves carefully selecting teaching objectives and content based on students' individual situations, presenting information clearly in sequential steps, and providing reinforcement and positive feedback. As a highly successful and widely supported educational strategy, it was suitable for many students and applicable in various fields (Yu Suhong, 2013, p.5). Students closely collaborate with tutors and have multiple opportunities to practice and demonstrate mastery of skills before progressing to higher-level groups. This approach enables students to learn at their own pace while allowing teachers to closely monitor their progress towards their learning goals.

2) According to the National Institute for Direct Teaching, direct teaching was grounded in fundamental assumptions that all educators should embrace. It follows key philosophical principles, including the belief that all children can learn, provided they are taught with care. Teachers should maintain high expectations for all students, particularly those at risk, and consider student learning failures as a reflection of teaching inadequacy. Ultimately, teachers bear the responsibility for students' learning outcomes. Factors such as a student's race, family background, social class, or other external elements should not be blamed for low grades. Instead, teachers must pay close attention to the diverse needs of students during curriculum design and implementation to ensure all students can thrive in their studies (Engelman et al., 1988, p.303).

3) It was believed that all children can improve academically and develop a positive self-image. With adequate training and resources, all teachers can succeed. For instance, when teaching vocal music, teachers may utilize auxiliary tools such as multimedia, rubber bands, or pieces of paper to enhance students' engagement and achieve better teaching

outcomes. These materials deepen students' understanding and enhance their interest in learning, enabling a more comprehensive and direct grasp of the subject matter (Yang Ruisheng, 2020, p.57).

4) Underperforming and disadvantaged learners need to be taught at an accelerated pace in order to catch up with their higher-performing peers (Engelman et al., 1988, p.303).

5) It was essential to have complete control over all aspects of instruction to minimize the chances of students misinterpreting the information being taught and to maximize the reinforcement of instruction. For instance, in vocal music teaching, the use of language and body movements can facilitate students' understanding of vocal music content. Examples such as "smelling flowers," "blowing candles," and "blowing paper" during inhalation training exemplify direct pedagogy (Shen Lu, 2010, p.128).

A teaching approach based on the belief that all students can learn, improve academically, and enhance their self-image, while teachers achieve success with adequate training and resources, offers a way to ensure that no one was left behind.

In conclusion, this teaching approach assumes that all students can learn, improve academically, and develop a positive self-image, while teachers can achieve success when they receive the necessary support through training and resources, ultimately preventing anyone from falling behind.

2.2.3 Benefits of the direct instruction model

The direct instruction model was established according to the principles of children's language learning and was strictly designed by teachers. It was a planned, organized, and controlled approach to teaching that aimed to stimulate students' associations through imitation. The more associations made, the stronger the memory became. Teachers emphasized the importance of students summarizing and reflecting on the knowledge, as it could enhance their enthusiasm and self-awareness in the learning process.

During learning, two key factors were considered. Firstly, the "forgetting curve" demonstrated that if the learning content was not reviewed in a timely manner, it would be forgotten. The use of the direct teaching mode proved effective in helping students memorize knowledge. Secondly, the "schema theory" showed a close relationship between memory and

pictures and associations. When individuals encountered new information, they could connect it with familiar concepts (pictures), which activated previously learned knowledge, formed memory blocks, and strengthened the retention of new knowledge. These advantages highlighted the effectiveness of the direct teaching method (Sun Lingyu, 2011, p.5).

The basic skills of direct teaching are considered the foundation of effective instruction. They provide several benefits, including:

- 1) Establishing clear learning goals for lessons, activities, and projects, and ensuring that students understand these objectives.
- 2) Purposefully organizing and sequencing a variety of courses, projects, and assignments to facilitate students' deeper understanding and achievement of specific academic goals.
- 3) Reviewing the activity description so that students know what was expected of them.
- 4) Providing students with clear explanations, descriptions, and illustrations of the knowledge and skills being taught.
- 5) Asking questions to confirm students' comprehension of the material being presented.

Siegfried Engelman et al. (1988, pp.303-307) believed in starting with the basic assumptions and overriding principles of the direct instruction model-teaching more in less time and controlling the details of what occurred. They reviewed the components of the model, including the curriculum, increased teaching time, effective teaching techniques, thorough implementation, and heightened teacher expectations. The findings, which encompassed achievement and affective data, the performance of low-IQ students, and longitudinal results, were summarized. Subsequently, the impact of the model was considered.

Kousar (2009, pp.99-167) argued that in the direct teaching method, the teacher's role was to convey facts, rules, or action sequences to students in the most straightforward manner. This approach was particularly effective for teaching well-structured subjects such as mathematics and English grammar. The components of direct instruction included informing students of learning goals, activating their prerequisite knowledge, explaining new topics in small, sequential steps, providing adequately

supervised exercises, and offering immediate feedback. This was followed by independent work, such as chair work and homework practice. Direct teaching methods garnered the attention of researchers at all levels of education and across various disciplines worldwide. The majority of results favored the effectiveness of this approach.

Li Yaling (2009, p.51) believed that the direct teaching method was a highly structured, teacher-centered approach where teachers directly communicated information to students, optimized classroom time, and achieved specific teaching objectives. Although the direct teaching method was a commonly used approach, there was no unified consensus on its teaching mode. Researchers, however, agreed that the pedagogical elements involved were fundamental teaching skills that all teachers should possess. The research on this method provided valuable insights for foreign language teaching.

2.3 SKILL

2.3.1 Definition of skills

Skill was defined as the ability to perform a task, which was derived from a person's knowledge, practice, ability, and other factors. It encompassed knowledge, abilities, and proficiency in carrying out operational tasks. Skills were developed through life and work experiences and could also be acquired through formal study. Different types of skills existed, and their acquisition could vary based on factors such as dexterity, physical capability, and intelligence.

According to Zhou Yun (2016, p.4), when teaching methods and skills are applied in curriculum instruction, various teaching situations can effectively stimulate students' interest in learning, create knowledge suspense, and present problem scenarios. This can make the classroom more engaging by incorporating humor, music, movie clips, short stories, real-life examples, and experiments to foster a realistic classroom environment and enhance students' interest in learning. Throughout the classroom teaching process, students can experience the formation of knowledge and improve their collaborative and independent problem-solving abilities.

Katie Hillestad (2021, p.43) conducted a study to examine the impact of daily vocal exploration practice on the pitch matching skills of first- and fourth-grade students. The

students were assessed on their ability to match the pitch of echo patterns and tanka at the beginning and end of the study. The aim was to use vocal exploration to help students develop their head voice and potentially enhance their accuracy in singing. The first-grade experimental group and the control group, as well as the fourth-grade control group, demonstrated improvement in echo pattern matching ability. However, the fourth-grade experimental group exhibited a decline in their ability to match echoes. Both the first- and fourth-grade experimental and control groups either improved or maintained their scores in tanka singing excerpts. It was concluded that vocal exploration practice played a role in the development of singing voices, but regular singing instruction also contributed to improving pitch matching skills.

Sama'a Al Hashimi (2007, pp.275-295) believed that there are limited studies in multimedia exploring how performers' vocal skills and coordination abilities can be utilized as input mechanisms to create immersive, expressive, and engaging interactive media. This paper aims to investigate the potential role of real-time voice control visualization in enhancing expressiveness and performance. It begins by examining recent efforts to develop speech visualization projects and the various methods available for mapping speech features to visual parameters. Furthermore, it explores how speech input can facilitate more expressive acoustic performances and interactive installations. The paper proposes that expressive speech visualizations can transform users into performers and become an integral part of entertainment installations.

The technology of vocal music singing involves the singer's ability to control their voice through the brain. This ability requires the mobilization of all senses in the body to make constant adjustments, ensuring a complete and smooth singing process that effectively conveys the storyline of the music and evokes emotional experiences, among other aspects.

Vocal music skills training refers to a teaching method that focuses on developing singing skills in vocal music instruction. In vocal music teaching, teachers need to train students in vocalization, breathing, resonance, articulation, and other skills (Shen Lue, 2010, p.128).

In conclusion, skills play a critical role, and they can be measured through skill tests, allowing for the determination of skill levels. Most occupations require a combination of multiple skills, emphasizing the importance of skills in various professional fields and their functional significance.

2.3.2 Ways to improve the quality of students' skills

Improving students' singing skills was a crucial aspect that serves as a benchmark for evaluating teachers' teaching achievements.

According to Yang Ruisheng (2020, p.57), the following approaches can be employed:

1) Teachers should analyze students' vocal skills and provide them with appropriate exercises and etudes, enabling students to discover their own practice methods.

2) Utilizing visual teaching tools can help teachers present teaching content more comprehensively, vividly, and intuitively, enhancing students' understanding.

3) Teachers can assist students in improving their vocal skills through incorporating body movements. By helping students alleviate tension and creating a natural and relaxed learning environment, teachers can enhance the effectiveness of their instruction. Classroom teaching content and methods should be adjusted based on the specific circumstances to improve students' vocal skills.

4) Encouraging participation in study groups can be beneficial. Study groups foster collaboration among students and boost productivity and engagement, ultimately improving study skills.

5) Minimized distractions were important. Staying focused and avoiding distractions could contribute to improved academic performance.

6) Sufficient rest and sleep were essential. Maintaining an active lifestyle and ensuring adequate rest were conducive to better learning outcomes.

7) Engaging in stage practice was crucial. Students should have sought opportunities beyond classroom practice and actively participated in performances to enhance their overall abilities.

Gao Xiaojun (2022, p.238) suggests that to enhance teaching quality, the first step was to transform learning motivation. Motivation plays a significant role in optimizing learning outcomes. The self-determination theory highlights three psychological needs that drive individual motivation: relatedness, autonomy, and competence.

1) Relatedness refers to an individual's sense of connection and belongingness to a group during the learning process.

2) Autonomy involves an individual's voluntary choice based on personal interests and internal values.

3) Competence pertains to an individual's perception of knowledge and skills in a particular area.

Numerous studies have indicated that intrinsic motivation has a stronger positive impact on learning compared to extrinsic motivation. The self-determination theory provides a framework for transforming extrinsic motivation into intrinsic motivation. These three psychological needs significantly influence the shift from external to internal motivation.

Li Boqian (2022, p.76) asserts that in the realm of professional choral singing, the effective integration of vocal singing skills and choral skills can fully harness the former's value within a chorus. This integration influences the singer's pitch, timbre, overall impact, and contributes positively to the singing process, atmosphere, and rhythm of the chorus. It becomes an essential technique in choral performance. The article takes into account the characteristics of different groups of individuals, highlights the fundamental nature and significance of vocal singing skills, analyzes their effective value and optimizing role in choral singing, and discusses the application of these skills in diverse contexts based on real-world situations. The objective was to contribute to the advancement of choral performance.

In conclusion, the impact of various teaching methods and techniques on students' performance was substantial. Employing the most suitable teaching methods and techniques, tailored to specific content, was beneficial in improving students' performance and cultivating their interest. Different teaching methods and techniques yielded different effects on instruction.

2.3.3 Evaluation of the quality of study skills

Teachers employ appropriate measurement methods and tools to gather and analyze information on students' value-added progress, as well as changes in their emotions and attitudes towards knowledge, skills, abilities, and more.

Yuan Yiyang et al. (2015, p.59) contend that from a teacher's perspective, students' learning performance can be measured in terms of "active learning," "knowledge and skills," and "professional social ability" to identify areas that require improvement. By establishing incentive mechanisms that encourage teachers to pay attention to students' learning outcomes, guiding schools to implement teaching reforms aligned with

industry development and students' personal growth, fostering students' interest in learning, enhancing their learning performance, improving the quality of education, and tracking, evaluating, and exploring the quality of talent development, a new perspective on managing quality tracking information is provided.

Guoqiang Yu (2018, p.55) argues that learning analytics enhances learners' learning experience by measuring, collecting, and analyzing data. Learning management systems (LMS) are extensively utilized in higher education institutions worldwide. In addition to LMS-based data, researchers often incorporate other student-related data such as class attendance, homework scores, quizzes, and final exam scores to assess students' learning experience and performance. This paper aims to identify factors that can timely identify underperforming students in a part-time diploma course at City University of Hong Kong by collecting and analyzing LMS data and other student-related data. Multiple linear regression analysis is employed to investigate the impact of these data on students' academic performance. The study reveals that coursework has a significant influence on students' final exam scores.

The following ranges are established based on student status:

Assignments are graded from high to low as 5 points, 4 points, 3 points, 2 points, and 1 point. An average score of 4.5-5 indicates the highest level of satisfaction, 3.5-4.5 represents relative satisfaction, 2.5-3.5 implies general satisfaction, 1.5-2.5 suggests less satisfaction, and a score of 1-1.5 indicates the lowest level of satisfaction. The questionnaire also includes three confirmatory indicators: "In general, your satisfaction with the active participation of most students in your major," "In general, how satisfied do you think the students' knowledge and skills have reached the predetermined goals," and "In general, do you think the students' satisfaction with professional social ability has reached the predetermined goals."

In conclusion, apart from overall school-level indicators such as employment rates, vocational qualification test pass rates, and entrance examination scores, the evaluation of students' learning skills focuses on measuring their knowledge, skills, and abilities after completing a specific stage of higher education. It also assesses how their attitudes, emotions, and perspectives have evolved and anticipates their career development after graduation.

2.4 Related Research

2.4.1 Domestic research

Chen Qian (2008) argued that art education was an aesthetic activity that required teacher behaviors and activities that promoted student cooperation and participation in the classroom. This encompassed the physical environment, classroom management, addressing student behavioral issues, and providing guidance in learning to cultivate students' sense of responsibility.

According to Xu Zhenguo et al. (2017), new types of learning management differ from traditional learning and consist of five core elements: interoperability and integration, personalization, analysis and learning assessment, collaboration, and accessibility and universal design. These elements, along with standards, component development, and practical exploration, empower learners to shape and develop learning sessions that support their individual needs and goals.

Li Chao and Zhou Hong (2018) defined learning management as a set of methods used to manage teaching affairs, including course materials, tracking, reporting, and implementation. Teachers provide materials to learners, manage exams and assignments, track learners' progress, and oversee the entire learning process, creating a system that involves teachers and students.

Yu Suhong (2013) described direct instruction as a teacher-led instructional model. It involves adjusting instructional objectives and content based on each student's performance, providing explicit material presentation, reinforcement, and positive feedback, and guiding students to master knowledge and skills through guided and independent practice. Direct instruction aims to enhance the quality of student learning, guided by the belief that all children can learn. Its salient features include teaching the essentials, clear and systematic knowledge presentation, small group instruction, explicit steps, fast pace, and practice and drilling. Direct instruction has been highly successful and supported as an instructional approach.

Li Yaling (2009) defined direct teaching as a highly structured, teacher-centered method in which teachers communicated information directly to students and efficiently organized classroom time to achieve specific teaching objectives. Although there was no unified conclusion regarding the teaching mode of direct teaching,

researchers agreed that it involved basic teaching skills that all teachers should possess. Research on direct teaching provided valuable insights for foreign language instruction.

Sun Lingyu (2011) explained that in the learning process, two important factors came into play. Firstly, there was the "forgetting curve," which suggested that learning content would be forgotten if not reviewed in a timely manner. The use of the direct teaching mode became apparent in helping students memorize knowledge effectively. Secondly, there was the "schema theory," which highlighted the close relationship between memory and pictures or associations. When individuals encountered new information, they often connected it with existing concepts (pictures), which activated prior knowledge, formed memory blocks, and strengthened the retention of new knowledge. These advantages underscored the effectiveness of the direct teaching method.

Bai Ping and Liang Yanan (2015) discussed the application of the direct teaching method in moral education. Wilson, who opposed the traditional approach of knowledge instillation in moral education, sought a "new foundation" for moral education. According to Wilson, moral education should utilize the direct teaching method, emphasizing rational authority and moral reasoning. Similar to scientific education, moral education should involve judgment and reasoning, necessitating the authoritative status of teachers and direct teaching. Teachers can demonstrate correct behavior to students, and students can engage in critical thinking and make morally sound decisions based on specific rules and standards.

Liu Nini (2017) highlighted that direct teaching involves teachers carefully selecting teaching objectives and presenting information step by step based on students' specific circumstances. Considering the limited development of special students, researchers have analyzed that the direct teaching mode can enhance students' proficiency in mathematics learning.

Liu Qu (2010) described the direct teaching mode as a method where teachers instructed children directly. Its educational purpose was to help children acquire fundamental skills such as reading, writing, arithmetic, and memorization as they entered school. In this mode, learning was the primary measure of children's success, and teachers played a crucial role in facilitating their learning.

2.4.2 Foreign research

Geoffrey Lowe and Steven Belcher (2012) addressed one of the challenges faced by music educators, which was the reduced class time in lower secondary school due to the crowded curriculum and the introduction of arts "taster" courses. Despite these constraints, music educators are still expected to cultivate musically literate students capable of undertaking advanced music courses in upper secondary school. The article presents findings from an intervention study aimed at accelerating music literacy acquisition among Year 7 students through the implementation of a Direct Instruction (DI) teaching approach. Despite the controversial nature of Direct Instruction, it was chosen due to claims by its proponents regarding its effectiveness and efficiency in teaching fundamental skills.

Rubina Kousar (2009) discussed the direct instruction approach, which emphasizes the teacher's role in conveying facts, rules, or action sequences to students in a straightforward manner. This approach was particularly beneficial for teaching well-structured subjects like mathematics and English grammar. The components of direct instruction include informing students about the learning objectives, activating their prerequisite knowledge, explaining new topics in small and sequential steps, providing supervised practice, offering immediate feedback, and encouraging independent practice through seatwork and homework. Direct instruction has garnered global attention from researchers across various educational levels and subject areas, with the majority of results supporting its effectiveness.

Aldahri, et al., (2013) emphasized the significance of mathematics in everyday life and culture, as understanding mathematical concepts and strategies was crucial for active participation in society. However, children in special education preschool programs may encounter difficulties in mastering these concepts. The researchers evaluated the effects of the Model-Lead-Test (MLT) direct instruction approach, combined with a reward system, on rote counting, number recognition, and rational counting skills in children attending a special education preschool program. The results indicated that MLT with rewards gradually improved students' performance. Notably, when modifications were made to Set 3, the participant demonstrated error-free performance during sessions 15-17 and variable performance during sessions 18-20 when

the last three numbers were introduced. The child's performance in rote and rational counting was maintained during the evaluation of maintenance.

Siegfried Engelmann, et al. (1988) began the article by discussing the underlying assumptions and core principles of the direct instruction model, which aim to teach more effectively in less time and maintain control over instructional details. The components of the model were reviewed, including curriculum design, increased teaching time, efficient teaching techniques, thorough implementation, and higher teacher expectations. The authors then summarized research findings, including achievement and affective data, performance of students with low IQs, and longitudinal results. The implications of these findings were subsequently considered.

Katie Hillestad (2021) conducted a study to examine the impact of daily vocal exploration exercises on the pitch matching skills of first and fourth-grade students. The participants' ability to match pitch in echo patterns and short songs was assessed at the beginning and end of the study. The aim was to use vocal exploration to help students develop their head voice and potentially improve their singing accuracy. The experimental and control groups in first grade and the control group in fourth grade showed improvement in echo patterns, while the experimental group in fourth grade showed a decline in their echo abilities. Both the experimental and control groups in both grades either showed improvement or maintained their scores in singing short song excerpts. The study concluded that vocal exploration exercises contribute to the development of the singing voice, but regular singing instruction also plays a role in enhancing pitch matching skills.

Mariana Diales Rocha et al. (2019) investigated the development of complex motor skills and synaptic changes in the brain of a songbird. By manipulating skill performance through the administration and withdrawal of testosterone, the researchers observed the re-acquisition of vocal performance and changes in synaptic connectivity. The study demonstrated that songbirds with prior singing experience can significantly accelerate the recovery of motor performance. Additionally, an increase in vocal performance was associated with synaptic pruning in the forebrain vocal motor area HVC, and this reduction was not reversed when the birds stopped singing. These findings

provide evidence of lasting synaptic changes in motor circuitry, enabling rapid motor skill recovery under time constraints.

Sama'a Al Hashimi (2007) explored the potential role of real-time voice-controlled visualizations in enhancing expressiveness and performance in interactive media. The paper examined recent attempts to develop voice visualization projects and different ways to map voice characteristics to visual parameters. It also investigated the impact of voice input on facilitating more expressive voice-visual performances and interactive installations. The paper proposed that expressive voice-visualizations could allow users to become performers and integral parts of entertaining installations, thus enhancing user engagement and immersion.

Anna Kyfenko and Tetyana Romanova (2020) presented an article focusing on the stages involved in the development of vocal sound in a classroom training choir, following a sequential process. The first phase emphasized the establishment of a psychological mindset, which formed the foundation for the singers' activities. In the second phase, there was a noticeable change in sound timbre similarity. The central nervous system had to exert considerable pressure to concentrate on internal mental work and coordination. The third phase was characterized by the emergence of higher pitched sounds. In the fourth phase, singing actions became more dynamically stable and coordinated, resulting in a broad and compact timbre sound, although somewhat overpowering. The fifth phase was marked by the automation of vocal skills, allowing for greater flexibility and plasticity in the sound. The article analyzed the mechanism of stabilization in vocal skill formation, which ensured precise, efficient, and stable movements of the articulatory apparatus. The researchers justified the use of imitation as a psychological process that could be transformed into active thinking work and implemented in practice. They examined key aspects of choral leadership, such as creating rounded and well-supported sound, organizing proper breathing, and establishing a unified manner of vocalization. The article highlighted the intricate interaction between breath, soft palate, and larynx in achieving correct vocal sound formation. It concluded that the sound acquired its full quality through the smoothing of registers. The study also outlined the main criteria for an ideal academic voice, including the presence of two singing forms and the involvement of two resonators in producing both low and high

sounds. Furthermore, the article characterized the mechanism of voice synchronization in choral parts.

Based on theories and research related to the direct instruction model and the development of vocal music skills, it was found that implementing this model can enhance students' vocal music skills. Therefore, the researcher expressed an interest in studying the application of the direct instruction model in learning management to improve the vocal music skills of Secondary 5 (Grade 11) students.



CHAPTER 3

RESEARCH METHODOLOGY

The research on the learning management through the direct instruction model to improve the vocal music skills of Secondary 5 (Grade 11) students will have the following details or components:

- 3.1 Research Design
- 3.2 Population and Sample
- 3.3 Research Instrument
- 3.4 Instrument Development
- 3.5 Data Collection
- 3.6 Data analysis
- 3.7 Statistics used in Research

3.1 Research Design

The design of the study is quasi-experimental research of which experimental design was Pretest- Posttest Control Group Design.

Table 3.1 Pre-test – Post-test control group design

	Pre-test	Independent variable	Post-test
E	T ₁	X	T ₂
C	T ₁	-	T ₂

Symbols Used in experimental design

- E = Experimental group
- C = Control group
- X = A learning management through the direct instruction model
- = A learning management through the traditional method
- T₁ = Post-test of experimental group
- T₂ = Post-test of control group

3.2 Population and Sample

3.2.1 Population

The population in this study: 200 of Secondary 5 (Grade 11) students studying at Beijing Modern Music School, Beijing, China in academic year 2023.

3.2.2 Sample

The Sample in this study: 60 of Secondary 5 (Grade 11) students, selected by cluster random sampling, studying at Beijing Modern Music School, Beijing, China in academic year 2023.

3.1.2.1 Experimental group with 30 of Secondary 5 (Grade 11) students learning management through the direct instruction model on Vocal Technology subject, Vocal Music Skills courses.

3.1.2.2 Control group with 30 of Secondary 5 (Grade 11) students learning management through the traditional approach on Vocal Technology subject, Vocal Music Skills courses.

3.3 Research Instrument

The research instruments were classified into the types used in the experiment and the instruments used for data collection. With details as follows:

3.3.1 The learning management plan with the learning management through the traditional method on Vocal Technology subject, Vocal Music Skills courses. It is 16 academic hours; the teaching contents include:

Unit 1: The background of the song (4 hours)

Unit 2: Song features and techniques (4 hours)

Unit 3: Personal characteristics and songs are integrated (4 hours)

Unit 4: Sing a song in its entirety (4 hours)

3.3.2 The learning management plan with the learning management through the direct instruction model on Vocal Technology subject, Vocal Music Skills courses. It is 16 academic hours; the teaching contents include:

Unit 1: The background of the song (4 hours)

Unit 2: Song features and techniques (4 hours)

Unit 3: Personal characteristics and songs are integrated (4 hours)

Unit 4: Sing a song in its entirety (4 hours)

3.3.3 A assessment of vocal music skills on the Vocal Technology subject, Vocal Music Skills courses. The assessment form is the rubric Scoring.

3.4 Instrument Development

3.4.1 The learning management plan with the learning management through the traditional method on Vocal Technology subject, Vocal Music Skills courses. The teaching contents include Unit 1: The background of the song for 4 hours, Unit 2: Song features and techniques for 4 hours, Unit 3: Personal characteristics and songs are integrated for 4 hours, Unit 4: Sing a song in its entirety for 4 hours. The steps to instrument development are as follows.

3.4.1.1 Study curriculum, the learning management plan and the learning activities of the traditional method.

3.4.1.2 Create a learning management plan with the learning management through the traditional method on Vocal Technology subject, Vocal Music Skills courses.

3.4.1.3 Propose the learning management plan with the learning management through the traditional method to the advisor for verify the validity of the content and suggestions. Then revised according to suggestions.

3.4.1.4 Propose the learning management plan with the learning management through the traditional method to 5 experts, including 2 curriculum and instructional experts, 2 vocal music experts, and 1 measurement and evaluation education expert. Experts will check the correctness and the consistency of elements of learning management plan. The scoring criteria are as follows:

Score 1: When sure that the elements of learning management plan are consistent.

Score 0: When unsure that the elements of learning management plan are consistent.

Score-1: When sure that the elements of learning management plan are not consistent.

3.4.1.5 Check and consider the appropriateness of the learning management through the traditional method evaluation form given by the expert. Analyze expert ratings. Make it more perfect by setting the Item-Objective Congruence (IOC) consistency index value to be greater than or equal to 0.50 and revised according to the expert suggestions. The analysis results showed that the IOC value was equal to 1.00.

3.4.1.6 Try out the learning management plan with the learning management through the traditional method with 30 of Secondary 5 (Grade 11) students at Beijing Modern Music School, Beijing, China who are not the sample.

3.4.1.7 Improve and publish the learning management plan with learning management through the traditional method before collect data.

3.4.1.8 Collect data with the learning management plan with learning management through the traditional method.

3.4.2 The learning management plan with the learning management through the direct instruction model on Vocal Technology subject, Vocal Music Skills courses. The teaching contents include Unit 1: The background of the song 4 hours, Unit 2: Song features and techniques 4 hours, Unit 3: Personal characteristics and songs are integrated 4 hours, Unit 4: Sing a song in its entirety 4 hours. The steps to instrument development are as follows.

3.4.2.1 Study curriculum, the learning management plan and theories and concepts about the direct instruction model. Analyzed relevant literature and research papers. Summarizes the following concepts:

Direct Instruction (DI) is an instructional model developed in the 1960s that emphasizes teaching and learning around small learning increments and clearly defined and prescribed instructional tasks. A well-developed and well-planned curriculum. It is based on the theory that clear instructions to eliminate misunderstandings can greatly improve and speed up learning. Direct teaching is a teacher-centered strategy in which information is primarily provided by teachers. The teacher's role is to communicate facts, rules, and action sequences to students in the most direct way possible. In direct teaching, learning means participating in and assimilating ideas, skills, and information directly presented by the teacher.

From the study of theoretical data, related concepts, and therefore, researchers exploit the nature of learning management by using the direct instruction model to design learning management, the steps in direct instruction model are as follows:

Table 3.2 Steps of learning management through the direct instruction model

Steps	Learning management through the direct instruction model
Review previously learned material	Making connections between what is already known and what is to be learned is a critical success factor for learning. Review previously learned material that: <ul style="list-style-type: none"> o Is prerequisite knowledge for the new material. o Has important connections with the new material. Learning strategies that are useful for learning the new material.
State objectives	Lesson objectives should be stated and written on the board. Use language that the students can understand. The purpose of stating the objectives is to set the student's expectations of what they will learn.
Present new material	Clear and detailed instructions will give the students the opportunity to begin absorbing new material. The material should be organized step by step with each step building on the last. Here are two methods for presenting the content: <ol style="list-style-type: none"> 1. Lecture Method A lecture can often be the best way to introduce new material. Here are five essential steps to the lecture model: <ol style="list-style-type: none"> 1.1 State the main points of the lecture. 1.2 Introduce a main organizing idea or theme. 1.3 Use examples to illustrate each idea. 1.4 Use repetition to reinforce the main points. 1.5 Summarize and refer to the main organizing idea.

Table 3.2 Steps of learning management through the direct instruction model (Cont.)

Steps	Learning management through the direct instruction model
Guided practice	<p data-bbox="525 383 1390 577">2. Demonstrations, the teacher demonstrates the skill or principle involved in small segments. After each segment, check for understanding. Visual demonstrations will engage a greater number of students than simple auditory lecture.</p> <p data-bbox="525 600 1390 741">Guided practice involves the student attempting the skill with the assistance of the teacher and possibly other students. Typically, the teacher will take the students through the skill step by step.</p> <p data-bbox="525 763 1390 1070">Questions can be used both to verify understanding and allow the students to verbalize what they are learning. This verbalization is important, in that it moves the ideas being learned from short term memory to long term memory. Also, repetition and review are important parts of learning. More than enough questions should be prepared in advance.</p>
Independent practice	<p data-bbox="525 1099 1390 1346">A question such as "Are there any questions?" are not effective. Instead, a strategy such as, "In a minute I will ask someone to do a problem on the board, so be prepared." Another effective strategy is to provide the students with a worksheet that they fill out during the lecture.</p> <p data-bbox="525 1373 1390 1570">The teacher should closely monitor any independent practice to correct misconceptions and verify that the students have acquired the skill or knowledge. If any student has not acquired the skill, they could be practicing error.</p>

3.4.2.2 Create a learning management plan with the learning management through the direct instruction model on Vocal Technology subject, Vocal Music Skills courses.

3.4.2.3 Propose the learning management plan with the learning management through the direct instruction model to the advisor for verify the validity of

the content and suggestions. Then revised according to suggestions. The analysis results showed that the IOC value was equal to 1.00.

3.4.2.4 Propose the learning management plan with the learning management through the traditional method to 5 experts, including 2 curriculum and instructional experts, 2 vocal music experts, and 1 measurement and evaluation education expert. Experts will check the correctness and the consistency of elements of learning management plan. The scoring criteria are as follows:

Score 1: When sure that the elements of learning management plan are consistent.

Score 0: When unsure that the elements of learning management plan are consistent.

Score-1: When sure that the elements of learning management plan are not consistent.

3.4.2.5 Check and consider the appropriateness of the learning management through the direct instruction model evaluation form given by the expert. Analyze expert ratings. Make it more perfect by setting the Item-Objective Congruence (IOC) consistency index value to be greater than or equal to 0.50 and revised according to the expert suggestions. The analysis results showed that the IOC value was equal to 1.00.

3.4.2.6 Try out the learning management plan with the learning management through the direct instruction model with 30 of Secondary 5 (Grade 11) students at Beijing Modern Music School, Beijing, China who are not the sample.

3.4.2.7 Improve and publish the learning management plan with learning management though the direct instruction model before collect data.

3.4.2.8 Collect data with the learning management plan with learning management though the direct instruction model.

3.4.3 Assessment of vocal music skills on Vocal Technology subject, Vocal Music Skills courses. It is the rubric Scoring; the steps are as follows:

3.4.3.1 Study curriculum and theories and concepts about assessment.

3.4.3.2 Create the assessment of vocal music skills on Vocal Technology subject, Vocal Music Skills courses.

3.4.3.3 Propose the assessment of vocal music skills to the advisor for verify the validity of the content and improve based on suggestions by the advisor.

3.4.3.4 Propose the assessment of vocal music skills to 5 experts, including 2 curriculum and instructional experts, 2 vocal music experts, and 1 measurement and evaluation education expert. Experts will check the correctness and the consistency of item of exam and learning objectives. The scoring criteria are as follows:

Score 1: When sure that the item of assessment of vocal music skills to congruence the learning objectives

Score 0: When unsure that the item of assessment of vocal music skills to congruence the learning objectives

Score-1: When sure that the item of assessment of vocal music skills to not congruence the learning objectives

3.4.3.5 Check and consider the appropriateness of assessment of vocal music skills given by the expert. Analyze expert ratings. Make it more perfect by setting the Item-Objective Congruence (IOC) consistency index value to be greater than or equal to 0.50 and revised according to the expert suggestions. The analysis results showed that the IOC value was equal to 1.00.

3.4.3.6 Try out the assessment of vocal music skills with 30 of Secondary 5 (Grade 11) students at Beijing Modern Music School, Beijing, China who are not the sample.

3.4.3.7 Improve and publish the assessment of vocal music skills before collect data.

3.4.3.8 Collect data with the assessment of vocal music skills with control group and experimental group by the assessment form.

3.5 Data Collection

3.5.1 Preparation steps

3.5.1.1 Contact to obtain the official documents of Beijing Modern Music School, to request the assistance and cooperation of the head of the educational institution, to request permission to collect data with the sample group.

3.5.1.2 Request permission and cooperation from school administrators in the sample group to request permission to collect data.

3.5.1.3 The experimental group is randomly selected from the students in the class of the Secondary 5 (grade 11) at Beijing Modern Music School uses the Cluster random sampling and explains the process of learning management. Provide students with an understanding of their roles and responsibilities in their studies.

3.5.2 In this study, investigators are in the first semester of 2022-2023. Data was collected using based on the learning management. The experimental unit is divided into two parts, the direct teaching model group, and the traditional method group. The data are collected in the following order:

3.5.2.1 (Pretest) The students to take a singing before the learning management, the purpose of which was to assessment of vocal music skills before learning management by the assessment of vocal music skills, it is the students' original vocal music skills.

3.5.2.2 Collect data with learning management though the direct teaching model for experimental group and the traditional method for control group.

3.5.2.2 (Posttest) The students to take a singing after the learning management, the purpose of which was to assessment of vocal music skills after learning management by the assessment of vocal music skills, it is the students' vocal music skills.

3.4.3 Summary steps

3.5.3.1 Analyzed the scores by basic statistics and statistics used in hypothesis testing

3.5.3.2 Summarize data in tabular form, describe research findings and discuss.

3.6 Data Analysis

In the data analysis, the researcher conducted the following data analysis work:

3.6.1 Study instrument quality analysis

3.6.1.1 The Index of Item Objective Congruence (IOC) was used to analyze the effectiveness of learning management plan.

3.6.1.2 The Index of Item Objective Congruence (IOC) was used to analyze the effectiveness of the assessment form of vocal music skills on Vocal Technology subject, Vocal Music Skills courses.

3.6.1.3 Cronbach Alpha Coefficient; α formula was used to reliability confidence value (Reliability) of the assessment form of vocal music skills on Vocal Technology subject, Vocal Music Skills courses with a confidence assessment of the alpha coefficient

3.6.2 Analysis used in hypothesis testing

3.6.2.1 To compare the vocal music skills of Secondary 5 (Grade 11) students between before and the after the learning management through the traditional method used the dependent samples t-test.

3.6.2.2 To compare the vocal music skills of Secondary 5 (Grade 11) students between before and the after the direct teaching mode learning management used the dependent samples t-test.

3.6.2.3 To compare the vocal music skills of Secondary 5 (Grade 11) students between who received learning by the learning management through the traditional method and the learning management through direct instruction model used the independent Samples t-test.

3.7 Statistics used in Research

3.7.1 Basic statistics

The descriptive statistics such as mean and standard deviation will be used by the researcher to primarily analyze the data gathered from the experimental units.

3.7.1.1 Mean

$$\bar{x} = \frac{\sum x}{N}$$

\bar{x} = refers to the mean

$\sum x$ = is the summation of all observations

N = is the number of observations

3.7.1.2 Standard Deviation

$$\bar{x} = \frac{\sum (x - \bar{x})^2}{n-1}$$

$x - \bar{x}$ = is the difference between the observation (score) and the mean of the distribution

$(x - \bar{x})^2$ = is the squared deviation of the scores from the mean

$n - 1$ = is the number of observations minus the 1

3.7.2 Statistics used in quality inspection of instruments

3.7.2.1 Index of item Objective Congruence (IOC)

$$IOC = \frac{\sum R}{N}$$

IOC = is the Item Objective Congruence Index

$\sum R$ = is the summation of 1 in all raters

N = is the number of items

3.7.2.2 Reliability (Cronbach Alpha Coefficient)

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum s_i^2}{s_t^2} \right]$$

α = is the Cronbach alpha coefficient

k = is the number of items

$\sum s_i^2$ = is the sum of the variances of each item

s_t^2 = is the variance of the total column

3.7.3 Statistics used in hypothesis testing

3.7.3.1 The independent Samples t-test is used to compares the means of two groups in order to determine whether there is statistical evidence that the associated sample means are significantly different.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s_p^2 \left[\frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

\bar{x}_1 = Mean of first sample

\bar{x}_2 = Mean of second sample

n_1 = Sample size of first sample

n_2 = Sample size of second sample

S_1 = Standard deviation of first sample

S_2 = Standard deviation of second sample

S_p = Pooled standard deviation

3.7.3.2 The dependent samples t-test (also called the paired t-test or paired-samples t-test) is used to compare the means of two related groups to determine whether there is a statistically significant difference between these means.

$$t = \frac{\sum D}{\sqrt{\frac{n \sum D^2 - (\sum D)^2}{n-1}}}$$

$\sum D$ = Sum of the differences

$\sum D^2$ = Sum of the squared differences

$(\sum D)^2$ = Sum of the squared differences, squared

CHAPTER 4

RESEARCH RESULTS

The study of learning management through the direct instruction model to improve the vocal music skills of Secondary 5 (Grade 11) students has as its objective to answer the following: 1) to compare the vocal music skills of Secondary 5 (Grade 11) students between before and after the learning management through the traditional method, 2) to compare the vocal music skills of Secondary 5 (Grade 11) students between before and after the learning management through direct instruction model, and 3) to compare the vocal music skills of Secondary 5 (Grade 11) students between who received learning by the learning management through the traditional method and the learning management through direct instruction model. This section will also present the following:

4.1 Comparison analysis of the students' vocal music skills before and after learning management through the traditional method.

4.2 Comparative analysis of the students' vocal music skills before and after the learning management through the direct instruction model.

4.3 The comparison of vocal music skills of students studying through the traditional method and direct instruction model.

4.1 Comparison analysis of the students' vocal music skills before and after learning management through the traditional method.

Comparison analysis of the students' vocal music skills before and after learning management through the traditional method. The results are also presented in Table 4.1 and Figure 4.1

Table 4.1 Comparison of the students' vocal music skills before and after learning management through the traditional method.

The learning management through the traditional method	(Number of Units) n	Mean (\bar{x})	Standard Deviation (s)	Computed t-value (t)	Degrees of Freedom (df)	Sig. (p-value)
Before	30	11.37	1.903	10.910*	29	0.000
After	30	13.23	1.775			

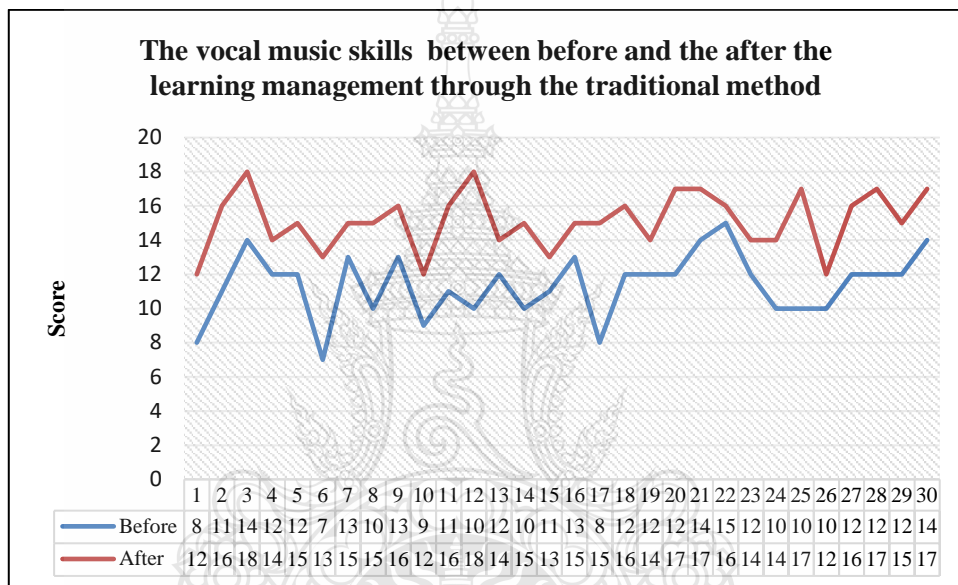


Figure 4.1 Comparison analysis of the students' vocal music skills before and after learning management through the traditional method.

Based on Table 4.1 and Figure 4.1, the results show the vocal music skills of students before learning management through the traditional method. The before learning had a mean of 11.37 ($\bar{x} = 11.37$, S.D.=1.93), and the after learning had a mean of 13.23 ($\bar{x} = 13.23$, S.D.=1.775). When comparing the vocal music skills before and after, it was found that the vocal music skills after the learning management were higher than before at a statistical significance of .05.

4.2 Comparative analysis of the students' vocal music skills before and after the learning management through the direct instruction model.

Comparative analysis of the students' vocal music skills before and after the learning management through the direct instruction model. The result is also presented in Table 4.2 and Figure 4.2.

Table 4.2 Comparison of the students' vocal music skills before and after learning management through the direct instruction model.

The learning management through direct instruction model	(Number of Units) n	Mean (\bar{x})	Standard Deviation (s)	Computed t-value (t)	Degrees of Freedom (df)	Sig. (p-value)
Before	30	11.27	1.964	16.343*	29	0.000
After	30	15.33	1.709			

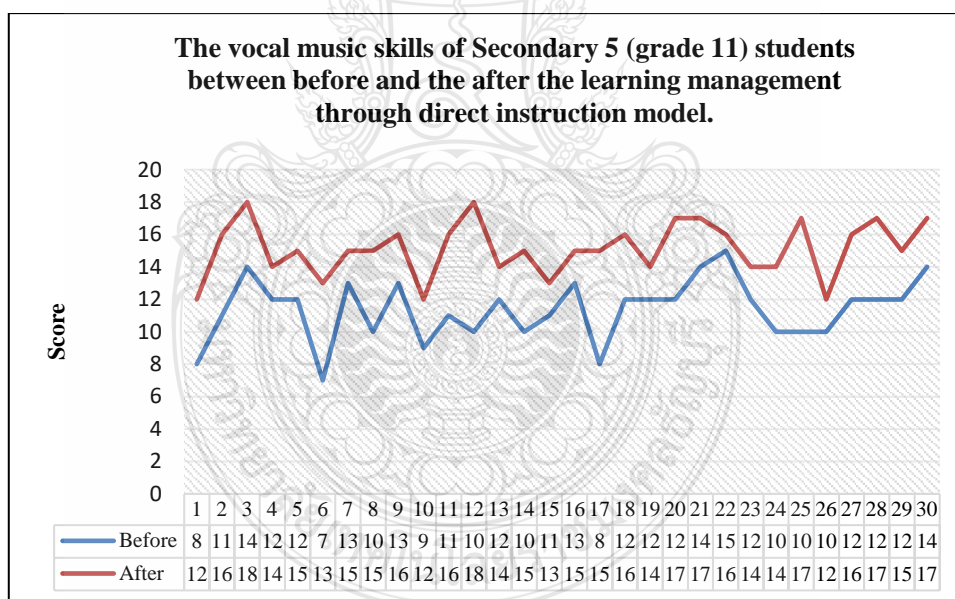


Figure 4.2 Comparison of the students' vocal music skills before and after learning management through the direct instruction model.

Based on Table 4.2 and Figure 4.2, the before-learning results of the students' vocal music skills studying through the direct instruction model had a mean of 11.27 ($\bar{x} = 11.37$, S.D.=1.964) and the after-learning had a mean of 13.23

($\bar{x} = 15.33$, S.D.=1.709). When comparing vocal music skills before and after the learning management, it was found that the vocal music skills after the learning management were higher than before the learning management through the direct instruction model at a statistical significance of .05.

4.3 The comparison of vocal music skills of students studying through the traditional method and direct instruction model.

The comparison of vocal music skills of students studying through the traditional method and direct instruction model. The result is also presented in Table 4.3.

Table 4.3 Compares the vocal music skills of Secondary 5 (Grade 11) students between who received learning by the learning management through the traditional method and the learning management through direct instruction model.

Learning Management	(Number of Units) n	Mean (\bar{x})	Standard Deviation (s)	Computed t-value (t)	Degrees of Freedom (df)	Sig. (p-value)
The traditional method	30	13.23	1.775	9.957*	29	0.000
The direct instruction model	30	15.33	1.709			

Based on Table 4.3, the results reveal that the vocal music skills of students studying through the traditional method show a mean of 13.23 ($\bar{x} = 13.23$, S.D.=1.775) and the vocal music skills of students studying through the direct instruction model show a mean of 15.33 ($\bar{x} = 15.33$, S.D.=1.709). When comparing the vocal music skills of students studying through the direct instruction model were higher than those studying through the traditional method at a statistical significance of .05.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

The study was on learning management through the direct instruction model to improve the vocal music skills of Secondary 5 (Grade 11) students. The objectives are to answer the following: 1) to compare the vocal music skills of Secondary 5 (Grade 11) students between before and after learning management through the traditional method, 2) to compare the vocal music skills of Secondary 5 (Grade 11) students between before and after the learning management through the direct instruction model, and 3) to compare the vocal music skills of Secondary 5 (Grade 11) students between those who received learning by the learning management through the traditional method and the learning management through the direct instruction model. The research sample was 30 Secondary 5 (Grade 11) students, selected by cluster random sampling, studying at Beijing Modern Music School, Beijing, China, in the academic year 2023. The statistics used to analyze the data were the mean, standard deviations, independent samples t-test and dependent samples t-test.

5.1 Summary of Research Results

5.1.1 Results to compare the vocal music skills of Secondary 5 (Grade 11) students between before and after the learning management through the traditional method.

The results show the vocal music skills of Secondary 5 (Grade 11) students before the learning management through the traditional method had a mean of 11.37 ($\bar{x} = 11.37$, S.D.=1.93) and the mean after the learning management through the traditional method to 13.23 ($\bar{x} = 13.23$, S.D.=1.775). When comparing the vocal music skills before and after, it was found that the vocal music skills after the learning management were higher than before the learning management through the traditional method at a statistical significance of .05.

5.1.2 Results to compare the vocal music skills of Secondary 5 (Grade 11) students between before and after the direct instruction model of learning management.

The results show the vocal music skills of Secondary 5 (Grade 11) students before the learning management through the direct instruction model had a mean of 11.27 ($\bar{x} = 11.37$, S.D.=1.964) and the mean after the learning management through the direct instruction model to 13.23 ($\bar{x} = 15.33$, S.D.=1.709). When comparing vocal music skills before and after the learning management, it was found that the vocal music skills after the learning management were higher than before the learning management through the direct instruction model at a statistical significance of .05.

5.1.3 Results to compare the vocal music skills of Secondary 5 (Grade 11) students between who received learning by the learning management through the traditional method and the learning management through direct instruction model.

The results show the vocal music skills of Secondary 5 (Grade 11) students who received learning by the learning management through the traditional method have a mean of 13.23 ($\bar{x} = 13.23$, S.D.=1.775) and the vocal music skills of Secondary 5 (Grade 11) students who received learning by the learning management through direct instruction model have the mean of 15.33 ($\bar{x} = 15.33$, S.D.=1.709). When comparing the vocal music skills of Secondary 5 (Grade 11) students who received learning by the learning management through direct instruction model were higher than the learning management through the traditional method at a statistical significance of .05.

5.2 Discussion and Recommendation

5.2.1 The comparison of students' vocal music skills before and after implementing the traditional method for learning management revealed that the mean score after learning was higher than the mean score before learning, with a statistical significance of .05. This can be attributed to the structured nature of the traditional method of learning management, which involves following multiple steps. The traditional method of learning management provides a secure environment that is supported and recognized by institutions. It effectively stores and manages copyrighted content and data while safeguarding student privacy. Additionally, it offers various tools for collaboration and exchange. Students can benefit from a wide range of learning resources, tools, apps,

expertise from outside the school, and peer interaction, all contributing to a personalized learning experience (Terry Anderson, 2017, p.8).

In line with the findings of Zhang Guilan's (2011, p.270-271) study, "Breaking the Traditional Teaching Concept and Innovating the Junior High School Music Teaching Model," it was observed that music as a discipline combines sensibility and reason. On one hand, it encompasses various musical forms, atmospheres, and emotions, and on the other hand, it involves fundamental knowledge such as music theory and notation. Effective and in-depth teaching is necessary to foster student growth. The traditional teaching method plays a significant role in this context. The study found that students' grades improved after using the traditional teaching method compared to their performance before learning (Zhang Guilan, 2011, pp. 270-271).

Similarly, the findings of Yang Sha; Mao Xiulei; Zhao Yongjun; Zhang Runhong et al. (2023, pp.46-48) study, "Comparative Study of the '6+1' Model and Traditional Model of Effective Physical Education Option Course," indicated that in traditional physical education, the formation of motor skills and engagement in physical activities are central. The teaching approach is teacher-centered, with teachers primarily facilitating instruction. After a period of experimentation, the study found that students' grades improved after using the traditional teaching method (Yang Sha et al., 2023, pp.46-48).

5.2.2 The results of comparing vocal music skills before and after implementing the direct instruction model for learning management revealed that students' vocal music skills after learning were significantly higher than their skills before learning, with a statistical significance of .05. This may be attributed to the belief of the direct instruction model that all students can learn when taught with careful and mindful instruction. Teachers are expected to have high expectations for all students, particularly in promoting the progress of students at risk. The failure of students is seen as a reflection of the teacher's failure, as teachers ultimately bear the responsibility for student learning. Factors such as a student's race, family background, social class, or other circumstances should not be attributed as reasons for their inability to learn. Students should not be blamed for their learning failures. While the direct instruction model involves teachers directly presenting content to students, they also need to closely attend to students' needs

during curriculum design and teaching implementation to ensure the successful learning of all students. (Tomlinson, Ceuer,2001, pp.212-218).

Therefore, it is crucial to control all aspects of instruction to minimize opportunities for students to misinterpret the information being taught and to maximize the reinforcement of instruction. In vocal music teaching, for example, the use of language and body movements can facilitate students' understanding of singing content, such as using phrases like "smelling flowers," "blowing candles," and "blowing paper" during inhalation training, which are typical elements of direct pedagogy (Shen Lu, 2010, pp.128-129).

In accordance with the findings of Yu Suhong's (2013, pp.3-12) study on "On Direct Teaching", it was discovered that teachers who employ the direct instruction model effectively explain key knowledge, present it in a clear and systematic manner, facilitate group teaching, and engage students in practicing and training open responses. This teaching strategy has proven highly successful and is widely supported, applicable to various students and learning domains. The study found that students' performance improved after using the direct instruction model compared to their performance before learning (Yu Suhong, 2013, pp.3-12). Similarly, Zhong Yimei's (2013, pp.1-2) study on "Giving Full Play to the Advantages of Direct Teaching and Improving Teaching Effectiveness" revealed that the direct instruction method is an effective teaching approach. It enables accurate evaluation of students' learning effects and provides timely feedback, allowing both teachers and students to make necessary adjustments and enhance teaching activities. Students can acquire a substantial amount of information and develop new knowledge and skills within a short period of time. The study found that students' performance improved after using the direct instruction model (Zhong Yimei, 2013, pp.1-2).

5.2.3 The results of comparing the vocal music skills of students who studied through the direct instruction model were significantly higher than those who studied through the traditional method, with a statistical significance of .05. In the direct instruction model, the teacher's role is to directly impart facts, rules, or action sequences to students. This approach is particularly effective for teaching well-structured subjects like mathematics and English grammar. The components of the direct instruction model

include informing students of learning objectives, activating their prerequisite knowledge, explaining new topics in small and sequential steps, providing supervised practice, and offering immediate feedback followed by independent practice through seatwork and homework. The direct instruction model has gained worldwide attention from research scientists across various educational levels and subject areas, and the majority of findings support its effectiveness (Rubina Kousar, 2009, pp.275-295).

Music educators face the challenge of limited class time in lower secondary schools due to the increasingly crowded curriculum and the introduction of arts 'taster' courses. However, they are still expected to produce musically literate students capable of pursuing high-level music courses in upper secondary school (Geoffrey Lowe and Steven Belcher, 2012, pp.3-13).

In line with Peng Zhengmei's (2018, pp.237-240) study on "Research on the Reform of Skills Education in the 21st Century in the United States," it was found that the direct teaching model is also present in American schools' teaching of 21st-century skills. The direct teaching mode emphasizes exploration and interaction, with teachers playing a more prominent role as "more capable individuals" who guide students to actively practice and stimulate their active learning. This approach helps reduce students' cognitive burden and develop higher-order skills. Therefore, we observed that the direct instruction model led to improved academic performance compared to traditional methods. Similarly, Sheng Qunli's (2005, pp.42-44) study on "Direct Guidance Learning in Teaching" found that the direct instruction model requires teachers to use explicit, step-by-step, and methodical methods to deliver instruction, focusing on helping all students meet the standards through practice and mastery. The direct instruction model stands out and has received significant attention in teaching theory and instructional design. Rigorous experimental verification has demonstrated that direct instruction yields greater improvements in student achievement compared to the traditional method.

5.3 Implication for Practice and Future Research

5.3.1 Recommendation for applying the research results

5.3.1.1 The direct instruction model is recommended as a superior teaching mode compared to the traditional model. Music teachers, in particular, should

focus on developing their basic teaching skills to enhance their teaching control and improve the quality of instruction. In music classrooms, which have a strong practical nature, teachers should adjust the class and teaching content according to students' needs. It is crucial for music teachers to create a well-designed teaching plan and set clear objectives. At the beginning of each class, teachers should allocate time to familiarize students with the course content. Through explanations, demonstrations, and interactive methods such as questions and discussions, teachers can actively engage students in learning, providing them with ample opportunities to practice and creating a positive musical atmosphere. This approach is especially effective in improving students' musical abilities.

5.3.1.2 When delivering lectures, teachers should adequately prepare beforehand. The level of preparation directly affects students' interest and motivation to learn. Lectures should not be too lengthy, and it is recommended to incorporate interactive elements such as questions and interesting classroom activities. During the lecture, teachers should follow a specific order and include essential components of knowledge. It is beneficial to reinforce and visualize key content, connect new knowledge to students' existing knowledge, regularly gather feedback from students to ensure everyone is keeping up, and summarize or review key points at the end of the lecture.

5.3.1.3 The music teaching process guided by the direct instruction model is not merely a mechanical and repetitive learning process or a simple reproduction of musical scores. Instead, it should be a well-planned, organized, and controlled teaching process. This approach helps improve students' practical application abilities in music, deepens their perceptions and impressions, and enhances their enthusiasm and initiative in learning music. Therefore, when implementing the direct instruction method in music teaching, teachers should employ different teaching methods based on specific environments and challenges, adapt to local conditions, and continuously enhance students' singing skills.

5.3.2 Recommendation for future research

For future research, it is recommended to focus on the following topics:

5.3.2.1 Exploring the effectiveness of learning management through the direct instruction model in improving other music skills.

5.3.2.2 Investigating the combined approach of learning management through the direct instruction model and teaching techniques to enhance students' vocal music skills.

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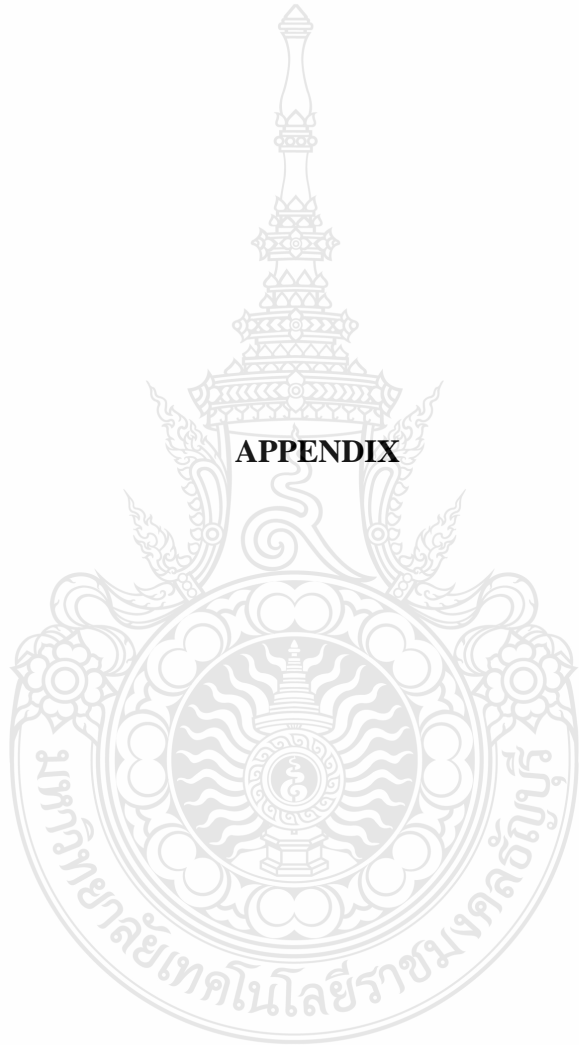
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APPENDIX





APPENDIX A

- **List of Experts Reviewing Research Instruments**
- **Sample Letter to Experts and Specialists for Research Tools Validation**

List of Experts Reviewing Research Instruments

Content Specialists

1. Professor Dr. Li Shan,
Capital Normal University, Beijing. China
2. Professor Dr. Wang Yan,
Tianjin University of Communication, Tianjin. China
3. Dr. Saengrung Poolsuwan
Aksorn CharoenTat ACT Co., Ltd. Thailand
4. Dr. Surat Kwanboonchan.
Faculty of Technical Education, Rajamangala University of Technology
Thanyaburi. Thailand
5. Asst. Prof. Dr.Methee Pikunthong
Faculty of Technical Education, Rajamangala University of Technology
Thanyaburi. Thailand



No. 0649.02/0205



Faculty of Technical Education
Rajamangala University of Technology
Thanyaburi
39 Moo 1, Rangsit-Nakhon Nayok Road,
Klong Hok, Khlong Luang, Pathum Thani
Postal Code 12110, Thailand

17 February 2022

Subject Invitation letter inviting experts to validate research instruments

Dear Dr. Saengrung Poolsuwan

Due to Mrs.Limin Zhang , a student who is taking up Master of Education Program in Curriculum Development and Instructional Innovation, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi (RMUTT), is currently processing a thesis for this semester entitled “The Learning Management Through the Direct Instruction Model to Improve Vocal Music Skills for Secondary 5 (Grade 11) Students” with Asst. Prof. Dr. Rossarin Jermtatsong , a research advisor.

In relation to this, the researcher has a strong desire to be assisted with regard to the validation of the instruments required studies. The curriculum administration committee consider that you are the most qualified professional with knowledge and capabilities to provide such, the researcher has chosen and would like to ask approval from your good office to be the evaluator. I would like to invite you to be an expert to the validation research instruments for Mrs.Limin Zhang for the benefit of further education. I am highly anticipating your kind approval regarding this matter.

Thank you for your kind consideration.

Sincerely Yours,

A handwritten signature in blue ink, appearing to be 'Arnon Niyomphol'.

(Asst. Prof. Arnon Niyomphol)
Dean, Faculty of Technical Education

Department of Education
Tel: +66-2549-3207
Fax: +66-2577-3207

No. 0649.02/0205



Faculty of Technical Education
Rajamangala University of Technology
Thanyaburi
39 Moo 1, Rangsit-Nakhon Nayok Road,
Klong Hok, Khlong Luang, Pathum Thani
Postal Code 12110, Thailand

17 February 2022

Subject Invitation letter inviting experts to validate research instruments

Dear Dr.Surat Kwanboonchan

Due to Mrs.Limin Zhang , a student who is taking up Master of Education Program in Curriculum Development and Instructional Innovation, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi (RMUTT), is currently processing a thesis for this semester entitled “The Learning Management Through the Direct Instruction Model to Improve Vocal Music Skills for Secondary 5 (Grade 11) Students” with Asst. Prof. Dr. Rossarin Jermtatsong , a research advisor.

In relation to this, the researcher has a strong desire to be assisted with regard to the validation of the instruments required studies. The curriculum administration committee consider that you are the most qualified professional with knowledge and capabilities to provide such, the researcher has chosen and would like to ask approval from your good office to be the evaluator. I would like to invite you to be an expert to the validation research instruments for Mrs.Limin Zhang for the benefit of further education. I am highly anticipating your kind approval regarding this matter.

Thank you for your kind consideration.

Sincerely Yours,

(Asst. Prof. Arnon Niyomphol)
Dean, Faculty of Technical Education

Department of Education
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Fax: +66-2577-3207

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Faculty of Technical Education
Rajamangala University of Technology
Thanyaburi
39 Moo 1, Rangsit-Nakhon Nayok Road,
Klong Hok, Khlong Luang, Pathum Thani
Postal Code 12110, Thailand

17 February 2022

Subject Invitation letter inviting experts to validate research instruments

Dear Asst. Prof. Dr. Methee Pikunthong

Due to Mrs.Limin Zhang , a student who is taking up Master of Education Program in Curriculum Development and Instructional Innovation, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi (RMUTT), is currently processing a thesis for this semester entitled “The Learning Management Through the Direct Instruction Model to Improve Vocal Music Skills for Secondary 5 (Grade 11) Students” with Asst. Prof. Dr. Rossarin Jermtatsong , a research advisor.

In relation to this, the researcher has a strong desire to be assisted with regard to the validation of the instruments required studies. The curriculum administration committee consider that you are the most qualified professional with knowledge and capabilities to provide such, the researcher has chosen and would like to ask approval from your good office to be the evaluator. I would like to invite you to be an expert to the validation research instruments for Mrs.Limin Zhang for the benefit of further education. I am highly anticipating your kind approval regarding this matter.

Thank you for your kind consideration.

Sincerely Yours,

(Asst. Prof. Arnon Niyomphol)
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Faculty of Technical Education
Rajamangala University of Technology
Thanyaburi
39 Moo 1, Rangsit-Nakhon Nayok Road,
Klong Hok, Khlong Luang, Pathum Thani
Postal Code 12110, Thailand

17 February 2022

Subject Invitation letter inviting experts to validate research instruments

Dear Asst. Prof. Dr. Shan Li

Due to Mrs.Limin Zhang , a student who is taking up Master of Education Program in Curriculum Development and Instructional Innovation, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi (RMUTT), is currently processing a thesis for this semester entitled “The Learning Management Through the Direct Instruction Model to Improve Vocal Music Skills for Secondary 5 (Grade 11) Students” with Asst. Prof. Dr. Rossarin Jermtatsong , a research advisor.

In relation to this, the researcher has a strong desire to be assisted with regard to the validation of the instruments required studies. The curriculum administration committee consider that you are the most qualified professional with knowledge and capabilities to provide such, the researcher has chosen and would like to ask approval from your good office to be the evaluator. I would like to invite you to be an expert to the validation research instruments for Mrs.Limin Zhang for the benefit of further education. I am highly anticipating your kind approval regarding this matter.

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Faculty of Technical Education
Rajamangala University of Technology
Thanyaburi
39 Moo 1, Rangsit-Nakhon Nayok Road,
Klong Hok, Khlong Luang, Pathum Thani
Postal Code 12110, Thailand

17 February 2022

Subject Invitation letter inviting experts to validate research instruments

Dear Asst. Prof. Dr. Yan Wang

Due to Mrs.Limin Zhang , a student who is taking up Master of Education Program in Curriculum Development and Instructional Innovation, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi (RMUTT), is currently processing a thesis for this semester entitled “The Learning Management Through the Direct Instruction Model to Improve Vocal Music Skills for Secondary 5 (Grade 11) Students” with Asst. Prof. Dr. Rossarin Jermtatsong , a research advisor.

In relation to this, the researcher has a strong desire to be assisted with regard to the validation of the instruments required studies. The curriculum administration committee consider that you are the most qualified professional with knowledge and capabilities to provide such, the researcher has chosen and would like to ask approval from your good office to be the evaluator. I would like to invite you to be an expert to the validation research instruments for Mrs.Limin Zhang for the benefit of further education. I am highly anticipating your kind approval regarding this matter.

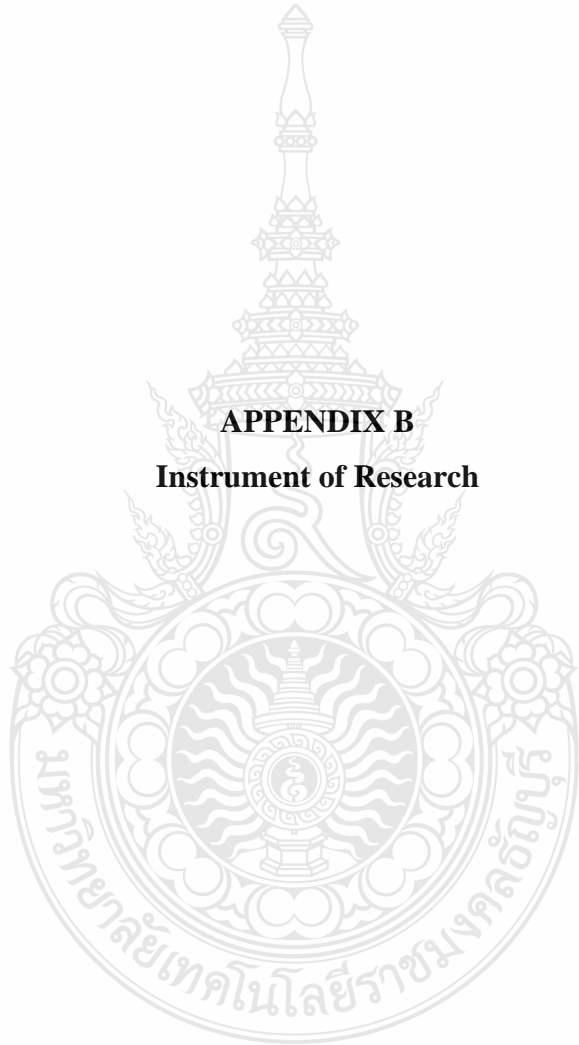
Thank you for your kind consideration.

Sincerely Yours,

(Asst. Prof. Arnon Niyomphol)
Dean, Faculty of Technical Education

Department of Education
Tel: +66-2549-3207
Fax: +66-2577-3207

APPENDIX B
Instrument of Research



Course content structure

Topic	Title	Content	Duration
1	The background of the song was discussed.	1.1 Introduction to Musicians and Music Styles was covered. 1.2 Learning objectives were established. 1.3 A good singing state was established.	2 hours
2	Song features and singing techniques were discussed.	2.1 Effective breath control was taught. 2.2 Throat stability training was conducted. 2.3 The use of resonators was emphasized to improve the timbre. 2.4 Training on sound zone conversion and mixing technology was provided.	4 hours
3	Integration between personal characteristic and songs was emphasized.	3.1 Song selection technology was introduced. 3.2 The handling of treble, mid-range, and bass was taught. 3.3 Style training was provided. 3.4 Articulation training was conducted.	4 hours
4	Training and practice the song	4.1 Singing techniques and songs were practiced and reviewed repeatedly. 4.2 Sound was tested and songs were practiced. 4.3 Independent singing on stage was performed.	6 hours
Total			16 hours

Example

Lesson Plan 1: The direct instruction model

Lesson Plan:	1	Course Code:	612005
Subject/ Course	Vocal music course		
Lesson Title	The background of the song was discussed.		
Level	Secondary 5 (grade 11)	Lesson Duration	2 hours

Lesson objectives were as follows:

1. Students understood and mastered correct vocal music knowledge.
2. Students understood the importance of vocal music skills and a good singing state, emphasizing the significance of breathing for sound continuity during vocal music training songs.
3. Students strengthened their singing skills, focusing on vocal music melody requirements and maintaining fluency and unity of sound while singing songs correctly.

Learning content

1. Introduction to musicians and music styles was conducted.
2. Learning objectives were established.
3. A good singing state was established.

Activity

The direct instruction process	Activity of direct instruction
Review previously learned material	Teachers explained old knowledge to students, played music background videos, aroused students' associations, and established a connection between what was known and what would be learned. This was the key success factor of learning.
State objectives	The teacher explained the course objectives and marked them on the blackboard. Using simple language, the teacher explained how to establish a good singing state and improved students' expectations of what they would learn.

The direct instruction process	Activity of direct instruction
Present new material	<p>Through clear and detailed instructions, the teacher enabled students to begin absorbing new music scores. The teacher introduced the learning of new songs through lecture methods.</p> <ol style="list-style-type: none"> 1. The background and style of musicians were explained by the teacher. 2. The main emotional and technical types of songs were explained by the teacher. 3. The teacher used pictures, videos, and other examples to illustrate the practice methods of each part. 4. Various skills were practiced by the teacher with students in groups, and timely feedback and reinforcement were provided. 5. The teacher summarized and reviewed the main learning contents.
Guided practice	<p>The teacher guided the students to practice their voice, encouraging them to try and complete the skill training step by step. During this period, the teacher asked questions to verify the students' understanding ability and allowed them to express the knowledge they were learning in language. Repetitive exercises and reviews were important parts of learning.</p> <p>The teacher would ask, "In ten minutes, I will ask someone to sing this part in the classroom."</p>

The direct instruction process	Activity of direct instruction
Independent Practice	Teachers closely monitored students' independent practice to correct misunderstandings and verify whether students had acquired the correct skills or knowledge.

Materials/Resources

1. The music classroom was equipped with a computer and projector.
2. Learning tools included music scores, a Bluetooth amplifier, a pair of speakers, a piano, and a microphone.
3. Vocal technique/performance books, such as Anne Peckham's "The Contemporary Singer: Elements of Vocal Technique," were used.

Assessment

Assessment method	Assessment Tool	Assessment Criteria
Class attendance	Class attendance record list	Pass 90 Percentage
Singing performance	Singing performance exam	Pass 60 Percentage
Singing on stage	Singing on stage test	Pass 60 Percentage

Example

Lesson Plan Template 1: The traditional method

Lesson Plan:	1	Course Code:	612005
Subject/ Course	Vocal music course		
Lesson Title	The background of the song		
Level	Secondary 5 (grade 11)	Lesson Duration	2 hours

Lesson objectives

1. Students understood and mastered correct vocal music knowledge.
2. Students understood the importance of vocal music skills and a good singing state.
3. Students strengthened the fluency and unity of vocal music melody while singing songs correctly.

Learning content

1. Introduction to musicians and music styles was provided.
2. Learning objectives were established.
3. A good singing state was established.

Activity

The traditional method	Activity of traditional method
Teaching objectives	The teacher explained the course objectives, explained how to establish a good singing state, and presented expectations for what the students had learned.
Teaching details	<p>The teacher enabled students to absorb new music scores through clear and detailed guidance.</p> <ol style="list-style-type: none"> 1. The background and style of musicians were explained by the teacher. 2. The main emotional and technical types of the song were explained by the teacher.

The traditional method	Activity of traditional method
	3. The teacher summarized and reviewed the main learning contents.
Coaching exercises	The teacher instructed students to practice phonation. Repetition and review were important parts of learning.
Completed independently	Teachers observed students' exercises to correct misunderstandings and verify that students had mastered the correct skills or knowledge.

Materials/Resources

1. The music classroom was equipped with a computer and projector.
2. Learning tools included music scores, a Bluetooth amplifier, a pair of speakers, a piano, and a microphone.
3. Vocal technique/performance books, such as Anne Peckham's "The Contemporary Singer: Elements of Vocal Technique," were used.

Assessment

Assessment method	Assessment Tool	Assessment Criteria
Class attendance	Class attendance record list	Pass 90 Percentage
Singing performance	Singing performance exam	Pass 60 Percentage
Singing on stage	Singing on stage test	Pass 60 Percentage

Assessment of vocal music skills on Vocal Technology subject
Vocal Music Skills courses

Name	Score level					Total	Percentage	Summary	
	1	2	3	4	5			Pass	Fail
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
21.									
22.									
23.									
24.									

Name	Score level					Total	Percentage	Summary	
	1	2	3	4	5			Pass	Fail
25.									
26.									
27.									
28.									
29.									
30.									

Quality Judging Criteria

Score range	Quality level
21-25	Very good
16-20	Very good
11-15	Fair
5-10	Improve

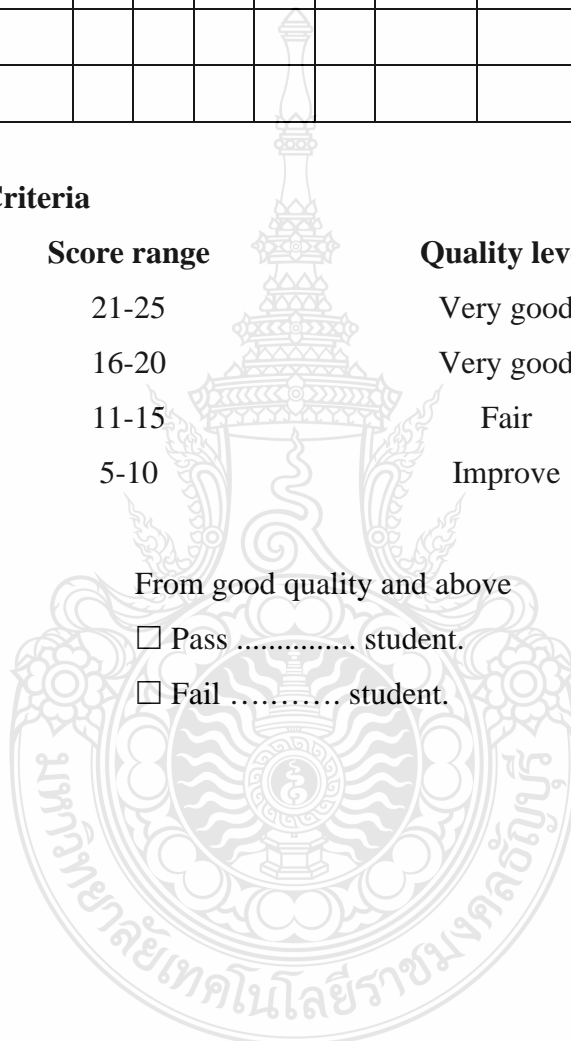
Passing Criteria

Summary

From good quality and above

Pass student.

Fail student.



Rubric: vocal music skills on Vocal Technology subject

Vocal Music Skills courses

Topic	Score level				
	1	2	3	4	5
1. Music background and knowledge	There was a lack of understanding about musicians and a brief history of music.	There were 6-8 mistakes in understanding musicians and a brief history of music.	There were 3-4 mistakes in understanding musicians and a brief history of music.	There were 1-2 mistakes in understanding musicians and a brief history of music.	The musicians and music history were understood comprehensively and correctly.
2. Basic skills in music	Based on the sense of hearing, it was not possible to recognize music score and rhythm correctly.	Based on musical hearing, there were 3-4 mistakes in correctly recognizing music score and rhythm.	Based on musical hearing, there were 1-2 mistakes in correctly recognizing music score and rhythm.	Based on musical hearing, there was correct recognition of music score and rhythm.	Based on the sense of musical hearing, there was correct recognition of the score and rhythm, and it was applied in practice.
3. Vocal skills	The vocal skills could not be used skillfully.	There were 5-8 mistakes in not being able to skillfully use vocal skills.	There were 3-4 errors in the basic ability to skillfully use vocal skills, combined with the entire music works.	There were 1-2 mistakes in the basic proficiency in the use of vocal skills, combined with the entire music.	Skilled use of vocal skills, combined with the entire music works, resulted in correct and vivid singing performances.

Topic	Score level				
	1	2	3	4	5
4. Performance Deliver	There was poor music expression, inability to complete the singing, and poor music quality.	The music expression ability was insufficient, and there were 3-4 instances of mistakes in completing the expression.	The music expression ability was insufficient, but the expression could still be completed with 1-2 instances of mistakes.	There was a medium expressive power of music, and the expression of music content could be completed.	There was a strong expression of music, a strong sense of music, and the ability to accurately express the content of music.
5. Comprehensive quality	There was poor music quality and a poor stage performance.	There was poor music quality, a rigid stage performance, and more mistakes.	The music quality was average, with 1-2 mistakes in the stage performance.	There was an integrated music literacy, good emotional expression, and stable sound technology.	There was excellent integrated music literacy, emotional expression, and stable sound technology, allowing the audience to feel the charm of the music works.



APPENDIX C

IOC (Index of Item Objective Congruence)

Instrument of Research

IOC (Index of Item Objective Congruence)

Learning Management Plan through the traditional method

Research Instrument	Expert results					total	IOC	Result
	1	2	3	4	5			
Learning Management Plan through the traditional method								
Unit 1 The background of the song								
1. Learning Objectives	1	1	1	1	1	5	1	Yes
2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
3. Learning Media Resources	1	1	1	1	1	5	1	Yes
4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes
Unit 2 Song features and singing techniques								
1. Learning Objectives	1	1	1	1	1	5	1	Yes
2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
3. Learning Media Resources	1	1	1	1	1	5	1	Yes
4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes
Unit 3 Integration between personal characteristics and songs								
1. Learning Objectives	1	1	1	1	1	5	1	Yes
2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
3. Learning Media Resources	1	1	1	1	1	5	1	Yes
4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes
Unit 4 Training and practice the song								
1. Learning Objectives	1	1	1	1	1	5	1	Yes
2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
3. Learning Media Resources	1	1	1	1	1	5	1	Yes
4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes

IOC (Index of Item Objective Congruence)

Learning Management Plan through the direct instruction method

Research Instrument	Expert results					total	IOC	Result	
	1	2	3	4	5				
Learning Management Plan through the direct instruction method									
Unit 1	The background of the song								
	1. Learning Objectives	1	1	1	1	1	5	1	Yes
	2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
	3. Learning Media Resources	1	1	1	1	1	5	1	Yes
	4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
	5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes
Unit 2	Song features and singing techniques								
	1. Learning Objectives	1	1	1	1	1	5	1	Yes
	2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
	3. Learning Media Resources	1	1	1	1	1	5	1	Yes
	4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
	5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes
Unit 3	Integration between personal characteristics and songs								
	1. Learning Objectives	1	1	1	1	1	5	1	Yes
	2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
	3. Learning Media Resources	1	1	1	1	1	5	1	Yes
	4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
	5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes
Unit 4	Training and practice the song								
	1. Learning Objectives	1	1	1	1	1	5	1	Yes
	2. Learning Subject Matter	1	1	1	1	1	5	1	Yes
	3. Learning Media Resources	1	1	1	1	1	5	1	Yes
	4. Teaching and Learning Activities	1	1	1	1	1	5	1	Yes
	5. Measurement and Evaluation	1	1	1	1	1	5	1	Yes

IOC (Index of Item Objective Congruence)

Research Instrument	Expert results					total	IOC	Result
	1	2	3	4	5			
1. Music background and knowledge								
5. The musicians and music history were understood comprehensively and correctly.	1	1	1	1	1	5	1	Yes
4. There were 1-2 mistakes in understanding musicians and a brief history of music.	1	1	1	1	1	5	1	Yes
3. There were 3-4 mistakes in understanding musicians and a brief history of music.	1	1	1	1	1	5	1	Yes
2. There were 6-8 mistakes in understanding musicians and a brief history of music.	1	1	1	1	1	5	1	Yes
1. There was a lack of understanding about musicians and a brief history of music.	1	1	1	1	1	5	1	Yes
2. Basic skills in music								
5. Based on the sense of musical hearing, there was correct recognition of the score and rhythm, and it was applied in practice.	1	1	1	1	1	5	1	Yes
4. Based on musical hearing, there was correct recognition of music score and rhythm.	1	1	1	1	1	5	1	Yes
3. Based on musical hearing, there were 1-2 mistakes in correctly recognizing music score and rhythm.	1	1	1	1	1	5	1	Yes

Research Instrument	Expert results					total	IOC	Result
	1	2	3	4	5			
2. Based on musical hearing, there were 3-4 mistakes in correctly recognizing music score and rhythm.	1	1	1	1	1	5	1	Yes
1. Based on the sense of hearing, it was not possible to recognize music score and rhythm correctly.	1	1	1	1	1	5	1	Yes
3. Vocal skills								
5. Skilled use of vocal skills, combined with the entire music works, resulted in correct and vivid singing performances.	1	1	1	1	1	5	1	Yes
4. There were 1-2 mistakes in the basic proficiency in the use of vocal skills, combined with the entire music.	1	1	1	1	1	5	1	Yes
3. There were 3-4 errors in the basic ability to skillfully use vocal skills, combined with the entire music works.	1	1	1	1	1	5	1	Yes
2. There were 5-8 mistakes in not being able to skillfully use vocal skills.	1	1	1	1	1	5	1	Yes
1. The vocal skills could not be used skillfully.	1	1	1	1	1	5	1	Yes

Research Instrument	Expert results					total	IOC	Result
	1	2	3	4	5			
4. Performance Deliver								
5. There was a strong expression of music, a strong sense of music, and the ability to accurately express the content of music.	1	1	1	1	1	5	1	Yes
4. There was a medium expressive power of music, and the expression of music content could be completed.	1	1	1	1	1	5	1	Yes
3. The music expression ability was insufficient, but the expression could still be completed with 1-2 instances of mistakes.	0	1	1	1	1	4	0.8	Yes
2. The music expression ability was insufficient, and there were 3-4 instances of mistakes in completing the expression.	0	1	1	1	1	4	0.8	Yes
1. There was poor music expression, inability to complete the singing, and poor music quality.	1	1	1	1	1	5	1	Yes

Research Instrument	Expert results					total	IOC	Result
	1	2	3	4	5			
5. Comprehensive quality								
5. There was excellent integrated music literacy, emotional expression, and stable sound technology, allowing the audience to feel the charm of the music works.	1	1	1	1	1	5	1	Yes
4. There was an integrated music literacy, good emotional expression, and stable sound technology.	1	1	1	1	1	5	1	Yes
3. The music quality was average, with 1-2 mistakes in the stage performance.	1	1	1	1	1	5	1	Yes
2. There was poor music quality, a rigid stage performance, and more mistakes.	0	1	1	1	1	4	0.8	Yes
1. There was poor music quality and a poor stage performance.	1	1	1	1	1	5	1	Yes

Biography

Name – Surname Mrs. Limin Zhang
Date of Birth August 15, 1984
Address 1903 room 2 gate 2 building tian shi ming yuan
Tong zhou district, Beijing, China, 101199
Education Bachelor of vocal music performance
Work Experience Beijing contemporary music academy
From July 2005 up to Present
Telephone Number 18611700230
Email Address limin_z@mail.rmutt.ac.th

