

Effect of Classroom Teaching Skills Module on Chinese Pre-Service Music Teacher's Teaching Ability

Change Li Li¹, Mohamad Jafre Bin Zainol Abidin²

^{1,2}Faculty of Education and Liberal Studies, City University Malaysia, 46100 Petaling Jaya,
Selangor, Malaysia.

Email: *149889268@qq.com*

ABSTRACT

In order to strengthen the classroom teaching skills training of pre-service music teachers, improve their teaching ability, and fundamentally reverse the employment difficulties of pre-service music teachers. With the help of ADDIE model, this study designed and developed a classroom teaching skills module through five stages: analysis, design, development, implementation and evaluation. A mixed research method was used to analyze the quantitative data using SPSS software, and the effect of the classroom teaching skills module's intervention on pre-service music teachers was investigated through the comparative analysis of the data before and after the experiment. Semi-structured qualitative interviews were then conducted with a smaller sample to further explore and interpret the study. The results of the study revealed that the classroom teaching skills module had a significant effect in improving the teaching skills of pre-service music teachers. The study attempted to reveal ways in which pre-service music teachers' teaching could be reformed to make pre-service music teaching more responsive to the needs and expectations of the times and society.

Keywords: ADDIE Model, Classroom Teaching Skills, Preservice Music Teachers, Teaching Ability

A. INTRODUCTION

Classroom teaching skills are one of the basic conditions for pre-service teachers to have the ability to teach (LiMu, 2014). The cultivation and training of classroom teaching skills is an important channel to enhance the employment competitiveness of pre-service teachers (WangXiaoHong, 2008). In recent years, the number of Chinese college graduates has been increasing every year, and in 2022 the number of Chinese college graduates exceeded 10 million for the first time, reaching 10.76 million, making it the "hardest employment season in history"; however, this record will soon be broken. According to the Ministry of Education, the number of college graduates in the class of 2023 is expected to reach 11.58 million, an increase of 820,000 compared with 2022. The number of graduates from teacher training colleges is also naturally on the rise. In the face of dwindling demand, as well as the growing number of graduates. The declining employment rate of teacher training graduates has become an inevitable trend.

According to the quality requirements for music teachers in primary and secondary schools set out in the Music Curriculum Standards for Full-time Compulsory Education and the Music Curriculum Standards for Ordinary Senior Secondary Schools issued by the Ministry of Education, the cultivation of talents in music education can be summed up as "five abilities and three stages". The "five abilities" are to be able to sing, play instrumental music, dance, create and teach; and the "three stages" are to be able to get to the podium, to be on the stage and to be accepted by the social stage (employability). It can be seen that pre-vocational music teachers should not only be able to get on the stage, but also be able to get on the podium, and at the same time have the comprehensive ability to organize colourful art activities and other aspects. As the classroom teaching skills that best reflect the basic abilities of teachers, it has become an important indicator to measure the professional development of teachers. As the music subject is a rapidly developing aesthetic education subject under quality education, the classroom teaching skills of music teachers are also receiving more and more attention (Jing Lu Yang, 2021).

Pre-service teachers generally enter primary and secondary school teaching posts, and under severe employment pressure, employers are becoming more and more stringent in their requirements for the "quality" of pre-service teachers. For pre-service music teachers, not only do they need to have good music literacy, but they also need to be familiar with various classroom teaching skills. Employers expect music teachers to be able to walk on stage as well as on the podium. However, according to employers, pre-service music teachers are generally poor in educational competence and artistic expression, and even suffer from "stage fright"

(Zou Dayong & Dong Kemi, 2009). The employment situation of pre-service music teachers is not optimistic, only a small number of them can find a satisfactory job, and most of them face difficulties in employment (Liu Deren, 2018). Therefore, strengthening the classroom teaching skills training of pre-service music teachers and improving their teaching ability can fundamentally reverse the employment difficulties of pre-service music teachers.

Classroom teaching skills are both an important part of pre-service music teachers' professional skills and one of the most needed teaching competencies for pre-service music teachers. However, research has shown that pre-service music teachers do not analyse primary and secondary music teaching materials and pedagogical development deeply enough and are not interested in learning. They cannot really master practical teaching as well as innovative teaching (Chen Yi, 2008). Even if they are aware of the lack of teaching skills training, their willingness to improve their teaching skills level is not strong due to the lack of standardized design and effective supervision (Ye Zhong, 2014). Due to the lack of comprehensive quality of pre-service teachers, they are weak in the ability to integrate knowledge materials; they do not use diversified teaching methods enough to cope with the comprehensive practical problems in teaching situations (Lou ming dong, Cheng yao niu, Ya fan, 2008). After graduation, most of them cannot adapt to the teaching of music education in primary and secondary schools, and in the process of practical internship in schools, they have difficulty in adapting to the change of the role of "teacher", are afraid of the podium, and the effect of classroom teaching is poor (Li xiaoxuan, 2021).

In order to improve this situation, China has set up a professional programme for pre-service teacher training on pre-service education and teaching experience, however, for a long-time pre-service teachers' teaching competence training has not only been cut off from the study of theoretical courses in practice, but also split from the study of educational theories in research. (Xiong cai xia, 2015). At present, the main modes of practical ability cultivation in China are microgrid teaching and educational internship. However, the time setting of microgrid teaching in most institutions is too short and in an ideal environment, so the improvement of pre-service teachers' ability to teach is very limited. And "educational internship is usually arranged in the last academic year of the university, the cycle of practical activities is short, and there is a lack of effective integration of practice and theory and other problems, which cannot improve the teaching ability of pre-service teachers in the internship (Dang Shuai, 2013).

Since pre-service music teachers usually go on to become teachers in primary and secondary schools after graduating from undergraduate programmes, in order to help them improve their classroom teaching skills, we developed a classroom teaching skills module

based on China's General High School Music Curriculum Standards, which includes set induction skills, questioning skills, explaining skills, blackboard writing skills, presentation skills and ending skills. The purpose of developing the classroom teaching skills module was to provide pre-service music teacher education with materials and exercises based on these six skills to help them improve their classroom teaching skills. With these aims in mind, this study aims to answer the following two questions through experimentation and analysis:

RQ1. Is there the classroom teaching skill module have a significant effect on improving the teaching ability of pre service music teachers?

1. Do the pre-service teachers in the experimental group significantly improve their classroom teaching skills after participating in the classroom teaching skills module?
2. Is there any significant difference between the mean scores of the pre-test and post-test of the set induction skills, questioning skills, explaining skills, blackboard writing Skills, presentation skills and ending skills of the pre-service music teachers in the two groups (the control group and the experimental group)?

RQ2. what are the strengths and weaknesses of the classroom teaching skills modules experienced by the pre-service teachers (experimental group)?

B. METHOD

This study used mixed research methods, which is a method of collecting and analyzing data by combining both quantitative and qualitative methods in a single study. In order to get more effective results, researchers need to use multiple methods because the combination of two methods can counteract the weaknesses of either method used alone (Cresswell & Clark, 2007).

Research Design

This study adopted a mixed research methodology, and during the study we used a quasi-experimental, interpretive sequential mixed methods research design of pre-test and post-test. Quantitative data were first collected and analyzed using SPSS software to investigate the effectiveness of the classroom teaching skills module as an intervention for pre-service music teachers through comparative analysis of pre- and post-experimental data. Semi-structured qualitative interviews were then conducted with a smaller sample for further exploration and interpretation. The research design was carried out in two phases: the first phase was to collect quantitative data, and then the second phase of the qualitative study was to be conducted based

on the quantitative results in order to obtain comprehensive and detailed results about the designed classroom teaching skills module.

Population

The target group of this study was a group of students from a teacher training college in Shanxi, China, who were enrolled in the music education programme of the college and were currently in the first semester of their third year. This experimental course was conducted by whole population sampling, choosing (n=43) students from class A as the experimental group and (n=43) students from class B as the control group. They have basic knowledge of pedagogy and ability to use web-based technology, which meets the requirements of the study.

Samples

The sample consisted of two groups of students (n=86). The age of the students ranged from 19 to 21 years old. The sample was equally divided between males and females, all majoring in music education. The experimental group (N = 43) was taught using the classroom teaching skills module and the control group (N = 43) was taught using traditional teaching methods. Although both groups of students (control and experimental) were selected from the same university, they were placed in different locations; therefore, they would not meet or share data. In addition, once the study began, the two groups of students were taught by different teachers; therefore, there was no risk of data contamination.

Variables

Jeanette Berman (2013) argues that the conceptual framework in a research design helps the researcher to understand how he will utilize all the variables and methods for the study. The conceptual framework of a study is often represented by a flowchart, which describes the links between variable (The conceptual framework flowchart is shown in Figure 1).

Instrument

The three key research instruments of this study, namely, pre-test, post-test, and semi-structured interviews. The pre-test and post-test were carried out by questionnaires. With the help of experts, the final classroom teaching skills measurement scale was formed with simple modifications based on Professor Sun Liren's (1997) Teaching Skills Scale, which prepared the test instrument for the current study. The Classroom Teaching Skills Module consists of six competency strategies that need to be practiced, i.e., set induction skills, questioning skills,

explaining skills, blackboard writing Skills, presentation skills and ending skills These six strategies were used to assess the teaching skills of the students. The questionnaire of the test was based on the same content model as that of the classroom teaching skills. It consisted of six dimensions with five questions in each dimension, totaling 30 questions.

The purpose of the test was to examine the effectiveness of the designed classroom teaching skills module on the improvement of teaching competence, therefore their performance in teaching competence was assessed through pre-test and post-test before and after the intervention. The pre-test and post-test were conducted in two groups (experimental and control).

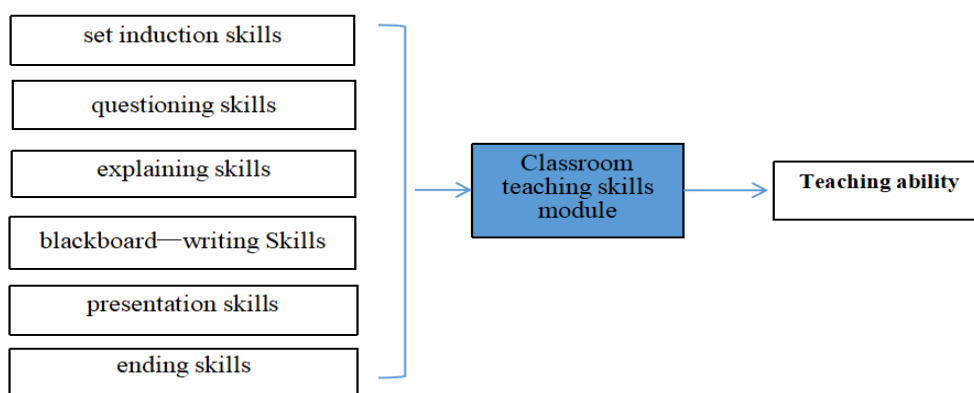


Figure 1. Conceptual framework flowchart

The main purpose of the pre-test was to verify the homogeneity of the groups before the intervention of the classroom teaching skills module in order to measure their performance in teaching competence. In addition, the purpose of the posttest was to determine the effectiveness of the Classroom Teaching Skills Module in terms of students' instructional competence improvement. The interview questions in the study were designed to describe students' experiences of the strengths and weaknesses of the classroom teaching skills module.

Data gathering

Data gathering is the most important task of the investigator in order to obtain authentic raw data to be analyzed for authentic research findings (Kumar, 2018). The participants were administered a pre-test and a post-test and assessed their performance in classroom teaching skills in both the experimental and control groups. The pre-test was administered before the start of the intervention and the post-test was administered after the completion of the intervention. Both the pre-test and post-test were administered online, and participants used

their mobile phones to log in and complete the test questions. Once the test was completed, the test evaluation form was automatically sent back to the researcher's email address. The test items were measured using a five-point Likert scale. Measurement answers were marked on a scale of 1-5 from totally true, true, not sure, not true and not true at all. Both tests assessed students' teaching competence in six dimensions: set induction skills, questioning skills, explaining skills, blackboard writing skills, presentation skills and ending skills. In order to add a more in-depth understanding of the study, semi-structured interviews were used to collect qualitative data, which were analyzed using thematic analysis. In this study, nine participants were selected to be interviewed in the post-test, representing high, medium and low scores respectively, which prevented researcher bias from influencing the interview results.

Data analysis

This study used both quantitative and qualitative methods to collect data. Therefore, two methods were used to analyse the data. The first thing that was analyzed in this study was the effectiveness of the classroom teaching skills module on the teaching competence of pre-service music teachers. In order to test the mean scores of the pre-test and post-test of the two groups, SPSS-27 was used to calculate and analyse the pre-test and post-test data. Since there were two groups in this study (experimental and control), independent samples t-test was used to test the homogeneity of the two groups at the pre-test stage. After obtaining the homogeneity of the mean scores of the test for the two groups, we then used the independent samples t-test for post-test analysis. Moreover, in qualitative research, thematic analysis is easy to follow as it provides the researcher with a way to analyse the data according to the researcher's point of view and fits well with the findings (John W. Creswell, 2007). Therefore, this study used semi-structured interviews to collect qualitative data and analyzed it using thematic analysis to add a more in-depth understanding of the study.

C. Result and Discussions

An independent samples t-test was conducted to determine whether there was a significant difference between the mean scores of the pre-test and post-test of the two groups of pre-service music teachers (control and experimental groups). A paired samples t-test was then conducted to determine whether there was a significant improvement in the classroom teaching skills scores of the pre-service music teachers in the experimental group after attending the classroom teaching skills module.

As shown by the independent samples t-test in Table 2, there was no statistically significant difference between the mean scores of the control group ($M = 3.318 \pm 0.685$, $SD = 0.685$) and the experimental group ($M = 3.339 \pm 0.512$, $SD = 0.512$, $t = 0.16$, $p = 0.873$). The test result $p = 0.873 > 0.05$ This means that at the time of the pre-test, the experimental and control group samples were homogeneous on the same basis.

Table 1. Independent samples t-test for experimental and control group pre-tests

variant	Experimental group pre-test		Control group pre-test		t	Sig. (2-tailed)
	M	SD	M	SD		
Classroom teaching skills	3.339	0.512	3.318	0.685	0.16	0.873

As shown by the independent samples t-test in Table 3, the mean scores of the classroom teaching skills of the control group ($M = 3.481 \pm 0.496$, $SD = 0.496$) and the experimental group ($M = 4.071 \pm 0.402$, $SD = 0.402$, $t = 6.053$, $p = 0.000$) at the time of the posttest did not pass the test of significance at the 0.05 level of significance, which means that at the time of the posttest there was a significant difference.

Table 2. Independent samples t-test for experimental and control group post-tests

variant	Experimental group post-test		Control group post-test		t	Sig. (2-tailed)
	M	SD	M	SD		
Classroom teaching skills	4.071	0.402	3.481	0.496	6.053	0.000

From the paired sample t-test in Table 4, it can be seen that the classroom teaching skills and all dimensions passed the 0.05 significance level test, indicating that there is a significant difference between the experimental group's post-test and the experimental group's pre-test for

the classroom teaching skills and all dimensions. The specific differences are as follows, the mean values of set induction skills, questioning skills, explaining skills, blackboard writing skills, presentation skills, ending skills and classroom teaching skills in the posttest of the experimental group are greater than the mean values of the pre-test of the experimental group.

Table 3. Paired samples t-test for experimental group pre-test and experimental group post-test

variant	Experimental group pre-test		Experimental group post-test		t	Sig. (2-tailed)
	M	SD	M	SD		
set induction skills	3.363	0.790	4.000	0.602	4.897	0.000
questioning skills	3.516	0.780	4.084	0.504	4.403	0.000
explaining skills	3.256	0.913	4.074	0.503	5.328	0.000
blackboard writing Skills	3.321	0.694	4.065	0.397	6.655	0.000
presentation skills	3.256	0.844	4.005	0.510	5.217	0.000
ending skills	3.321	0.724	4.195	0.359	7.073	0.000
Classroom teaching skills	3.339	0.512	4.071	0.402	8.024	0.000

Figure 2 summarizes the overall results, which shows a slight non-significant change in the mean scores of the students in the control group from the pre-test to the post-test. The control group and the experimental group implement the same lesson plan, but they follow the traditional way of teaching and learning. The control group did not practice the classroom teaching skills practically, but they were taught the theory of their same teaching programme. On the contrary, the mean scores of the experimental group increased significantly from pre-test to post-test. It can be inferred that the intervention of the classroom teaching skills module was effective in that the students made significant changes in their set induction skills, questioning skills, explaining skills, blackboard writing skills, presentation skills and ending skills which overall improved their teaching skills. Therefore, it can be concluded that the classroom teaching skills module significantly improved the teaching skills of pre-service music teachers.

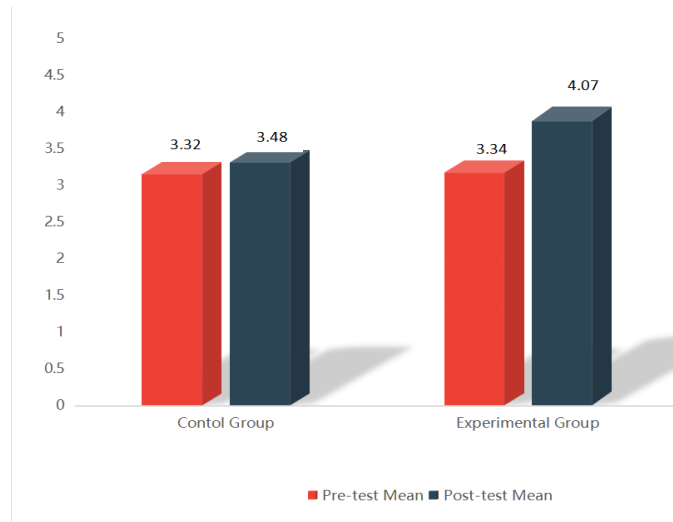


Figure 2. Pre-test and post-test mean scores for control and experimental groups

In order to answer question 2 what are the strengths and weaknesses of the classroom teaching skills module experienced by the pre-service teachers (experimental group), this study conducted semi-structured qualitative interviews with a smaller sample to further explore and explain the study. Nine participants (females n= 4, males n= 5) were selected for semi-structured interviews. Qualitative analyses were conducted following a systematic approach to thematic analysis, which is a systematic process of familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and reporting on themes. The researcher completed all the steps one by one and generated the final themes from the data (semi-structured interviews) (table 3).

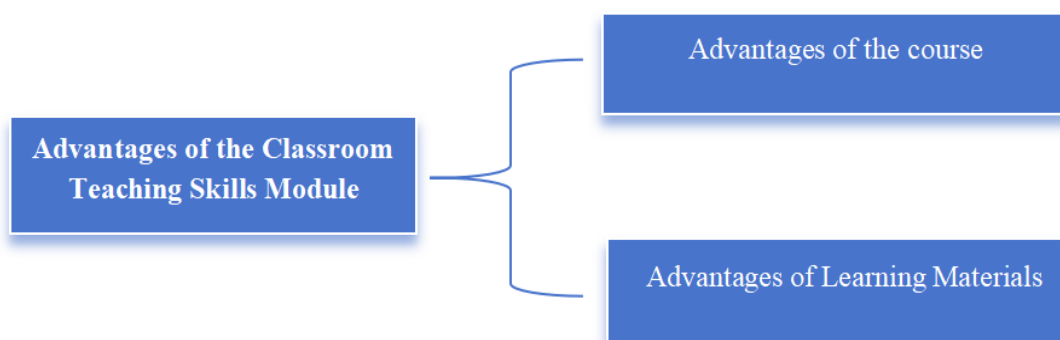


Figure 3. Subjects and sub-themes of the classroom teaching skills module

Strengths of the Classroom Instructional Skills Programme

When asked about the strengths of the Classroom Instructional Skills Programme, respondents used a number of adjectives that positively identified the Classroom Instructional Skills Programme. All of these sub-themes corresponding to the theme of "Classroom Instructional Skills Curriculum" can be derived from the data presented in Figure 4.

Strengths of the Classroom Teaching Skills Module

When asked about the strengths of the Classroom Instructional Skills Module, respondents used a number of adjectives that were positively positive about the Classroom Instructional Skills Programme. All of these sub-themes corresponding to the theme of "classroom teaching skills Module" can be derived from the data presented in Figure 4.

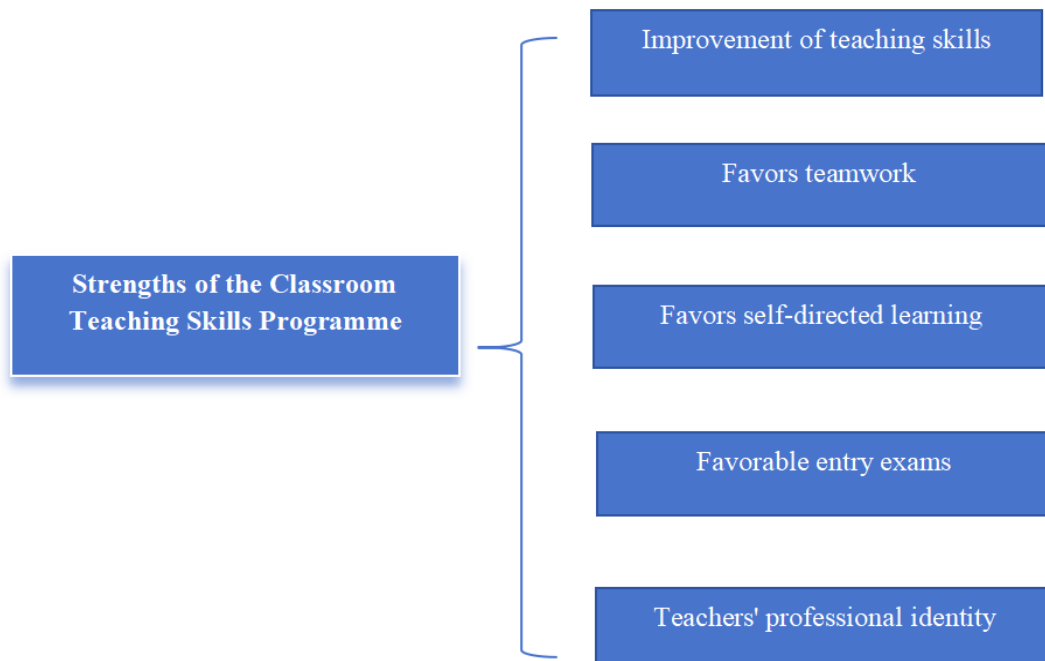


Figure 4. Themes and sub-themes of the Classroom Teaching Skills Module

Strengths of Learning Materials for the Classroom Teaching Skills Module

Respondents discussed many of the strengths of the learning materials for the module and Figure 5 below shows all the themes and sub-themes regarding the learning materials for the Classroom Teaching Skills Module.

In this study, a combination of qualitative and quantitative methods were used with the aim of exploring the impact of the classroom teaching skills module on the teaching competence of pre-service music teachers. The mean scores of the pre-test and post-test showed that the intervention of the Classroom Teaching Skills Module had a significant.

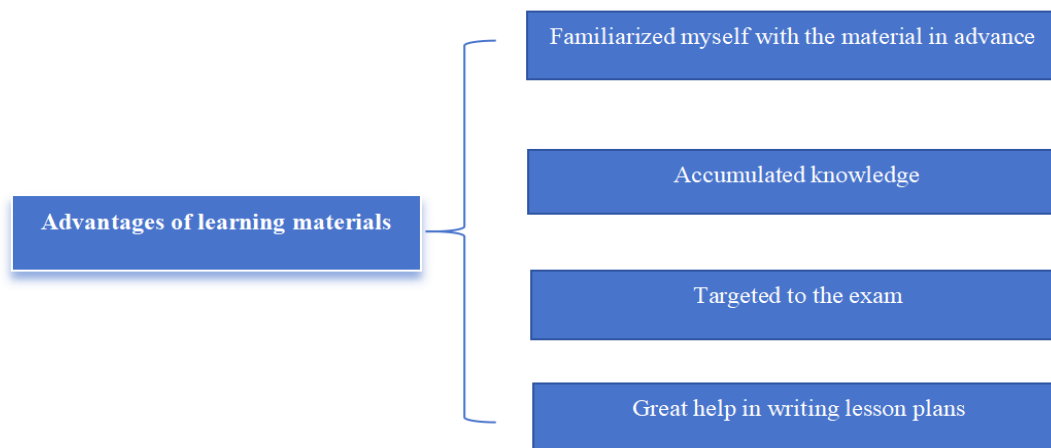


Figure 5. Themes and sub-themes of learning materials for the classroom teaching skills module

Shortcomings of the Classroom Teaching Skills Module

Respondents identified many positive aspects of the Classroom Teaching Skills Module as well as some shortcomings. These shortcomings had nothing to do with the way the Classroom Teaching Skills Module was taught or the content of the material, but were mainly related to the number of people in the classroom and the duration of the programme. Based on the content of the respondents' interviews, we summaries the following shortcomings: the number of students in the classroom is too large, resulting in students experiencing fewer practice activities. The cycle of the course curriculum was too short, and most of the students could not get enough of it. They expressed their enjoyment of the course and asked for more opportunities to participate in the course. The qualitative data from the respondents showed positive results as they spoke very positively about both the Classroom Teaching Skills module

and its learning materials, and shared their experiences and voices about the Classroom Teaching Skills module.

D. CONCLUSION

Effect on the students' teaching competence as a whole by making significant changes in the set induction skills, questioning skills, explaining skills, blackboard writing skills, presentation skills and ending skills. In addition to the quantitative positive results, the qualitative data from the respondents also showed positive results in that they rated both the Classroom Teaching Skills programme and the learning materials very positively, and it was evident from the student feedback and interviews that the Classroom Teaching Skills Module was more popular with the students than the traditional teaching methods. It is therefore concluded that the classroom teaching skills module is effective in improving the teaching skills of pre-service music teachers.

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