

Relationship Between the Acceptance of Multiframe Visualization Assisted Teaching Approach (VATA) Interactive With Student Interest and Motivation in Blended Learning Among Music Students in Universiti Pendidikan Sultan Idris

Mohd Haizal Abdul Ghafar

Faculty of Educational Studies, Universiti Putra Malaysia,
Serdang, Selangor, Malaysia

Norliza Ghazali

Faculty of Educational Studies, Universiti Putra Malaysia,
Serdang, Selangor, Malaysia

Received: Nov. 2, 2022 Accepted: Dec. 3, 2022 Online published: Dec. 19, 2022

doi:10.5296/jpag.v12i4S.20576

URL: <https://doi.org/10.5296/jpag.v12i4S.20576>

Abstract

Students in the 21st century have been through and dealing with various teaching technologies to acquire knowledge more quickly and accurately. The learning methods of music education especially in the subject of music can be taught using various learning platforms. Therefore, it is necessary for a student to diversify the learning approaches that are used in the classroom. Blended learning is a method that combines classroom interaction with the use of technology in the teaching and learning process. To facilitate blended learning in learning in music courses, this multiframe VATA interactive is one of the educational technology mediums to assist students in further improving the learning process effectiveness. The objective of this study is to determine whether there is a relationship between the acceptance of multiframe VATA interactive with student motivation and student interest. This research will be conducted at the Faculty of Music and Performing Arts, Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak. The sample was selected based on a simple random sampling method whereby 237 samples will be collected from undergraduate

bachelor music students. This study will utilize a correlational research design. The questionnaire with 46 items was adapted based on the Unified Theory of Acceptance and Use of Technology (UTAUT), Interest Driven Theory (IDC) and ARCS Motivation Theory. The study conceptualized acceptance of VATA in performance expectancy, effort expectancy, social influence and facilitating conditions dimensions while conceiving student interest as having triggering interest, immersing interest and extending interest dimensions and student motivation with attention, relevance, confidence and satisfaction dimensions. Descriptive and inferential statistics will be carried out for data analysis by using Statistical Package for Social Sciences (SPSS) version 27. The findings will be provided further insights into what works in an open online environment as well as to fulfill learners' needs and preferences.

Keywords: Multiframe VATA Interactive, blended learning, motivation, interest, acceptance

1. Introduction

Students in the 21st century have been through and dealing with various teaching technologies to acquire knowledge more quickly and accurately. Teaching and learning methods today consist of many factors that contribute towards 21st-century learning. Learning may take place at any time and in any location, and the settings in which it takes place are becoming increasingly diversified. The fast use of digital technology has resulted in the creation of new digital and blended learning environments, allowing for more access to information and more personalized learning processes (Surian et al., 2019). The COVID-19 epidemic prompted a tremendous shift in education, with all physical classrooms being converted to online classroom.

21st century learning may adapt the curriculum and requirements to teach to the curriculum in creative ways, as well as convert software and hardware developed for a certain instructional model into tools that can be used by people of all ages (Sabila & Gunawan, 2019). Among the factors is the use of educational technology involving the teaching and learning process sophisticated for channelling knowledge either physically or virtually. The rapid development of educational technology especially to students in universities is affecting the changing methods of teaching and learning. The Ministry of Higher Education recommends that each university take a proactive approach for that purpose and among the approaches recommended by the ministry is to implement blended learning methods for selected subjects.

2. Background of the Research

The teaching and learning methods of Music Education especially in the subject of music can be taught using various teaching and learning platforms. Therefore, it is necessary for a lecturer to diversity the teaching and learning approaches that are used in the classroom. Students in the 21st century have been exposed to and engaged with a variety of techniques designed to help them learn more quickly and properly. Today's teaching and learning methods include a variety of factors that all contribute to the achievement of 21st century learning objectives. Referring to the letter of Academic Management Circular No. 2 2021 on 16 February 2021, Universiti Pendidikan Sultan Idris also adopted the National E-Learning

Policy by MOHE with the same implementation stated based on the courses offered by each university that will be conducted in a blended learning (Academic Affair Division, 2021). Educational technology is a term that refers to the process of incorporating technology into the teaching and learning system. It is capable of resolving issues inside the system, yet it cannot, in most cases, be utilised to substitute lecturers during classroom instruction. Despite the use of online teaching techniques, lecturers will continue to be accessible to instruct as necessary (Gaal, 2019).

Practical approaches are strongly emphasized while studying in music programme. Students will be able to focus, practise with lecturers, and finally comprehend the substance of the courses provided as a result of practicals. In the present technological era, the concept of teaching and learning techniques through blended learning has begun to be applied, particularly in the circumstances of the covid 19 pandemic, which continues to affect all countries across the world. Blended learning is a method that combines classroom interaction with the use of technology in the teaching and learning process (The Star, 2020). To facilitate blended learning in the teaching and learning in music courses, this multiframe VATA interactive is being designed as one of the educational technology mediums to assist lecturers and students in further improving the teaching and learning process' effectiveness.

This multiframe VATA interactive help students to have a better understanding and visualisation. The concept of video-based learning and visualization has become an enabler for initiatives in the delivery of lessons in a blended learning, especially in universities (Kamal et al, 2019). Music lecturer must equip students to display these talents in a professional musical setting and to relate to their circumstances in order to develop new understandings in a motivation framework (Cruywagen & Potgieter, 2020).

3. Problem Statement

The acceptance of music education students towards the use of technology, especially in the blended learning method is still at a low level. The lack of video interactive technology in the technique of using musical instruments can be considered as a factor that causes students to lack acceptance of the technology in learning. According to research findings by Li et al. (2021), beginning in January 2020, with the global COVID-19 epidemic, performing arts education, including music education programmes, has altered dramatically, and the situation has rapidly deteriorated. It is a significant problem for pupils in the performing arts curriculum, which also includes a music programme, and has a detrimental educational impact. This circumstance necessitates quick change; on the other hand, traditional educational approaches that rely primarily on online teaching and learning are ineffective. In a situation where most students are still not allowed to enter campus, the technological methods currently used involve music programs using an online approach. Usually, the lecturer only uses PowerPoint slides for the online class without using the approach of more relevant educational technology methods. Blended learning has the ability to increase students' potential and interest. The Ministry of Education encourages students to take advantage of the numerous learning tools that are available to them. Blended learning has the potential to be more successful and to expand the range of learning methodologies (Nasrifan

& Saidon, 2019). This study focuses on the approach and construction of interactive multimedia in the subject of Theory of Music at the university level. However, this study did not focus on student acceptance in the use of multiframe visualization in the module. The present study sought to address this gap by examining the acceptance of and interest and motivation attitudes toward technology in the one-to-one learning and teaching of music performance.

Prior research by Shalihah et al. (2019) mentioned that indicated that incorporating digital technologies into blended learning, such as video media tools, might successfully facilitate collaborative learning across disciplines and grade levels. Using blended learning based media tools that utilises the same set of problem-oriented questions at each class, together with links to readily available supporting materials, encourages students to dig deep into the material in order to create a unified conclusion. However, according to research findings by (Pike, 2017), studies have shown that research into the pedagogical efficiency of online video use, such as blended learning for music learning, is still in underdeveloped. The results of descriptive study revealed that blended learning models are unsuccessful and do not result in substantial improvements in learning outcomes, therefore they are less interested in doing offline learning. In class, most students prefer face-to-face alternatives (Irwan et al., 2020). In this situation, the holistic formation of students achievement related to soft skills, creative thinking, problem solving and creative skills is still unsatisfactory. It is critical to integrate technology into teaching and learning music education activities in order to effectively deliver knowledge using proper teaching approaches (Edward et al., 2019). Based on research Ramli et al. (2016) has conducted a study based on the use of VATA Multiframe video. The study was conducted to see the achievement of students in the topic of capacitors after using the multiframe video recorded. The existing evidence, however focused the study on physics subjects and did not look at the relationship of VATA Video Multiframe on relationship of student interest especially for music program students. The statement is also supported by Primamukti & Farozin (2018), without proper learning material or learning media, a student-centered learning process especially in blended learning methods will result in a low level of student interest in learning. It's important to use visual material to assist students to grasp what they're studying.

The motivational element is an important variable for the effort and talent invested in music education. Among the studies in music education found there is a gap in students' motivational attitudes towards music as a taught subject especially in the aspect of musical activities (Stavrou & Schaumberger, 2020). The courses of music are only allocated teaching time of 2 hours a week in the college of music. Due to the lack of a short learning period, this will make the motivation of students will decrease as they have to wait another week for a joint meeting with the lecturer. Students need to master a major musical instrument that aims to master the technique of playing every day. To address the issues of attrition and participation, many aspects have been proposed to interact with learning motivation in an attempt to solve these issues. When students miss courses or do not engage in the activities, their levels of motivation are lower than when they do participate (Mese et al., 2021). Designing effective instructional video for visualization is a major challenge for the majority

of teachers because there are numerous factors influencing the development of learners' competencies, one of which is learners' motivation.

4. Research Question

This study is to answer the question that focuses on the variable involved in the problem statement. The following questions is as follows:

- 1) What is the extent of Multiframe VATA interactive acceptance among music students in UPSI?
- 2) What is the extent of student interest and motivation in the blended learning by using Multiframe VATA interactive?
- 3) What is relationship between the acceptances of Multiframe VATA interactive with student interest in the blended learning?
- 4) What is the relationship between the acceptances of Multiframe VATA interactive with student motivation in the blended learning?
- 5) Do the acceptance of Multiframe VATA interactive predict the student interest and motivation in blended learning?

5. Blended Learning among Music Students

Teachers who teach music in the 21st century need to know how to use technology as a base for learning management. Students need to be able to think critically and do a wide range of things based on their knowledge of information, media, and technology, as well as their ability to work with tools. Blended learning has the potential to be more successful and to expand the range of learning methodologies (Nasrifan & Saidon, 2019). Because of deficiencies in conventional learning, blended learning is an appropriate method of instruction. Through the implementation of multiframe VATA music teaching, teachers can combine text materials, images, animations, audio and video on the interactive to provide students with a variety of learning experiences. Learning may be enhanced both in and out of the classroom using new media platforms such as multiframe VATA. This may be accomplished by fostering teamwork or providing immersive learning experiences for visual learners. There is presently a small but notable amount of use of technologies in music education, and substantial advances might stimulate changes in the way instructors utilize media to educate (Waddell & Williamon, 2019).

By using the idea of blended learning among music students, teachers can save time discussing in more depth about the technical aspects of the instrument, rather than focusing on lectures or showing music material can be recorded in advance and translated into interactive visualization before starting the class. Educators must provide interactive music content in order to interest students. Blended learning can engage learners to become more independent in acquiring their music instrument techniques and abilities by combining

traditional and blended learning methods. The student will most likely participate more actively in class as a result of less time spent teaching theory and more time spent on the practicality of chosen musical instruments (Arshad et al., 2022). According to some recent statistics, students who learned the same subject in blended learning environments did better on average than those who learned it through traditional face-to-face education. This instructional strategy helps students' musical abilities to grow more efficiently while also introducing them to the educational technologies that will be a part of their lifelong learning. In other words, blended learning gets learners ready for future teaching strategies.

6. Multiframe VATA Interactive in Blended Learning

Students need to be able to think critically and do a wide range of things based on their knowledge of information, media, and technology, as well as their ability to work with tools. Various teaching and learning methodologies are used in every subject of education, including instrumental music in music lessons. The method of studying instrumental music has been merged with other forms of education, such as music discography and even videography. However, blended learning has a meaning, and in the context of instrumental music instruction, a precise explanation is required (Arshad et al., 2022). The implementation of using Multiframe VATA Interactive, can provide students with a variety of learning experiences.

With the 4 multiframe videos approaches, music students can see more clearly every angle of the technique of using musical instruments played. For example, frame 1 is a camera that focuses on the whole body, frame 2 for the face, frame 3 for the hands (fingering) and frame 4 for the legs. It is used as an alternative to real music instrumental training so that students can develop their learning process skills such as observing and appreciating learning techniques through video even if they are unable to carry out the training themselves due to time and space constraints of training (Ramli et al., 2016). The use of this multiframe video can simulate the real situation when students and lecturers are in the face-to-face class in the blended learning method.

7. Influence on Student Motivation Performance in Blended Learning

Achievement motivation is a broad term that encompasses a number of distinct structures such as ability self-concepts, task values, objectives, and achievement motives (Steinmayr et al., 2019). Motivation has been a subject of interest in a lot of different subject areas. Motivation is an important factor in getting students to keep going, be excited, and succeed at learning and developing musical skills. Most of the student intimated that they felt comfortable and motivated using the tools of the technology for learning, they understood concepts taught and suggested the continued use of another technology. Since the beginning of the music education programme at the university, technology has never been a part of the teaching or learning method. This situation causes student motivation to decrease because in the era of education heading into the 21st century, teaching and learning methods in music education are still using the same methods from before. Motivating students in blended learning on music environments could be challenging and educators need to pay extra effort to redesign their pedagogical approaches. Self-efficacy is also linked to outcome expectancies,

or one's conviction that a certain activity will lead to a good result. Increasing the level of teacher efficacy is a way to help achievement in school. Lecturers need to think to change the teaching and learning method to the new approach such as using the new tools educational technology in support their teach (Darby, 2018).

The purpose of learning is to gain from the learning process, and motivation is the driving force behind it. Some students struggle with learning, resulting in learning outcomes that fall short of expectations (Islam et al., 2018). Learning media is able to increase the influence of student motivation with new technological approaches in blended learning. Something that has not been seen and has not been used can attract the attention of students to push themselves for them to increase motivation in learning. The majority of students prefer to learn via hands-on or experiential activities. Motivation, trust, self-concept, and interpersonal skills all play a role in learning positioning. Students' comprehension, motivation, and critical thinking abilities improve in a student-centered learning environment. Students' self-regulation of learning and instructors' teaching work together in a student-centered learning environment to improve the learning process (Mchone, 2020).

8. Methodology

This study will utilize a correlational research design which is to investigate between the two variables. Correlational research design is to determine the relationship between variables and the strength of the relationship in order to explain a specific phenomenon. In this study, the relationship in acceptance of the multiframe VATA interactive between student interest and student motivation will be determine. This study will also involve regression analysis where it is to determine whether the regression between the two variables is statistically significant. This study will be conducted in Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak. This university is one of the higher education that provides the music programme under the Faculty of Music and Performing Arts.

In this study, the population consisted of male and female students under a music course at the Faculty of Music and Performing Arts, Sultan Idris University of Education which is in Bachelor's Degree programme. According to Faculty of Music and Performing Arts, as of April 2022, the bachelor's degree music student under Department of Music, Faculty of Music and Performing Arts consists of 328 students. A good sample is a sample that is representative of the study population. The sample size to be used is using the Cochran's formula. Salkind (2012) suggested oversampling by 40% to 50% to adjust for missing respondents or non-responses. As a result, an additional 50% was added to the minimum sample size to ensure that an acceptable sample size is acquired for this study. Therefore, the final sample size is 233 respondents. The sampling technique that will be used in this study is simple random sampling. Selecting a sample from the population so all in the population have an equal chance of being selected. For this simple random sampling, researchers will use Graphpad software to obtain a random selection of a sample consisting of 328 populations and a sample size of 233 respondents.

Research instruments are used as a basis to obtain data as required by researchers to achieve the objectives of the study. The method used by the researcher is the questionnaire method.

Based on the UTAUT theory, interest driven creator theory (IDC) and ARCS Motivation theory, the item for the questionnaire will be adapted from previous validated instrument that already published. This question consist from 4 section which is section 1 will collect information about student information. Section 2 will measure student acceptance scale, section 3 will measure student interest scale and section 4 will measure student motivation scale. The scale to be used for each category or section is as follows based on the Likert scale.

Table 1. Items on Instrument

Item	Theory	No. of Items
Items related to acceptance	UTAUT	15 items
Items related to student interest	IDC	11 items
Items related to student motivation	ARCS	20 items

9. Validity, Pilot Test and Reliability

In order to guarantee that the content items of the questionnaire and test are totally valid, the researcher will consult with three expert evaluators who are relevant to the scope of the study for assessment reasons and linguistic expertise. Each expert will be provided with a series of questions and a set of tests that have been designed to be read, inspected, reviewed, and finally evaluated by the expert's evaluators. The content validity questionnaire that was completed by the evaluator was calculated as a percentage value using the Sidek & Jamaludin Content Validity Formula.

$$\frac{\text{Total Expert Score (X)}}{\text{Maximum Score}} \times 100\% = \text{Content Validity Level Percentage}$$

The validity of the content of the quiver entire in the opinion of experts is high if the coefficients validity of .70 and above or yield 70 per cent and above (Rahman et al., 2021). The researcher has appointed the 2 panel of experts consisting of music lecturers to obtain content validity. Content validity can be improved by evaluating and making improvements to each item. While 1 panel of expert consisting of English language teachers was appointed to obtain face validity to check the use of language. It was found that the value of Content Validity Level is 98.8% or 0.98 above the set value of 70% or 0.7. Therefore, based on the statement, it can be concluded that the questionnaire can be used to be distributed to the students as a pilot test to find the reliability value.

The Pearson Product Moment technique is used to determine the instrument's reliability value. Cronbach Alpha analysis will be performed and the value of the reliability at least 0.70 will be considered satisfactory. Cronbach Alpha values were compared to evaluate if the questionnaire items constructed were approved or eliminated (Konting, 2000). A pilot study will also be conducted for the purpose of obtaining the reliability value of the questionnaire

and test instruments. This pilot study aims to get the feedback about the questionnaire and these students were not include in the actual study. This pilot study will enroll 30 students from the Diploma of Music programme, Faculty of Music and Performing Arts, Universiti Pendidikan Sultan Idris.

10. Data Analysis

The analysis of the study is according to the appropriate statistical tests to answer the research questions listed in Table 2.

Table 2. Data Analysis for Statistical Test

No.	Research Question	Research Hypothesis	Type of Test
1.	What is the extent of Multiframe VATA interactive acceptance among music students in UPSI?	No Hypothesis	Descriptive Statistic <ul style="list-style-type: none"> ● Frequency ● Mean ● Standard Deviation ● Percentage
2.	What is the extent of student interest and motivation in the blended learning by using Multiframe VATA interactive?	No Hypothesis	Descriptive Statistic <ul style="list-style-type: none"> ● Frequency ● Mean ● Standard Deviation ● Percentage
3.	What is relationship between the acceptances of Multiframe VATA interactive with student interest in the blended learning?	There is relationship between the acceptance of Multiframe VATA interactive and the student interest in the blended learning.	Inferential Statistic <ul style="list-style-type: none"> ● Pearson Correlation
4.	What is the relationship between the acceptances of Multiframe VATA interactive with student motivation in the blended learning?	There is relationship between the acceptance of Multiframe VATA interactive with the students motivation in the blended learning.	Inferential Statistic <ul style="list-style-type: none"> ● Pearson Correlation
5.	Do the acceptance of Multiframe VATA interactive predict the student interest and motivation in blended learning?	There is significant predict between Multiframe VATA interactive with student interest and student motivation in blended learning.	Inferential Statistic <ul style="list-style-type: none"> ● Regression

11. Conclusion

In conclusion, this study will provide detailed information on the relationship that exists between the acceptance of VATA interactive multiframe with interest and motivation variables. It is expected that there is a positive relationship that exists between these variables.

The acceptance of interactive multiframe VATA is expected to continue to be used by music students in the blended learning method as one of the visual technology approaches in the 21st century. The findings of this study are also expected to provide students with a new perspective on learning in blended learning using the multiframe VATA interactive approach to spark interest and motivation of students to produce excellent student performance in music programme.

Acknowledgements

The authors extend their appreciation to the Ministry of Higher Education Malaysia for funding this study.

References

- Academic Affair Divison. (2021, February 16). *Guidelines for hybrid teaching and learning implementation*. Universiti Pendidikan Sultan Idris.
- Arshad, S. F., Sulong, M. A., Hashim, Z., & Mazlan, C. A. K. (2022). Perspective on Blended Learning for Instrumental Music Learning. *Journal of Positive School Psychology*, 6(3), 4936-4941.
- Cruywagen, S., & Potgieter, H. (2020). The world we live in: A perspective on blended learning and music education in higher education. *The Journal for Transdisciplinary Research in Southern Africa*, 16(1), 1–9. <https://doi.org/10.4102/td.v16i1.696>
- Darby, M. (2018). *Challenges to Student Success in an Introductory Music Theory I Course* [Unpublished doctoral dissertation]. Walden University.
- Edward, C. N., Asirvatham, D., & Johar, M. G. M. (2019). The impact of teaching oriental music using blended learning approach. *Malaysian Journal of Learning and Instruction*, 16(1), 81–103. <https://doi.org/10.32890/mjli2019.16.1.4>
- Gaal, A. (2019, April 25). *Can Technology Replace Teacher?*. <https://timesofindia.indiatimes.com/readersblog/my-musings/can-technology-replace-teachers-3234>
- Irwan, I., Angraini, R., & Tiara, M. (2020). *Proceedings of the International Conference On Social Studies, Globalisation And Technology (ICSSGT 2019)*. Atlantis Press. <https://www.atlantis-press.com/proceedings/icssgt-19/articles>
- Islam, S., Baharun, H., Muali, C., Ghufon, M. I., Bali, M. E. I., Wijaya, M., & Marzuki, I. (2018). To Boost Students' Motivation and Achievement through Blended Learning. *Journal of Physics: Conference Series*, 1114(1). <https://doi.org/10.1088/1742-6596/1114/1/012046>
- Kamal, M. A., Adnan, A. H., Idris, K. B., Zuraimi, N. A., Yusuf, M. N., & Azamri N. M. (2019). *Proceedings: International Invention, Innovative & Creative (InIIC) Conference*. MNNF Publisher.
- Konting, M. M. (2000). *Research Methods in Education*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

- Li, Q., Li, Z., & Han, J. (2021). A hybrid learning pedagogy for surmounting the challenges of the COVID - 19 pandemic in the performing arts education. *Education and Information Technologies*, 7635–7655. <https://doi.org/10.1007/s10639-021-10612-1>
- Mchone, C. (2020). *Blended Learning Integration: Student Motivation and Autonomy in a Blended Learning Environment* [Unpublished doctoral dissertation]. East Tennessee State University.
- Mese, E., Sevilen, Ç., & Info, A. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. *Journal of Educational Technology & Online Learning*, 4(1), 11–22. <http://doi.org/10.31681/jetol.81768>
- Nasrifan, M. N. H., & Saidon, Z. L. H. (2019). Designing online interactive application of learning music theory in blended learning mode. *International Journal of Recent Technology and Engineering*, 7(6), 226–233.
- Pike, P. D. (2017). Improving music teaching and learning through online service: A case study of a synchronous online teaching internship. *International Journal of Music Education*, 35(1), 107–117.
- Primamukti, A. D., & Farozin, M. (2018). Utilization of interactive multimedia to improve learning interest and learning achievement of child. *Jurnal Prima Edukasia*, 6(2), 111–117. <https://doi.org/10.21831/jpe.v6i2.19183>
- Rahman, A. R., Abdullah, S. M., & Khalid, N. F. (2021). Development of the PiNTAS Module: Academic intervention programme for low-performing university students. *Palarch's journal of archaeology of Egypt/Egyptology*. 18(2), 183-194.
- Ramli, R., Jaafar, R., Daud, A. N., Ali, S., Mokhtar, W. Z., Haron, R., & Safian, N. A. (2016). Effectiveness of Multi-Frames Video Recorded Experiments on Pre-University Students' Achievement for Capacitor Topic. *Journal of Science, Mathematic and Technology*, 3(2), 38-43.
- Sabila, A. A., & Gunawan, W. (2019). 21st Century Learning Skills. March 2018, 102–105. <https://doi.org/10.1145/3337682.3337696>
- Salkind, N. J. (2012). *Exploring Research* (8th Ed.). Pearson Education, Inc.
- Shalihah, F., Supramono, & Abdullah. (2019). Blended Learning-Based Media Usage To Practice Problem Solving Skills. *European Journal of Education Studies*, 5(9). <https://doi.org/10.5281/zenodo.2544571>
- Stavrou, N. E., & Schaumberger, H. (2020). “The Music Lessons We ’ d Like ” Students Envisioning Music Education. July.
- Steinmayr, R., Weidinger, A. F., Schwinger, M., & Spinath, B. (2019). The importance of students' motivation for their academic achievement-replicating and extending previous findings. *Journal of Frontiers in Psychology*, 10(1). <https://doi.org/10.3389/fpsyg.2019.01730>

Surian, A., Hofmann, R., Markauskaite, L., Todd, A., Boivin, P., Ramirez, J. B., ... Felix, S. M. (2019). *21st-century learning environments*. Lifelong Learning Platforms.

The Star. (2020). Blended learning is the future. *The Star (Nairobi, Kenya)*, November, 6–7.

Waddell, G., & Williamon, A. (2019). Technology use and attitudes in music learning. *Journal of Frontiers in ICT*, 6(11), 1-14. <https://doi.org/10.3389/fict.2019.00011>

Copyright Disclaimer

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).