The Impact of Blended Learning Placement on Egyptian Piano Learners and their Attitudes towards Blended Piano Learning

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Abstract

Blended learning strategy has become one of the most prominent E-learning strategies which has recently proven its effectiveness in higher education, the study was conducted in Music Department of Faculty of Specific Education at Alexandria University in Egypt, and 10 first-year undergraduates participated in it. A positive effect of blended piano learning aids on professional skills development in piano learners, including their attitudes towards blended learning. Overall the effectiveness and challenges of blended piano learning are discussed. Finally, the novelty of the study is the theoretical affirmation of the influence of blended piano learning environments on piano learners, professional skills and their attitudes towards it, which can be used to improve the quality of piano training classrooms.

Introduction

In recent years, music education has grown in popularity in Faculty of Specific Education at Alexandria University. Much attention is paid to its development that keeping pace with the variables, challenges and technological progress in educational institution (Dong, 2022). The system in university education has become not only limited to traditional patterns within the study environment, but also has relied more on the use of modern development in information and communication technology. The piano instrument course is considered one of the basic music courses of the music education department in the four academic years, and the world nowadays is heading in teaching the piano and improving its playing skills to modern methods and the use of education technology, one of these innovative approaches is the use of Blended Piano Learning. Blended Learning is a style of education in which learners learn via electronic distance learning and online media as well as the traditional face to face teaching (Sean Beirnes, Clint Randles, 2022). However, the advantages of blended learning process in music education institutions need an appropriate scientific justification that created the paper topic. The recent

paper is the theoretical affirmation of blended learning environment influence on piano learners skills and their attitudes towards it.

Background

This paper is situated in the southern coast of the Mediterranean at Alexandria city of Egypt, during the second semester of the academic year (2022/2023) of Alexandria University, continued for a period of six academic weeks, it began on (Saturday 5/3/2023) and ended on (Saturday 9/4/2023), and the spatial boundaries were within Music Department at Faculty of Specific Education.

The author had never met the students in person, given that it is difficult to use E-learning alone in teaching piano courses that presented various challenges because of its' practical nature (Erich A. weiger,2021), acquiring, and developing its performance skills requires continuous direct meeting with a teacher for continuous feedback, and evaluation process, so the author had presented a quasi-experimental descriptive study.

The over-arching goal of this paper is to present the impact of using blended learning to teach Egyptian piano learners on their performance skills, and their attitudes towards blended piano learning drawing on theoretical perspectives of online learning, blended learning, and technology in music education (Sean Beirness, Clint Randle, 2023).The main questions that drove this paper was: 1) What is the impact of blended learning placement acquiring performance skills by piano learners? 2) What is the impact of blended learning placement on learners' attitudes towards blended piano learning process? 3) What are the most important challenges that learners may face during the process of blended piano learning?

First-year undergraduate piano learners were selected to participate in the paper by sample randomization, divided to five learners as an experimental group and another five as a control group without any prior experience of using blended learning strategies.

Literature Review

Technology and its innovations are considered one of the most important areas that have had a positive impact on various aspects, fields' life, and educational aspect in particular which encouraged educational institutions to use modern technology techniques, modern software developed in the teaching and learning process in order to achieve pedagogical desired goals. Some studies and scientific researchers have revealed some of the short coming of relying one-learning alone in education process, and that it is indispensable for a direct meeting between the students and the teacher, and the advantages of traditional education in terms of transferring educational experiences and face to face interaction, hence the concept of blended education

appeared, which combines the effectiveness and advantages of traditional way with the technologically E-learning education (Sorkova,M.G,2020).

Blended Learning

According to Erich A. weiger (2021) Using a blended learning strategy provides many pros in piano teaching and learning processes, since a lot of time and effort spent with learners in addition enhancing the self-learning process which has an important role in the educational process of music education subjects. The blended learning strategy created as a way to help learners who either could not follow a lecture or were absent from class, that guarantees them a continuous education process without falling behind academically from the rest of their colleagues. The blended learning strategy moved the information distribution to home through pre recorded lesson videos, and moved the learning activities to the classroom through discussions and projects, whereas the traditional learning way was distributed usually through lecture, and the home was where learning activities took place.

There are many forms and patterns of blended learning placement in the educational process, which are:

- combining e-learning and traditional education, which is the commonly used form.

- combining self-learning and cooperative learning programs.

- combining synchronous e-learning programs with asynchronous e-learning programs (Inkeri Ruokonen& Heikki Ruismaki, 2016).

In the current paper the author used a blended learning strategy form based on integration of e-learning and traditional way in teaching piano 2 course to a sample of first-level learners with the aim of obtaining and developing performance skills on the piano, by beginning with the technological e-learning through pre recorded lesson videos, then classroom education through face to face meeting (learners with teacher) with the aim of interaction performance, performance error corrections, and evaluation.

Effectiveness of Blended Learning

Many researchers have examined students' preferences in using the blended learning compared to traditional pedagogical methods (Erich A. weiger, 2021; Inkeri Ruokonen& Heikki Ruismaki, 2016; Chamila N.E. & David A. & Md Gapar Md johar, 2019) which has shown mixed results. Some studies have found that students generally prefer the blended modes over traditional methods. They appreciate the flexibility and convenience of online learning and the opportunity to engage in more interactive and collaborative activities during class time (Farhad S., 2017).

Farhad Seraji (2017) analyzed that one of the most key advantages of blended learning in promoting educational equality, flexibility, and active learning. According to Erich A. (2021) the findings from examined researches provide valuable insights into the impact of blended learning lessons on learners' satisfaction and achievement: a) Better student preparation by engaging with instructional content before coming to class which allows them to familiarize themselves with the material, grasp basic concepts, and arrive at class ready to participate in more meaningful discussions. B) A positive student / teacher interactions with the instructional content delivered online, class time can be devoted to addressing students' questions, facilitating discussions, and providing individualized support. C) Improved problem – solving skills by emphasizing the application of knowledge to solve problems. By engaging with instructional content before class, learner have the opportunity to develop a solid understanding of the fundamental concepts which build a foundation enables them to apply their knowledge effectively in problem – solving scenarios. Farhad also added that blended learning contributed to ensuring quality by creating an educational environment for live events and self – learning providing opportunities for assessment, active learning, motivation, collaboration, and enhancing interaction.

Kevin A.J. & Ravi S. (2019) also highlighted that blended learning provides the learners a) to choose between two modes of education, virtual and face to face interactions. B) Practical experiences in modern technology at their academic years. C) Helps learners learn and train accordingly. d) Provides courses and educational contents in a variety ways. e) Builds the learners' knowledge. f) Provides more time to focus on specific topics and guide learners.

Sorkova (2020) also mentioned several advantages of using blended learning in the educational process. a) Improved quality of educational materials and results. b) Enhanced interactive group work. C) Increased internal motivation for teaching and learning. d) Performance in independent activities. e) Enhanced learner's participation in the educational process by incorporating interactive elements, as online discussions, quizzes, and multimedia contents.

Overall, blended learning offers multiple benefits, including improved educational materials and results, enhanced interactive group work, increased internal motivation, improved performance independent activities, heightened learner participation. These effectiveness contribute to a more effective and engaging learning experience for learners in the digital age.

Based on the above, the author believes that using a blended learning strategy provides many advantages in teaching piano during its face to face classes, it saves lot of time and effort sent with learners in addition, it enhances the self-learning process, which has an important role in the educational process of music education in general, and learning the piano in particular.

Blended Learning and Music Education

Blended learning in music education aims to enhance learners' musical skills and knowledge through a combination of in-person instruction and digital resources. This approach recognizes the benefits of utilizing technology in education and leverages it to create a more personalized and engaging learning experience for learners. It allows them to have access to a wide range of musical resources and materials that may not be readily available in the traditional method (Chamila N. E. & David A. & Md G., 2019). Online platforms provide learners with opportunities performances, and access interactive music theory lessons which exposing them to a variety of musical styles and techniques. However, learning piano in particular requires one coaching, mainly because music and piano meant to be learnt by adopting and imitating the teacher which consider challenging competencies where students would not be able to achieve individually. Hence a mixed instructional design model combining both the features of objectivist and constructivist methods of instructing and learning would be distinctive strategy to be utilized for intensive blended learning course (Kevin A. & Ravi S., 2019).

Attitude

Attitude is how we think and feel about things or people. It can be positive, negative, or neutral. Our attitude can be influenced by our experiences, beliefs, and cultural norms (Aatif M., 2022). Attitude is made up of three parts: our emotions (how we feel), our thoughts (what we believe), and our actions (what we do). Understanding attitude is important because it plays a crucial factor in understanding why people behave the way they do, and it is an essential aspect that affects the learners (Shigang G.& Chin H.& Siti M., 2022). According to this perspective, leaners have different attitudes towards blended piano learning, these attitudes could be influenced by teacher, family, friends, course material, university community, or classmates.

Methodology

The author used the descriptive method to study the phenomena related to the paper, and the quasi-experimental method to implement the paper experiment, with one of its designs which is known as the pre and post measurement design for two groups, one experimental and the other control, a performance observation card and an attitude scale are pre-applied to each of them. The experimental group studied the piano 2 course items using the blended learning strategy, while the control group studied the same course items using the traditional method, face to face within the teaching sessions. After the experiment is completed, the tools post-applied again on the two groups in order to measure the impact of independent variable (blended piano learning) on the dependent variable (acquiring performance skills, and the learners attitude towards blended piano learning). The following figure shows the experimental design of the tools:
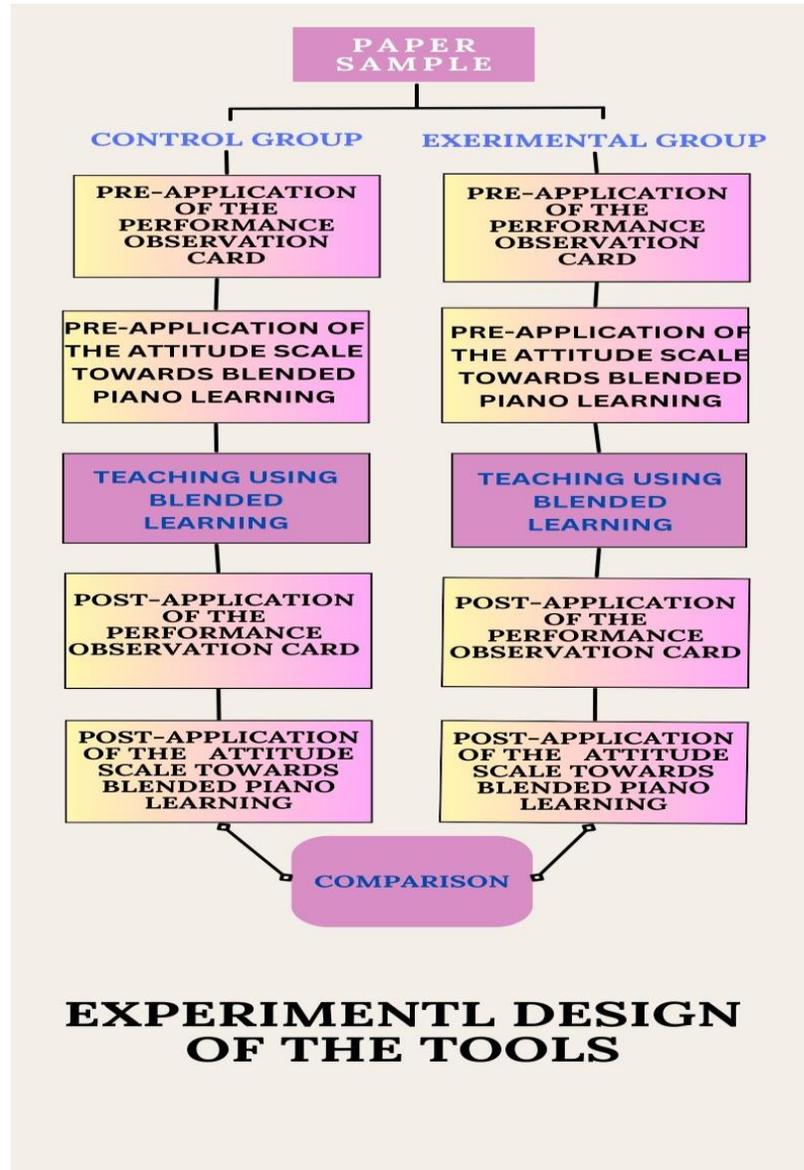
Figure 1. Experimental design of the tools

The paper was conducted in the Music Department of faculty of specific Education at Alexandria University. First-year undergraduate music department learners were selected to participate in by sample randomization. These learners studied the piano as their main instrument, the number of learners in the paper community reached (54) male and female learners.

Table 1. The Paper Community

Total	Gender	
54	girls	Boys
	41	13

The paper sample consisted of members of original community, and was selected intentionally according to the distribution of learners specialization, Thus, 10 piano learners took part in the paper. Of these, the experimental group consisted of 5 learners, who actively used blended piano learning environments. Other 5 piano learners of the control group learned piano 2 course in the traditional way, without the use of multi-media online tools, the learners aged between 18-19 years old that made the both groups comparable.

Table 2. The paper sample

Group	gender	Learners Number
Control Group	Girls	5
Experimental Group		5

The experiment was carried out for two months. During this time, experimental group learns actively used blended learning environments, which included didactic and illustrative performance audio-visual videos recorded by the author to explain and clarify the concepts of the skills and methods of performing them on piano, and viewing both tutorial and the final performance.

Research Design

The Piano-2 course sample consisted of specific music blogs selected by the author from a group of blogs of Piano-2 course assigned to first-level undergraduate students in the department of music education at faculty of specific education.

Table 3 . The paper musical blogs

Piano 2 course content items	Paper musical selected blogs
2 exercises of Beyer op.101	Exercises no. 45,50
2 exercises of Czernyana	Exercises no. 5,19
An eastern piece	Pafta Hindi by Belkece Abass
A western piece	In May by Franz Behr

These musical blogs were selected that it suits and satisfies the various skills levels of the first-year learners, in addition it contains the various musical skills which need to acquire, and master in performing by them.

The author prepared, designed , and developed the learning environment for piano-2 course through the blended piano learning environment, with the aim of efficiency in skill acquiring by determine musical learning objectives of piano-2 course, a) Muscle flexibility of the five fingers for both hands. b) Performance in the correct pitches on piano. c) Performance at the required speeds. d) Tempo maintaining. e) Performance in legato and staccato styles. f) Performance according to slurs with maintaining musical breath while moving from a slur to another without breaking the tempo. g) Performance according to expression terms and dynamics. h) Performing different forms of left-hand accompaniment : Melody, and Harmony chords. I) Performing different finger swiping over the repeated tone.

The blended piano learning method used was the rotation method in which learners learn first through a schedule of independent online videos that recorded by the author, then a meeting face to face classroom session.

Table 4. Weekly break down by learning session and duration

Model	Timetable Periods					
	1st lecture	2nd lecture	3rd lecture	4th lecture	5th lecture	6th lecture
Control Group	Class work 1 hour per learner	Class work 1 hour per learner	Class work 1 hour per learner	Class work 1 hour per learner	Class work 1 hour per learner	Class work 1 hour per learner
Experimental Group	F2F : 1 hour E Learning : half-hour per learner	F2F : 1 hour E Learning : half-hour per learner	F2F : 1 hour E Learning : half-hour per learner	F2F : 1 hour E Learning : half-hour per learner	F2F : 1 hour E Learning : half-hour per learner	F2F : 1 hour E Learning : half-hour per learner

The qualitative data has been collected by pre-post performance observation card designed by the author, and an attitude questionnaire of a Likert scale towards blended piano learning, which requires from the learners to specify his agreement or disagreement with specific options, which are (Agree – Neutral – Disagree). Grades were given (3,2,1) respectively, so the total score of the scale ranges from (10-30).

The author has conducted the pre-application of the attitude scale to verify the equality of the two paper groups, in addition of the homogeneity between them, and the absence of the significant difference before applying the experiment. The result of the pre-measurement was:

Table 5. Comparison between the two studied groups according to attitude scale (pre experimental**)**

Attitude scale (pre experimental)	Experimental group (n = 5)	Control group (n = 5)	t	p
Min. − Max.	12.0 − 25.0	15.0 − 23.0	0.362	0.727
Mean ± SD.	16.40 ± 5.18	17.40 ± 3.36		

SD: **Standard deviation   t**: **Student t test**
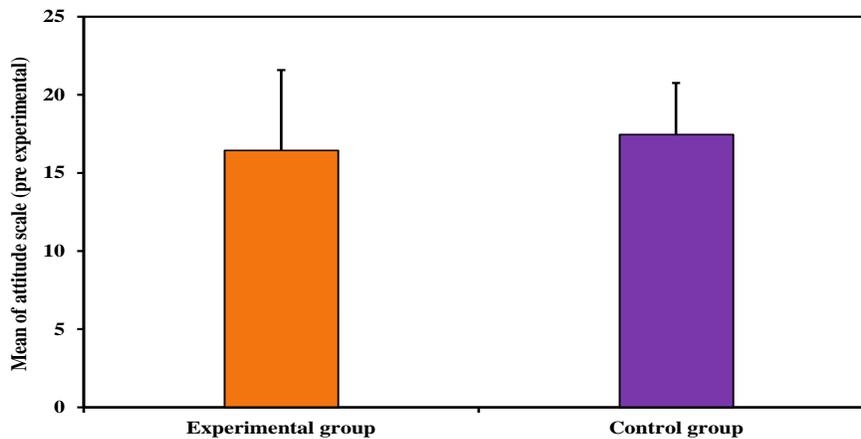p: p value for comparing between the studied two groups

Figure 2. Comparison between the two studied groups according to attitude scale (pre experimental)

Based on table (5) and figure (2), the first assumption of independent samples t-test analysis is a condition known as homogeneity or the variances between the two groups must be similar. SPSS student t-test was used to test this assumption. The p-value of the test was (0.727) which is more than (0.05), then it is clear that the assumption is met, it is assumed that the variance in the two groups are the same.

The author has informed the learners of the experimental group with a set of instructions pre starting of the blended piano learning. a) The necessity of printing the blogs, as the author has uploaded them in the form of a PDF files. b) Login to receive explanation and performance videos pre the appropriate face to face training on performing the blogs during the sessions, in order listening to their performance, providing, musical guidance, identifying their performance errors, holding discussions, and answering any questions.

For statistical processing of the results, a comparison of two independent sample, and a comparison of pre-post results. Learners t-test was used to compare the experimental and control groups to evaluate the statistical significance of the difference between the groups and the reliability of the obtained results.

Ethical Issues

The paper was approved by the ethical committee. The paper addressed bioethics norms, such as anonymity, tolerance, informed consent of respondents to participate in, as well as principle of academic integrity. No special funding was allocated for the paper, and there was no conflict of interest.

Analysis of Findings

Using SPSS 24 data analysis methods to determine whether there is a statistically significant difference between the academic achievement averages of experimental and control groups, the findings is shown in table (6)according to independent samples t-test analysis.

Table 6. Comparison between the two studied groups according to performance observation card (post experimental**)**

Performance observation card (post experimental)	Experimental group (n = 5)	Control group (n = 5)	t	p
Min. – Max.	261.0 – 269.0	199.0 – 262.0		
Mean ± SD.	265.6 ± 3.21	247.6 ± 27.26	1.466	0.181

SD: **Standard deviation   t**: **Student t test**
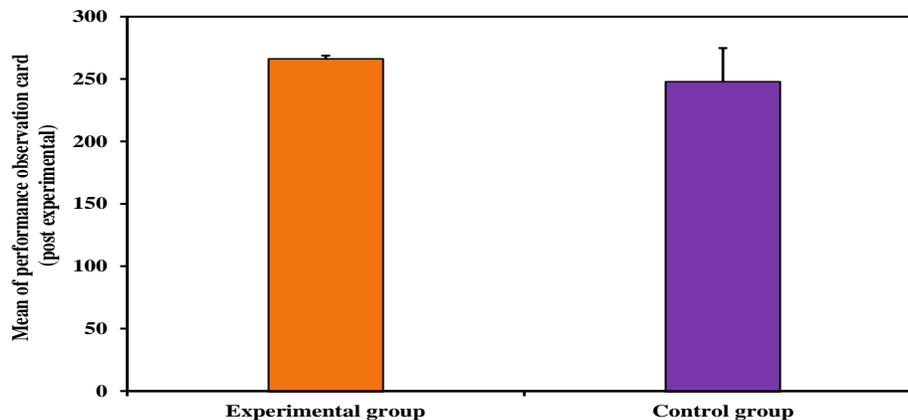p: **p value for comparing between the studied two groups**

Figure 3. Comparison between the two studied groups according to performance observation card (post experimental)

Based on table (6) and figure (3) the p-value was more than 0.05, which meant there was not a significant observed increase in the scores compared in both the two groups. It indicated that there was not a significant difference between the average marks of experimental group studied under BPL, and average marks of the control group studying under the traditional way of piano teaching, but there was a progress for the experimental group over the control group, as the figure showed.

Table 7. Comparison between the two studied groups according to attitude scale (post experimental)

Attitude scale (post experimental)	Experimental group (n = 5)	Control group (n = 5)	t	p
Min. − Max.	25.0 − 30.0	15.0 − 25.0	4.445[*]	0.002[*]
Mean ± SD.	27.0 ± 1.87	18.0 ± 4.12		

SD: **Standard deviation**   t: **Student t test**
p: **p value for comparing between the studied two groups**
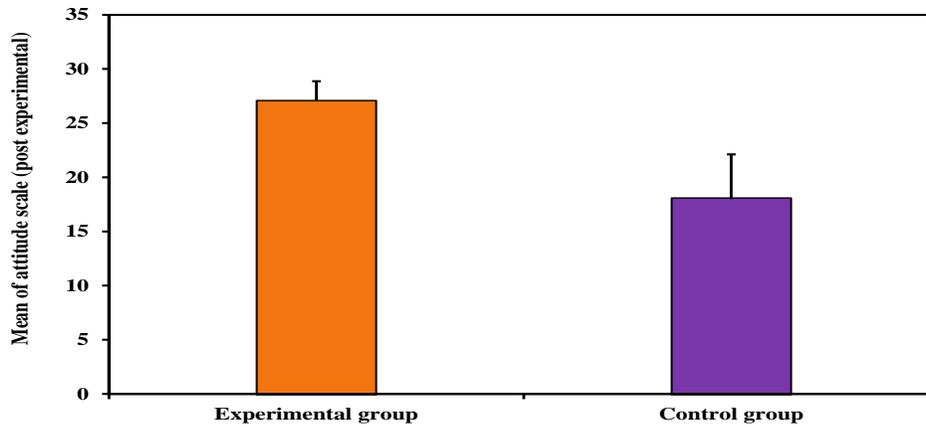*: Statistically significant at $p \le 0.05$

Figure 4. Comparison between the two studied groups according to attitude scale (post experimental)

Based on table (7) and figure (4) the p- value was less than 0.05, which meant there was a statistically significant observed increase in the scores compared in both the studied two groups, experimental group average was (27.0) while control group average was (18.0). The results showed that there was a significant difference between the average marks in the attitude towards blended piano learning of experimental group studied under BPL and the average marks of control group studied under traditional way.

Table 8. Comparison between pre and post experimental for attitude scale

Attitude scale	Pre experimental	Post experimental	t	p
Min. – Max.	12.0 – 25.0	25.0 – 30.0	6.758*	0.002*
Mean ± SD.	16.40 ± 5.18	27.0 ± 1.87		

SD: **Standard deviation**   t: **paired t -t test**

p: p value for comparing between **pre** and **post** experimental
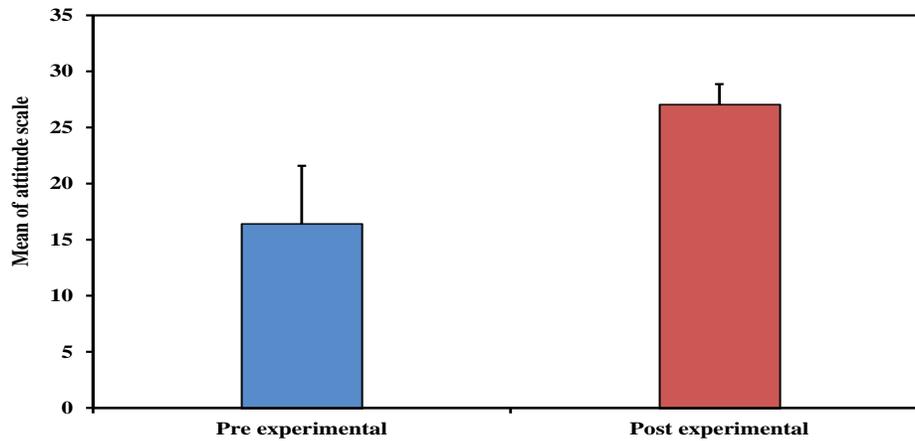
*: Statistically significant at p ≤ 0.

Figure 5.Comparison between the two studied groups according to attitude scale (post experimental)

Table (8) shows a significant gained difference between pre and post measurements according to attitude scale for the experimental group. To measure the statistically significant between pre and post application of the attitude scale according to experimental group, paired t-test for normally distributed quantitative variables was conducted on gain. The pre application average was (16.40) while the post application average was (27.0). Thus, the results shows that there is a substantial gain between pre and post experiment application.
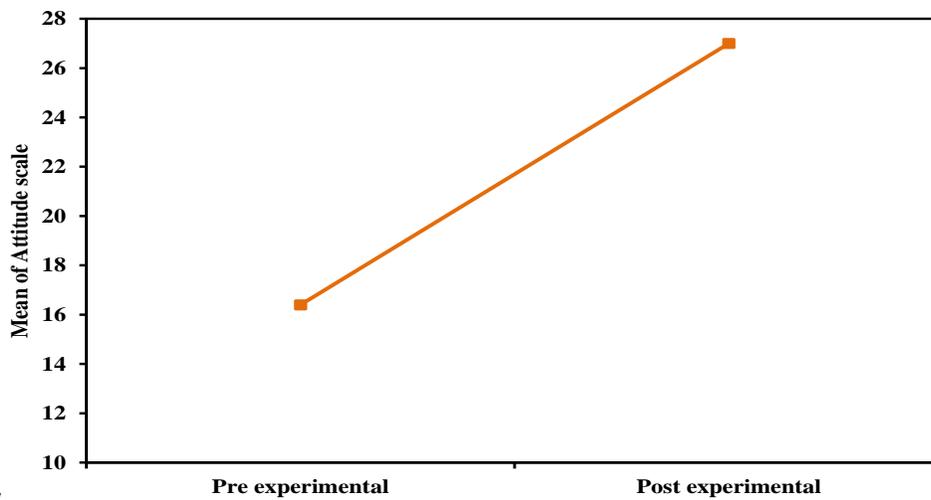
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Figure 6. The estimated marginal means of measure for pre and post application of the attitude scale

Based on figure (6) the estimated marginal mean difference of the two point is illustrated. The change of the post experiment application of the attitude scale on experimental group was considerably higher than the changes in the pre application. Thus, it is very much visible and can be assumed that the improvement of post attitude scale application is higher than the pre one.

Discussion

This experimental paper focused on using blended learning strategy in order to teach piano 2 course for grade 1 to 10 Egyptian learners. The impact of the specially designed blended of piano course on learners was analyzed through performance observation scale card and an attitude scale towards blended piano learning to verify the validity of the hypotheses and answering the paper questions. It can be said in general, the calculated effect size undoubtedly indicates that the independent variable (teaching piano using blended learning strategy) led to the superiority of the experimental group that studied the content of piano 2 course using blended learning environment over the control group that studied the same course in the traditional way. There was not a significant difference in the mean of performance observation card results between the two groups at the conclusion of the experiment, however there was a recognizable progress for the experimental group over the control group. The author attributes this result to the achieved better learning of blended learning environment for the learners by informing them of the course content (explanation and performance pre recorded videos) at any time and in any place, repeating, and recalling it in case the need to return to view it them again through mobile / tablet devices.

Using blended learning in teaching the piano also helped provide the opportunity for weak learners in performance achievement since facilitating the learning progress their understanding of theoretical concepts, and the achievement of the various performance skills for the course (Chamila N.E.& David A. & Md Gapar Md Johar,2019). Since the mean scores are higher in the experimental group and the p-value is significant at the confidence level according to attitude scale post application, the data analysis results indicated that the blended piano learning strategy has provided the experimental group learners with positive attitude towards the process of blended piano learning, the author deduced this from their positive response to the questions of the attitude scale in its post-measurement, where the mean reached (27.0) for the experimental group, while the control groups' mean reached (18.0), which indicated the enhancement of the paper experience using blended learning strategy in piano teaching the positive attitude towards blended piano learning environment.

The flexibility of accessing information in any place, and any time without being limited by the boundaries in blended learning environment was the main reason of increasing the performance

skills level of the learners, the real interaction with the instructor was another major benefit to achieve the learning objectives with greater quality, better acquisition, and development of performance skills, encouragement of continuous learning, increased interaction of learners, eliminate the boredom that they face in the traditional teaching process, in addition to develop their research skills, and self-learning, all of this is in turn helped in achieving the desired learning goals, and increasing the quality of acquiring the piano 2 course performance skills, and the results were supported by many prior studies (Jihae S.,2023& Dong L.,2022 & Carol J.,2016 & Jason C.W.C.,2023).

All these prior studies also concluded that blended learning can be the best instructional method for teaching music.

Conclusion

This paper addressed the subject of blended piano learning placement in teaching and its' impact on piano performance skills of learners and on their attitude towards it. Blended piano learning refers to a combination of different learning methods and resources to enhance the piano learning experience (Jihae S.,2023). The author used a mix of traditional in person lesson, online pre recorded videos, and self-study techniques. Blending different approaches allows for flexibility, personalized instruction, and access to a wide range of learning materials.

The intensive blended piano learning course can be a fitting instructional design for a modern music class, especially in saving a great deal of effort and time for both learners, faculty members, and their assistants while teaching piano courses in the traditional way, since only the entire teaching session time is available for the learner performance on the piano, providing musical instructions, correcting performance errors, evaluating musical performance, and training for the correct performance. The author also concluded the positive impact of using blended learning to teach piano courses on raising the level of achievement, and acquisition of the necessary performance skills for the piano in learners of the experimental group compared to learners of the control group studied with traditional method (Farhad S.,2017), as well the positive impact of blended learning placement on the attitude of experimental group learners towards blended piano learning process compared to control group learners.

The experimental group learners have agreed 100% that they did not face any problems or difficulty during the experiment by conducting a standardized face to face interview with a specific number of questions with them, However, its' important to consider some potential challenges and limitations of a blended learning strategy placement: a) its' may not suitable for all learners, some may prefer a more gradual learning approach to fully internalize concepts and skills. b) while blended learning offers flexibility, some individuals may still benefit more from a

different instructional design, as one-on-one coaching or group classes. c) Both teachers and learners need a good internet high speed connections and programs to be able to access online contents quickly and easily in order keeping the dynamics of the classroom instruction following (Inkeri R. &Heikiki R.,2016).

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