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THE IMPACT OF TEACHING ORIENTAL MUSIC USING BLENDED LEARNING APPROACH

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ABSTRACT

Purpose – The purpose of this experimental study is to investigate the impact of teaching Oriental Music using Blended Learning (BL) approach for the students of senior secondary level in Sri Lanka specifically focusing on their achievement on required competencies of Oriental Music at Ordinary Level. The study analyzes the academic performance of students with detailed comparison of BL environment and traditional learning environment. Authors propose the application of BL approach to teach Oriental Music and study its impact on improvement of students' competency. The study is conducted with the application of a mixed instructional design model of objectivist and constructivist approaches for the design of the blended learning course in a student centred learning environment.

Methodology – The study was directed by using true experimental study design with pretest and posttest control groups. BL was applied to the experimental group and the traditional instruction method was applied to control group. 9 schools from Colombo district were randomly selected for the experimental and control groups covering

all the three existing school types of Sri Lanka. The study group consisted of 360 students of Grade 10 and Grade 11 who has been studying Oriental Music as a subject for General Certificate of Education Ordinary Level. To analyze the data Descriptive statistics, Paired samples *t* test, Independent samples *t* test were utilized.

Findings – The findings of the experiment indicated that students who have studied Oriental Music under BL strategy showed a significant improvement in their music academic performances after the intervention. The mean post-test of the experimental group was 71.75 which is significantly higher than the mean control group which was 52.07. The mean difference was 19.68±1.91. Hence, there is a statistically significant increase in the performance of students who studied Oriental Music under blended learning. Thus, it is clearly evident that the blended instruction was effective.

Significance- This study indicated a positive platform to mould and cater the entire teaching learning process by introducing BL strategy to Sri Lankan secondary education system and fulfilled an existing research gap by utilizing BL to teach highly traditional abstract art. Results of the study contributes to the curriculum designing field with novel ideas to adapt blended instructions to teach secondary level students effectively.

Keywords: Blended learning, instructional design model, objectivist and constructivist mixed approach, secondary education, technology based music education.

INTRODUCTION

Over the previous decade Blended Learning (BL) has expanded its focus on the theme of instructional design in secondary education as a medium of instruction that blends digital technology with traditional courses to increase the capability of teaching a difficult concept or as a supplementary educational material for dispersing information among an expansive group of learners (Crawford, 2017). In this regard, Watson (2008) suggested that blended learning is an effective approach, which allows teachers to utilize online materials in face to face platform. Similarly, Bonk and Graham (2012) also added that BL transforms traditional learning approach with immense potential and creativity value for end users. Fundamentally, blended learning

is an effective integration of various delivering mode, combining interactive contents and adopting multi stages of learning, which eventually facilitate both teachers and students achieving their learning goals (Nguyen, 2017; Fauzi & Hussain, 2016).

Undoubtedly, music is one of the integral part of our society, especially in subcontinent. As Western Music has been well adapted by western countries, Asian countries like India, Persia, Japan, Korea, China, Malaysia, Sri Lanka have also adapted oriental music. Thus, it. is eitheer called Oriental or Eastern Music. This study mainly emphasizes music of Sri Lanka as the context of learning Oriental Music. Music is one of the main aesthetic subject in Sri Lankan general education system. Besides this, methods of teaching music has been gaining a significant attention from many prominent music schools around the world. Heitanen and Ruismaki (2017) mentioned schools are being urged to change the way they teach music in 21st century.

In relation with teaching music, several researchers clearly pointed out that lack of verification on gaining knowledge in the traditional setting is the key concern to ameliorate (Crawford, 2017; Heitanen & Ruismaki, 2017). On the other side of the coin, Pinto-Llorente, et al. (2017) examined the effectiveness of online approach in music and suggested that lack of face-to-face interactions was also a major concern for pure online approach. Despite having immense potentiality, many educational institutions are still reluctant to implement BL in secondary education, in fact Sri Lanka is no exception.

This paper explores the effective use of BL in secondary level of education in Sri Lanka goes into considerable detail to find out the efficiency of BL strategy to design and deliver Oriental Music practical and theory instructions. Related to this learning, which is already in use at university and secondary level of education worldwide in spite of the fact that it has not yet been connected to secondary education system in Sri Lanka and principally not for music education. Moreover, this research is one of the few early initiatives in Sri Lankan schools to investigate the teaching of Oriental Music using blended approach.

With greater consent, Jayaweera (2010) has highlighted that due to lack of facilities and poor teaching qualities, the demand for private

tuition has escalated in Sri Lanka. The students' attitude towards learning music has not been positive. The evaluation report of the Department of Examinations Sri Lanka indicated that the drop-out rate for this course has increased annually. In such a background there is an urgent need to reform the teaching learning methods in general education system especially in senior secondary level of education. Music education at present includes several components of musical behaviours such as singing, playing musical instruments, music appreciation, working with musical notations, music composing and reflecting on music listening and performances (Hogenes et al. 2016). Hence, Music is a subject, which requires close supervision by the teacher to ensure these ultimate learning outcomes are achieved. When the teaching approach is enriched with online resources and collaborative learning process would be definitely creative and effective. However, there is no empirical or experimental evidence that BL can enhance students' learning experience, especially in Oriental Music. More specifically, there is significant lacuna in investigating the effectiveness of BL for teaching Oriental Music. As a result, this study endeavours to understand the effectiveness of BL and also tries to give an experimental evidence of the effectiveness of blended learning for teaching Oriental Music. Additionally this paper presents blended learning as an instructional design strategy for teaching Oriental Music in secondary education system in Sri Lanka in order to identify how instructional technology can help students to achieve targeted competencies at a certain educational level. Self-instructed online learning, exclusive electronic learning, face to face class room teaching and activity based learning are the four major building blocks of blended learning strategy (Rukonon and Ruismāki, 2016). The use of blended approach in Sri Lankan schools is not prominent, not only in music education, but in the other courses. Thus, this research can help to shade some light into BL initiatives in Sri Lanka. Indeed, findings of this study will help secondary education system to develop an appropriate curriculum with holistic perspective for music courses by integrating cutting edge technology. The findings of this study will help to enrich music education in the long run that eventually helps the society by moulding future children with soft skills such as, creative thinking and creative skills, development of skills and attitudes for effective living, sense of appreciation through environment, respecting others' opinions, development of high sentimentality and above all by producing a balanced personality to the society.

LITERATURE REVIEW

Blended Learning

Concept of BL has been evolving for almost two decades. Bayram and Hamit (2014) classified the historical backdrop of BL into three fundamental time lines. Namely, first attempt (1999-2002); definition period (2003-2006) and popularity period (2007-2009). In contrast to initial two periods, numerous researchers at popularity period explored the effectiveness of BL. Among them, Hughes (2007), directed an action research on undergraduate students. Her primary aim was to comprehend on how to reduce significant amount of effort for lecturer on developing teacher centric syllabus. Based on her findings, it is clear that BL helps a lecturer to manage their time effectively with less effort. Additionally, she also concluded that with the right set of blended learning and proactive students' engagement, it can enhance the entire education system. Similarly, El-Deghaidy and Nouby (2008) investigated the effectiveness of BL and suggested that students' motivation and attitude towards learning changed dramatically with the implementation of BL approach. They also identified a significant improvement between control and experimental groups in their assessment, which can be the most appealing feature of BL. Furthermore, they also associated significant behavioural change between experimental and control groups. More specifically, experimental group has relatively more favourable view toward BL approach than control group. Woltering et al. (2009), similarly, concluded experimentally that BL can improvise students' motivation, satisfaction, and competency in learning, subsequently strongly recommended to adopt BL approach in every educational institution.

A Mixed Objectivist and Constructivist Model of Instructional Design for Blended learning

Over the last decades, instructional design (ID) research has been getting immense attention in educational research due to dramatic change in technological advancements and students learning attitudes. Most of these researchers substantiate the fact that ID savours a perfect appreciation of scientific community. Additionally, ID has greater acceptance in the realm of vocational and higher education

in North America and has been gradually emerging in Europe and Asia (Seel et al. 2017). Reiser and Dempsey (2007) defined ID as a systematic development of educational and training program with the ultimate aim of improvising students' competence. In order to preserve the quality of learning, Chen (2007) recommended that instructional design strategies ought to be modified. She advocates that an intensive online course is always time constraint and objectivist-constructivist mixed approach might be appropriate in this regard to create productive learning. Constructivist instructional design has its quality brought about in meaningful learning, whereas objectivist instructional design has a favourable position to create efficient learning. Regarding this mixed model, Chen (2007) depicted that when utilizing constructivist models, designers are guided to recognize the learning spaces of the content and identify fairly complex problems to be studied within the distinguished learning domains. Moreover, by identifying learning components which the designer feels are fundamental inside the addressed domain and mapping multiple paths through cases by providing tools for learner to set his own objectives and decides the direction. Encouraging self-guidance also assist the student with deciding what to do next based on self-reflection. In relation with convergence of objectivism, Jonnassen (1991) proposed that learners are relied upon to brood thought in their brain by applying both substance and structure. The motivation behind the objectivism is to recognize and comprehend the substances, attributes and causal relationship that characterizes a definitive objective reality. There are times that more objectivist approach is fitting and there are distinctive conditios that more constructivist approach is appropriate. Vrasidas (2000), emphasized on this matter and mentioned that it is mainly relying on the context, content, resources and learners. Present day communication technologies have the adequate capacity to give an interactive learning environment backing instructional strategies which is required to encourage constructivist principles.

Technology and Music Education

The theoretical component of music is information-based. It usually communicates information to the students and practical components are performance-based which, involves the building of practical skills that the student is expected to increase. Munteanu et al. (2014), applied ICT based blended instructions to teach arts education in

both primary and secondary level in Romania. They identified BL relatively more effective than other two methods, namely only faceto-face and only online instructions. Additionally, they suggested that multimedia contents ought to be chosen or structured by the instructors and in the meantime, they must be as per the applicability in the learning procedure and students' discernment. They focused on technologies which fused art lessons, promoted experiential learning, stimulated students' interrogative spirits and consolidated the autonomous work with the group works. Additionally the researchers have seen an empowering gain in student's creativity and meta-cognition, as well as particularly expanded nature of the exercises given by the art educators. Besides this, many recent studies emphasised on the importance of technology based music education favouring the interactions on student and teachers (Smith, Hayes & Shea, 2017; Chiu, 2012; Leon & Castro 2014). In their quest, Leon and Castro (2014) aimed at the usage of ICT to enhance the students' knowledge of the professional world of Music. Referring to the flexibility of blended learning environment, Hietenan and Ruismäki (2017) confirmed that they widely utilized the possibilities offered by the blended learning environment to study music theory required for teachers especially for primary level. In favour of this, Jenkins and Crawford (2016) concluded that blended learning can improvise music learning environment for all levels of participants. On the contrary, Ruokonen and Ruismäki (2016) explicitly expressed in their findings that despite technology enhanced music education, face-to-face instructions is yet of utmost importance as music is a very intuitive subject. In their study, they postulated that blended learning would be the best approach to overcome the limitation of online music learning. However, none of these studies provided any empirical evidence of the effectiveness of blended learning in improvising students' competence in learning music. As a result, this study emphasised on the effective usage of blended learning for improving students' competencies in Oriental Music at senior secondary level of education.

Blended Learning and Music Education

Music is an abstract art. With regard to the nature of the teaching method of the subject, implementing a new approach for teaching and learning process through BL especially for Oriental Music instructions presents a significant benefit for teachers to teach the art proficiently (Chiu, 2012; Leon & Castro, 2014). The subject

itself requires one to one coaching, mainly because music is meant to be learnt by adapting and imitating the teacher. Improvisation, extempore performance, and music creation are challenging competencies where students would not be able to achieve individually. The time allocated for the music lessons is limited. Hence, a mixed instructional design model combining both the features of objectivist and constructivist methods of instructing and learning would be a distinctive strategy to be utilized for intensive BL course (Anwar et al. 2018).

Blended Learning and Oriental Music

Several researchers suggested that the BL instruction method can significantly boost students' competence in learning Oriental Music (Kao & Chen-Tai, 2018; Leopold & Debora, 2018). Most of them suggested that BL instruction for Oriental Music must have an appropriate combination between face-to-face interaction and online learning and the recommended ratio is 60:40 respectively (Kao & Chen-Tai, 2018). Additionally, many researchers in the music arena, especially in Oriental Music, argued that traditional instruction is no longer appropriate for teaching any type of music (Shahid et al. 2018; Kung, 2016). They proposed student-centric instruction and highly recommended the BL as one of the best fitted instructional methods for teaching oriental music. They also stated that in order to obtain a sustainable competence in Oriental Music, a careful and attainable pedagogy is required. BL boosts students' intrinsic motivation for self-direct learning, in fact, in many occasions students can evaluate each other through this BL platform, which eventually makes learning Oriental Music more interesting and with an impact than traditional method (Sarah, 2017).

METHODOLOGY

Blended Course Design

When an objectivist, constructivist mixed approach is adjusted to design a blended course, outlining can be effectively directed as indicated by the routine school terms in Sri Lanka with the available technology. The recent statistics from the Ministry of Education, Sri Lanka revealed a launch of the Moodle network to 300 senior

secondary schools with WAN connection through SchoolNet. This is a favourable environment to introduce technology based instructions in government schools. Sri Lankan secondary education strictly adheres to traditional teaching methods. In teacher centred classroom situations, mainly the lecturing method is adapted. In order to conduct this experiment, this research designed the BL course by proportionating 50 percent of face to face learning and 50 percent of online learning 50 percent. Researchers developed the blended course using objectivist and constructivist instructional design strategies for both the teaching and learning process. Table 1 shows the adapted features.

Table 1

Instructional Design Approach

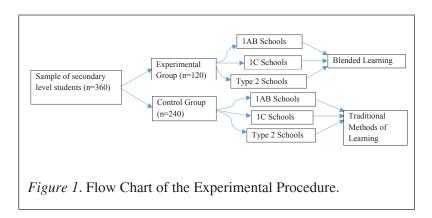
Activity	Objectivist Features	Constructivist Features
Music Practical and theory lessons	 Teacher led face-to-face instructions Selected competencies Define learning goals associated with skills Lecture demonstrations Explained music practical/theory learning outcomes Structured learning environment with efficient lesson plans Assessment aligned with learning goals Acquisition of music knowledge 	Student controlled online learning platforms (Moodle) Lesson activities Group activities for knowledge construction (for both theory and practical) Practical demonstrations of students for knowledge construction (For practical lessons only) New media integrations such as audio and video materials usage Summative assessments on group activities Self-assessments on music practical knowledge

Source: Modifications by authors

Blended lesson plans were developed according to the 5E instructional design model considering Engage, Explore, Explain, Elaborate and Evaluate. These lesson plans were compartmentalized

respectively within the 5E features and focused on competencies which were difficult for students. Competencies such as, displaying practical abilities in singing/playing identifying the fundamentals, techniques and principles in Music, experiments in the creative works of music, studies on technological equipment and the physical foundation of music and presenting performing abilities, were the main study focuses which addressed to teach using BL. The normal 80 minutes study periods per week, was divided into 30 minutes face to face instruction and 50 minutes lab instructions. Student engagement was done with technology adaptations. Exploring the lesson was done using the LMS (Moodle).

Experimental Procedure



The designed course was offered for a duration of 6 weeks for the Grade 11 students and a duration of 8 weeks for Grade 10 students. The course was directed at Colombo district schools in the third school term (September to November 2017). These schools comprised of all the three school types which is prevalent in Sri Lanka mainly referring to the extent of generalizability of the causal study. These school types are,

- > 1AB- Schools with all the streams in Advance Level
- > 1C- Schools with only Arts and Commerce streams in Advance Level
- Type 2- Schools up to Ordinary Level

The proposed experimental pre-test and post-test control-group design for this study, comprised of a classical and traditional design

involving random assignment. Students were divided into two groups. Both the groups were administered with the pre-test and the post-test. The treatment provided was a new learning experience within a BL environment only to the experimental group. Students who have access and friendly usage with the computer assisted learning was given priority while selecting to the experimental group. These students were registered to the David's Learning Centre LMS Moodle and online learning was done through this. The face-to-face teacher oriented/led sessions were conducted with the maximum usage of multimedia presentations and technology adaptations like audio video supplementary materials. At the same time, the control group students learned under strictly traditional methods, utilizing only the chalk and talk method. Lecture demonstrations were only done using available music instruments.

Data Collection Method

Following the guide lines of this classical design, the researchers involved random assignment of 9 schools from Colombo district and the students who have been studying Oriental Music for the Ordinary Levels. Thus, students from these 9 schools within Colombo district, were selected to participate in the study. In total, there were 360 participants from 9 schools and these students were divided into two equal groups of experimental and control, encompassing all the three prevalent categories of government schools in Sri Lanka. Both the groups were evaluated with a pre-test and a post-test but the treatment was provided only to the experimental group.

Achievement test papers which were given as pre and post tests and these were the main instruments of this study. To administer/evaluate the student's competency in Oriental Music Theory and Practical tests of vocal and instrumental were conducted at pre and post levels. Test papers were carefully prepared by the researcher and scrutinized by the expert paper setters of Ordinary Level Oriental Music. Standard practical criterions were adapted to measure the students' practical competencies. After the test, an aggregated mark was allocated to the students.

RESULTS

Using SPSS 24 data analysis methods research analysis were made to the experimental group and control group and results were constituted according to the analysis. Summary of the findings is shown in table 2. In order to identify if there is a significant difference between the academic achievement averages of both the groups independent samples, t-test analysis is used. Independent samples t-test is used to test if there is a difference in a measured characteristic between the two populations. The same analysis type is used in a previous study by Kazu and Dermikrol (2014) for the same purpose.

Table 2

Homogeneity Test

Levene's Test for Equality of variance				t- test for Equality of Means		
F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	
2.065	0.152	5.278	358	.000	6.492	

P > 0.05

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. In SPSS the Levene's test is used to test this assumption. The *p*-value of the test is 0.152 which is more than 0.05 then it is clear that the assumption is met. It is assumed that the variance in the two populations are the same. The two tailed *p*-value of the test is 0.000, which is less than 0.05 thus the analysis shows that there is a significant difference in mean marks between the experimental and control group. It significantly indicates that there is a difference in gain between experimental group and control group.

Comparison of Immediate Post Results

Based on table 3 the p-values are less than 0.05, there is a significant increase in the scores compared to baseline in both the two groups. At the end of the intervention it indicated that there is a

Table 3

Summary of the Findings

N	Groups	Test Type	Mean	Mean Difference	SD	Std. Error	P-value
120	Experimental Group	Pre Test	55.64	16.11	17.116	1.563	
		Post Test	71.75		15.522	1.417	0.000
240	Control Group	Pre Test	42.45	9.62	18.876	1.218	
		Post Test	52.07		19.648	1.268	0.000

significant difference between the average marks of experimental group studying under BL and average marks of the control group studying under the traditional method of teaching. Table 4 shows a significant gain difference between experimental group and control group on the achievement marks average after the interventions. To measure the characteristics between the two time points of the experimental and control groups paired sample *t*-test was conducted on gain. Panyajamorn et al. (2018) used the same analysis to find the difference in marks between the pre-test and post-test.

Table 4

Results of Paired Samples t-test on Paired Difference

Group	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper	t	df	Sig. (2-tailed)
Experimental Group Pair 1 Pre-test- Post test	16.11	9.648	.881	17.852	14.364	18.289	119	.000
Control Group Pair 1 Pre test-Post test	9.62	11.617	.750	11.094	8.139	12.825	239	.000

P<0.05

When table 4 was analysed between the average scores of experimental and the control groups in the pre-test and post-test, there was a significant difference according to the paired samples t-test results. Experimental group average gain difference is 16.11 and the control group average gain difference is 9.62. Thus, the result shows that there is a substantial gain difference between experimental groups who studied under BL than those who studied under traditional method. The two tailed *p*-values of both the groups are 0.000 which is less than 0.05. The 95% confidence interval for mean difference for experimental group is [14.364, 18.289] and for control group is [8.319, 12.825], which does not contain the tested value of 0. Thus, it is very much clear that there is a considerable improvement in the control group as well. However, when compared to the experimental group the gain is twice as much as the control group. This achievement is indeed a significant finding of the study, as this was the first blended learning experience of the students at secondary level in Sri Lanka who have never undergone blended learning training before.

The figure 2 shows the estimated marginal means of measure for experimental and control group.

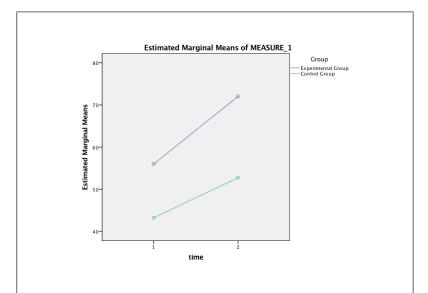


Figure 2. Profile Plot for the Marginal Means of Experimental and Control Groups.

Based on Figure 2 the estimated marginal mean difference of the two time points is illustrateed. The changes of both the groups differ over time but it's clearly visible that the changes of the experimental group was considerably higher than the changes in the control group. Thus, it is very much visible and can be assumed that the improvement of experimental group is higher than the control group. It is almost twice the time of the control group who studied in the blended learning environment.

DISCUSSION

This experimental study focused on using blended learning strategy to teach Oriental Music for Grade 10 and 11 students. The effectiveness of the specially designed blended course on students was analysed through achievement tests on two time points. Findings of this experimental study disclosed that the students who studied under blended learning environment, performed better in Oriental Music than those who studied under the pure traditional method. There was a significant difference in the mean of achievement test results between the two groups at the conclusion of the experiment. It has been identified that there was a significant difference between the pre-test and post-test. (The students who had studied in the blended learning environment scored average marks.) Test marks were average of the students who studied under blended learning environment. Whilst constantly consolidating the gain of the experimental group it has also been observed that there was a positive increase on the achievement test average of Oriental Music students who studied under both the learning environments. Since the mean scores are higher in the experimental group and the p-value is significant at the 95% confidence level, the data analysis results indicated that the blended learning strategy has turned out be effective for teaching Oriental Music at senior secondary level of education. Therefore, the blended learning strategy has a positive effect on improving students' competency in Oriental Music.

"Providing a resourceful and supportive learning environment has a significant impact on students' learning success (Chen, 2007)". The flexibility of accessing information in any place, anytime without being limited by the boundaries or spaces with blended learning environment was the main cause to increase the performance

level of the students. The real time discussions with the instructor through the Moodle applications was another major benefit which the students acquired throughout the intervention. The practical and theory concepts which were difficult to be understood was overcome as they were motivated to seek clarification through the discussion forum. This led to the students to be better informed rather than stay in quandary till the next face to face sessions. The supplementary audio and video materials which were especially prepared and uploaded to the LMS for the weekly lessons, played an intrinsic beneficial role for the students, as it covered all the practical and some theory components which were highly difficult for the students to understand in the absence of the music teacher.

The primary aim of this study was to investigate the impact of teaching Oriental Music using blended approach in the Sri Lankan senior secondary level of education (Grade 10 and 11). Based on the findings, this research utterly suggested that BL provides immense opportunity for learning any abstract art, Oriental Music in this case. The result of this study accredited to the fact that blended learning is effective for teaching Oriental Music and the results were supported by many prior studies (Kao & Chen-Tai, 2018; Leopold & Debora, 2018; Sarah, 2017; Rukonan & Ruismaki, 2016). All these prior researches also concluded that BL can be the best instructional methods for teaching music in modern distributed learning environments. Additionally, this study proves the benefits of autonomy for self-centred learning in Music. Indeed, this study would be a greater example to the Sri Lankan curriculum designers, education policy makers and teachers to redefine and redesign their course curriculum and teaching methods (Adam;s et al., 2018).

CONCLUSION

This study addressed the subject of Oriental Music which bears abstract qualities. Music is a subject meant for one to one coaching to learn the art proficiently. The intensive blended course is the best fitted instructional design for the modern music class to overcome the time constraint and the burden of the high tuition fees. The effective use of technology, synchronous feedback and interactivity gives a total collective effort to teach the subject within a better cohesion with the traditional methods. These benefits of blended learning

proved that it has a profound potential of moulding secondary education teaching and learning process.

Education is the utmost component in the present knowledge based society. The education system of a country needs an ultimate effort to reform and improve the curricula to suit it to the knowledge economy. Any systematic innovation that contributes to enrich teaching and learning process in this regard with useful approaches and methods would result in a balanced personaity nation. Music is a subject which comprises the potential of nurturing human being mentally, physically and spiritually from time immemorial. This study has offered a blended learning environment for teaching Oriental Music which was a perfect mixture of traditional learning methods and online learning instruction. It indicated an adaptation of self-centred learning, planning and using study time coherently, teach and learn effectively and achieve the desired competencies. All in all using a unique model for blended course by mixing Objectivist and Constructivist approaches giving commendable effectiveness to the design. For blended learning, the LMS Moodle was utilized as well as techniques such as demonstrations and group activities with new media usage was done during the face to face instruction. The significant results that the experiment showed on the usage of prospective blended learning is promising and should be utilized as the method for Sri Lankan secondary education system with the available resources to teach an abstract, performing art. Findings of this study revealed the comprehending of the standards of blended learning, how well it can be used as an instructional design strategy in senior secondary education system in Sri Lanka to adequately bolster the teaching learning process encouragingly and elevate students' competency in a specific study area. Hence, this study shows the importance of the advancement to the curriculum designing field in Sri Lanka to plan and design blended learning strategies that would connect curricula content with enhanced technology, cost effective, and a resource based education.

Several reasons make this research unique compared to other prior studies. Firstly, most of the prior studies primarily focussed on two aspects, namely developing the framework and the implementation process, but this study is one of the few that measured the effectiveness of this innovative pedagogy, which eventually would provide some insightful information to the curriculum designers,

and instructors. On the other side of the coin, among the rare studies measuring the effectiveness of the BL, this research is one of the very few that considered Oriental Music education. In addition to this, it is extremely rare to find such kind of research in the Sri Lankan context, which can be the benchmark for the Sri Lankan education industry, especially for the Oriental Music. This study provides an empirical knowledge regarding the effectiveness of the BL in teaching Oriental Music, which will encourage educational institutions to adopt this novel method in their instructional design. However, generalization of the findings is one of the main limitations of this study. This study mainly focussed on Oriental Music in secondary level, which is different to higher education. The digital divide and the urban rural disparities of technological infrastructure are another major limitation for the implications of this finding which requires to be validated in the context of secondary education. Moreover, further research in this field should be focused on investigating instructional and learning elements capable of developing competencies with other subjects and instructional design models using blended learning.

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REFRENCES

- Adams, D., Sumintono, B., Mohamed, A. & Noor, N. S. M. (2018). E- Learning Readiness among Students of Diverse Backgrounds in a Leading Malaysian Higher Education Institution. *Malaysian Journal of Learning and Instruction*, 15(2), 227-256.
- Alsulami, S., & Abdulaziz, K. (2016). Towards a constructivist approach in Saudi education. *English Language Teaching*, 9(12), 104-118.
- Akyüz, H. İ., & Samsa, S. (2009). The effects of blended learning environment on the critical thinking skills of students. *Procedia Social and Behavioural Sciences*, *I*(1), 1744-1748.

- Anwar-ul, H., George M., Arshad J., Asim M., & Diane S. (2018). Users' perceptions of e-learning environments and services effectiveness: The emergence of the concept functionality model. *Journal of Enterprise Information Management*, 31(1), 89-111.
- Aysel, S. K. (2014). Blended instruction for EFL learners: Engagement, learning and course satisfaction. *Japan Association for Language Teaching*, 10, 175-188.
- Bayram, G., & Hamit C. (2014). The past, present and future of blended learning: An in depth analysis of literature. *Procedia Social and Behavioural Sciences*, 116,4596-4603.
- Bednar, A. K., Cunningham, D., Duffy, T. M., & Perry, J. D. (1991). Theory into practice: How do we link?. In G. Anglin (Ed.), *Instructional Technology: Past, Present and Future*. Englewood, CO: Libraries Unlimited, Inc.
- Bidarra, J., & Rusman, E. (2017). Toward a pedagogical model for science education bridging educational context through a blended learning approach, open learning. *The Journal of Open, Distance and E-Learning*, 32(1), 6-20.
- Bonk, C. J., & Graham, C. R. (2012). *The handbook of blended learning: Global perspectives, local designs.* New York: John Wiley & Sons.
- Campbell, D. T., & Stanley, J. C. (2015). Experimental and quasiexperimental designs for research. Ravenio Books.
- Chiu, S., & Chen, M. (2012). A study on difficulty level recognition of piano sheet music. *IEEE International Symposium on Multimedia*, USA.
- Crawford, R. (2017). Rethinking teaching and learning pedagogy for education in the twenty first centaury: Blended learning in music education. *Journal* of *Music Education Research*, 19(2), 195-213.
- Chen, S. (2007). Instructional design strategies for intensive online courses: An objectivist and constructivist blended approach. *Journal of Interactive Online Learning*, 6(1), 72–86.
- Culatta, R. (2013). Assure. Retrieved from http://www.instructionaldesign.org/models/assure.html
- De León. L. P., & Castro, P. L. (2014). ICT in career guidance. A case study of a "blended learning" career guidance programme for music students. *Procedia Social and Behavioral Sciences*, 116, 2049-2058.

- Deliagaoglu, O., & Yildirim, Z. (2008). Design and development of a technology enhanced hybrid instruction based on MOLTA model: Its effectiveness in comparison to traditional instruction. *Computers & Education*, *51*(1), 474-483.
- Digolo, B. A., Andang'o, E. A., & Katuli, J. (2011). E-Learning as a strategy for enhancing access to music education. *International Journal of Business and Social Science*, 2(11).
- Duffy, T. M., & Cunningham, D. J. (1996). Constructivism: Implications for the design and delivery of instruction, In D. H. Jonassen, (Ed.) Handbook of Research for Educational Communications and Technology, NY: Macmillan Library Reference USA.
- El-Deghaidy, H., & Nouby, A. (2008). Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme. *Computers & Education*, 51(3), 988-1006.
- Fauzi, S. S. M. & Hussain, R. M. R. (2016). Designing Instruction for Active and Reflective Learners in the Flipped Classroom. Malaysian Journal of Learning and Instruction, 13(2), 147-173.
- Gabrielle, D. M. (2002). The effects of technology mediated instructional strategies on motivation, performance, and self-directed learning. U.S. Military Academy Center for Teaching Excellence. doi:10.1.1.497.6773&rep=rep1&type=pdf
- Gagné, R. M., Briggs, L. J., & Wager, W. W. (1992). *Principles of instructional design (4 ed.)*. Forth Worth. TX: Harcourt Brace Jovanovich College Publishers.
- Godino, J. D. (2016). Linking inquiry and transmission in teaching and learning mathematics and experimental sciences. *European Society for research in Mathematics Education*, 16(1), 2642-2648
- Hietanen, L., & Ruismäki, H. (2017). The use of a blended learning environment by primary school student teachers to study music theory. *The European Journal of Social & Behavioural Sciences*, XIX, 2393-2404
- Hogenes, M., Oers, B.V., Diekstra, R. F. W., & Sklad, M. (2016). The effects of music composition as a classroom activity on engagement in music education and academic and music achievement: A quasi experimental study. *International Journal of Music Education*, 34(1), 32-48.

- Jonnassen, D. H. (1991). Objectivist vs. constructivist: Do we need a new philosophical paradigm? *Educational Technology: Research and Development*, 39(3), 5-14.
- Jayaweera, S. (2010). A study on the current school curriculum and its contribution towards the achievement of national goals and basic competencies identified by the national education commission, Vol. 1, Colombo: Sri Lanka Association for the Advancement of Education, National Education Commission, and Asian Development Bank.
- Kao R., & Chen-Tai L., (2018). The usage intention of e-learning for police education and training, Policing. *International Journal of Police Strategies & Management*, 41(1), 98-112.
- Kazu, I. Y., & Dermirkol, M. (2014). Effect of blended learning environment model on high school students' academic achievement. *The Turkish Online Journal of Educational Technology*, *13*(1),78-87.
- Kothari, C. R. (2009). *Quantitative Techniques*, *3E*. India, Vikas Publishing House Pvt. Ltd.
- Kuhn, T. S. (1972). *The structure of scientific revolutions* (2nd Ed.). Chicago, University of Chicago Press.
- Kung W. L. (2016). Understanding creativity competency for organizational learning: A study of employees' assumptions on creativity competency in creative industry. *Journal of Management Development*, 35(10), 198-1218.
- Latchem, C., & Jung, I. (2010). Distance and blended learning in Asia. Routledge, New York.
- Lebow, D. (1993). Constructivist values for instructional systems design: Five principles toward a new mind set. *Educational Technology Research and Development*, 41(3), 4-16.
- Leopold B., & Debora, J. (2018). Student learning opportunities in traditional and computer mediated internships. *Education* + *Training*, 60(1), 27-38.
- Louise, E., & Crawford, R. (2016). The impact of blended learning and team teaching in tertiary pre-service music education classes. *Journal of University Teaching & Learning Practice*. *13*(3), 1-23.
- Merrill, M. D. (2008). Reflections on a four-decade search for effective, efficient and engaging instruction. In M. W. Allen (Ed.), *Michael Allen's 2008 e-Learning Annual 1*, 141-167.

- Muntenau, L. H., Gorgihu, G., & Gorgihu, L. M. (2014). The role of new technologies for enhancing teaching and learning in arts education. *Procedia Social and Behavioral Sciences* 122, 245-249.
- National Education Commission Report (2016) on Proposals for National Policy on General Education in Sri Lanka.
- Nguyen. V. A. (2017). Towards the implementation of an assessment-centred blended learning framework at the course level: A case study in a Vietnamese national university. *The International Journal of Information and Learning Technology*, 34(1), 20-30.
- Sarah S. (2017). Learning for sustainability in the digital world. *On the Horizon*, 25(1), 1-3.
- Shahid F., Rodina A., Mujahid A., Atif A., & Victor C. (2018). A sustainable quality assessment model for the information delivery in E-learning systems. *Information Discovery and Delivery*, 46(1), 1-25.
- Seel, N. M., Lehmann, T., Blumschein, P., & Podolskiy, O. A. (2017). *Instructional design for learning theoretical foundations*. Netherlands, Sense Publishers.
- Smith, S. U., Hayes, S., & Shea, P. (2017). A critical review of the use of Wenger's Community of Practice (CoP) theoretical framework in online and blended learning research, 2000-2014, *Online Learning*, 21(1), 209-237. doi: 10.24059/olj. v21i1.963.
- Panyajamorn, T., Suanmali, S., Khoda, Y., Chongphaisal, P., Supniti, T. (2018). Effectiveness of e-learning in Thai public school. *Malaysian Journal of Learning and Instruction*. *15*(1), 1-34.
- Perera, G. M. T. N. (2009). An evaluation of the process of development and implementation of the new curriculum in grades 7 and 11, Colombo: NIE and World Bank.
- Pinto-Llorente, A. M., Sanchez-Gomez, C. M., Garcia-Penalvo, F. J., & Casillas, M. (2017). Students' perceptions and attitudes towards asynchronous technological tools in blended-learning training to improve grammatical competence in English as a second language. *Computers in Human Behaviour*, doi https://doi.org/10.1016/j.chb.2016.05.071 14.7.2017
- Reddy, S. E. M. (2008). Developing implementing and evaluating computer-based instruction, Unpublished PHD. Dissertation, Indiana State University, The School of Graduate Studies, Terre Haute, Indiana.

- Reiser, R. A., & Dempsey, J. V. (Ed.) (2007). Trends and issues in instructional design and technology. Upper Saddle River: Pearson Education, Inc.
- Ruokonen, I., & Ruismaki, H. (2016). E-learning in music: A case study of learning group composing in a blended learning environment. *Procedia-Social and Behavioral Sciences*, 217, 109–115.
- Shakeel A. K., & Rubina B., (2017). Digital competencies for developing and managing digital libraries: An investigation from university librarians in Pakistan. *The Electronic Library*, *35*(3), 573-597.
- Smith, S. U., Hayes, S., & Shea, P. (2017). A critical review of the use of Wenger's Community of Practice (CoP) theoretical framework in online and blended learning research, 2000-2014, *Online Learning*, 21(1), 209-237.
- Vrasidas, C (2000). Constructivism versus Objectivism: Implications for interaction, course design and evaluation in distance education. *International Journal of Educational Telecommunications*, 6(4), 339-362.
- Watson, J. (2008). Blended learning: The convergence of online and face-to-face education. *Promising Practices in Online Learning*. North American Council for Online Learning.
- Watterson, J. (2012). Blended learning. A synthesis of research findings of Victorian education. 2006-2011. Ultranet and Digital Learning Branch Department of Education and Early Childhood Development Melbourne, Australia.
- Williams, B. W. (2012). The non-traditional music student in secondary schools of the United States: Engaging non-participant students in creative music activities through technology. *Journal of Music, Technology, and Education*, 4(2 & 3),131-147.
- Woltering, V., Herrler, A., Spitzer, K., & Spreckelsen C. (2009). Blended learning positively affects students' satisfaction and the role of the tutor in the problem-based learning process: Results of a mixed-method evaluation. *Advances in Health Sciences Education*, 14(5),725-738.