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## From Physical to Virtual: A New Learning Norm in Music Education for Gifted Students

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### Abstract

Music education is a subject that is generally thought to have much physical activity involved. However, virtual learning has been mandatory applied to most schools worldwide due to the COVID-19 pandemic. The landscape of music learning has had to be switched to online distance learning (ODL), where students learn music virtually using technological tools. Gifted students are among those affected by the implementation of music ODL throughout 2020. Thus, the purpose of this study is to identify the effectiveness of music ODL on gifted students' motivation. The researchers framed this quantitative study by involving 81 secondary gifted students, aged 13 years, from 13 states in Malaysia. The sample was selected through random sampling, and a preexperimental design was applied to conduct the study. Respondents had been exposed to the music ODL intervention for a month. Data were collected through an adapted questionnaire, namely, the MUSIC Inventory, with a five-point scale. Data were further analysed by descriptive and inferential statistics, integrating two-way MANOVA, using SPSS Statistics version 23. Results reveal that an ODL approach to music classes is significantly effective to enhance gifted students' motivation domains of empowerment, usefulness, success, interest, and caring. Yet, no significant difference was found in gifted students' genders and locations on the four domains. Different approaches in music teaching could be further explored for music ODL to gifted students in future studies.

**Keywords:** music education, distance learning, COVID-19, preexperimental, two-way MANOVA, online learning

## Introduction

COVID-19 has caused tragic consequences to human life. Governments all over the world have taken drastic steps by implementing lockdowns for some sectors, particularly education, as learning tends to involve crowds and physical interaction. Schools have been closed, affecting billion of students and teachers who have had to face teaching and learning at home. Online distance learning (ODL), which has been implemented during this critical situation, has been found to be an effective approach to education. Yet, ODL's effectiveness remains obscure, as schools are rushing to implement it without thorough planning. The subject of music, which has always been taught face-to-face (physically), also has had no alternative but to be implemented online. Teachers are struggling to deliver their teaching contents with the best methods to ensure students understand the music concepts and skills through a virtual platform.

This situation has similarly affected gifted education schools. Regardless of different standards and cognitive levels, students with high cognitive ability in this category have had to adjust to learning through the new norm. As music is found to be significant on these students particularly to cater emotion issues, as a motivation booster and creates awareness, as mentioned by Md Jais and Azu Farhana (2020), they need an effective way to explore music, with teachers' guidance. In the normal situation, music is taught in a music room, in which all gifted students learn music instruments, history, theory, dance, and composition. They may complete music tasks through groups, in pairs, or individually. Teachers may monitor students and offer specific interventions to students personally, as well as giving them advice and encouragement. It is rather demanding, nonetheless, to implement this method via ODL. Without a proper approach to music ODL, gifted students may face and feel stress to learn music. ODL may discourage them, causing them to withdraw from musical activities. Consequently, their music achievements and talents may be worsened and depleted.

ODL has become a new teaching norm in music learning around the world, from preschool to tertiary education institutions (Almusharraf & Khahro, 2020; Atabey, 2021; Wen & Kim Hua, 2020). Schools were closed for a quite a long time, and we have considered some challenges while designing this ODL method. We aim to determine the effectiveness of music ODL from the perspective of gifted students in term of four domains: empowerment, usefulness, caring, and success. We hope the findings from this study help music practitioners to improve their ODL pedagogy, especially during critical situations where students have to learn from home. Previous studies (Dori et al., 2018; Hernández-Torrano, 2018; Kerr & Huffman, 2018) have proven that gifted students' achievement is interrelated with gender and location; as such, we involved these variables in this study in a Malaysian music education context.

## Transition from Physical Class to Music Digitisation

Music is a subject that emphasizes practical skills, such as playing music instruments, singing, and dancing, rather than theory. The evolution of the approach to teaching music began a few decades ago, when students were taught outdoors, under trees with a radio and phonograph. Thus far, teachers have continued to teach students in physical, face-to-face, personal music classes, as well as integrating blended learning in their teaching process. Teachers are trained to apply Kodaly, Dalcroze, Orff, and Suzuki methods.

In gifted education, music is needed to enrich talents among gifted students. Gifted individuals are defined as those who possess the combination of three traits as discussed in the Three Rings Model (Renzulli, 2016; Ismail et al., 2021). This model states that gifted students require challenging learning, above and beyond the classroom's four walls. Teachers are urged to implement differentiated learning when instructing gifted students. Hence, music is normally taught by applying differentiated instructions in which students are taught to prioritize their abilities. Students are allowed to learn by differentiated learning processes, contents, products, and their preferred environment. This is aligned with the research of Hymer and Michel (2013), who promoted a wide, balanced and appropriate curriculum, the differentiated education in the classroom by enriching and expanding the curriculum, and their dedication to the entire gifted personal, social and intellectual growth. Hymer and Michel accept that each child has the right to be given a high-quality education, that the primary function of a school is to provide all children with opportunities to achieve educational goals, and that deep learning takes place collaboratively, not competitively.

Gifted and talented young people have special needs that call for differentiated strategies and educational methods (VanTassel-Baska, 1994). They need interactions with intellectual peers as well as independent study experiences (Feldhusen, 2005). Feldhusen offers a list of methods for improving talented young people's learning experiences. These include appraisal, individualisation, high expectations, challenges, intellectual uncertainty, mentors, generative learning or constructivism, and meta-cognition. Teachers must understand how people learn, develop awareness, and apply teaching practice that is adequate for talented learners in order to teach them effectively. This validates the educational contexts of high schools and opportunities because they are structured to explicitly appeal to gifted and talented students.

Atterbury (1990) has examined the link between music education and the education of academically gifted and talented students:

Not all gifted and talented students are performers. Music educators must find ways of meeting the needs of those students whose cognitive processes are substantially different from those of their peers. ... Goals and objectives for these learners should be constructed to include more complex cognitive processes; that is, analysis, synthesis, and evaluation should be emphasized rather than an extra accumulation of facts. (Atterbury, 1990, p. 49)

This statement demonstrates the idea that gifted and talented students need music learning experiences to fulfil their particular education needs. Thus, music teachers in high schools that are in charge of academic courses and classroom resources are responsible for providing their students with cognitive and rigorous music programmes.

The issue of the generalist teacher's musical competence is important when it comes to bringing music to the elementary school classroom and particularly to gifted classes. The skill efficiency of generalist teachers who teach music, and the contribution of previous experience and education to their work, is discussed by Bartel and Cameron (2004). These authors look at the ties between self-effectiveness and ability and conclude that non-musician systems are expecting that they can't do anything. This concern is related to academically gifted students' need for complex, intellectual, and high-level cognitive learning. Teachers must have a sound understanding of musical principles to teach them efficiently.

Previous studies have shown a significant impact of online music learning on students' achievement. Edward et al. (2019) reveal that applying a blended learning strategy in an Oriental music class more greatly improved students' music academic performances compared with the traditional "chalk-and-talk" method. Keast (2009) strengthened this point by conducting a study on implementing distance learning with his music history class. The results indicate that distance learning, with the integration of advanced technology, heightened the constructivism method to a higher level. Ruokonen and Ruismäki (2016) have also proven that online music learning provides more opportunities for independent and constructive learning. By integrating technology in music composition, this study proved the enhancement of students' behaviour and further improves students' musical skills. This is related to Ruthmann and Hebert's (2012) study, which emphasizes that music can indeed be taught online, whether as virtual or blended learning, to diversify music education. This process enhances interaction between musicians, teachers, and students via a digital platform. Some studies of gifted education (Abakumova et al., 2019; Wallace, 2005) have proven the effectiveness of ODL but do not particularly focus on the music subject. Hence, as music is evinced, by Md Jais and Azu Farhana (2020), to be significant to gifted students, this study provides a special exploration on music to be taught through digital platform.

## Objectives

The objectives of this study were the following:

- to identify the effectiveness of level of music ODL among gifted students in terms of empowerment, usefulness, success, interest, and caring;
- to identify the effectiveness of music ODL between male and female gifted students in terms of empowerment, usefulness, success, interest, and caring; and
- to identify the effectiveness of music ODL between urban and rural gifted students in terms of empowerment, usefulness, success, interest, and caring.

Hence, we developed two hypotheses to be tested based on the research objectives. The hypotheses are as follows:

H<sub>1</sub>: There is a significant difference on the effectiveness of music ODL between male and female gifted students in term of empowerment, usefulness, success, interest, and caring.

H<sub>2</sub>: There is a significant difference on the effectiveness of music ODL between urban and rural gifted students in term of empowerment, usefulness, success, interest, and caring.

## Methodology

This study applied a preexperimental approach (Rogers & Revesz, 2020) by using a questionnaire to obtain data from students. The questionnaire was adapted from Jones's (2017) instrument after obtaining permission from the owner. It was then followed by a pilot test on 36 Malaysian gifted school students. The internal reliability of the questionnaire with Cronbach's alpha was 0.91, indicating a reasonable internal consistency. Data were collected from 81 gifted students from various locations (urban and rural) in 13 states in Malaysia. The number of respondents is aligned with Roscoe's (1975)

recommendation that an experimental study is best conducted with at least 30 respondents. The respondents were 13-year-old students who took Malaysian music classes and possessed similar mental age characteristics (IQ test: > 130). This is aligned with research by Urruzola and Bernaras (2020) and Md Jais and Azu Farhana (2020), who previously conducted music research involving gifted students 12 and 13 years of age. Respondents' profiles (gender and locations) are shown in Tables 1 and 2.

**Table 1**

*Respondents' Gender*

Gender	Frequency	%
Male	38	47
Female	43	53
Total	81	100

**Table 2**

*Respondents' Location*

Location	Frequency	%
Urban	47	58
Rural	34	42
Total	81	100

Random sampling was used to select respondents. The questionnaire, named the MUSIC Inventory, was distributed to respondents and marked through Google Forms. Before answering the questionnaire, all respondents were briefed regarding the study and completed ethical consent forms. The study time frame was one month, between April 1 and April 30, 2020, in which music class was conducted once a week (four session in a month), one hour per session.

**Instrument**

We believed it would not be sufficient to use achievement scores to measure music ODL's effectiveness. We decided to measure the effectiveness of music ODL in a more holistic way, in which the instrument measures gifted students' intrinsic character. The instrument employed in this study was the MUSIC Inventory, adapted from Jones (2017). This consisted of 18 items under five domains, as shown in Table 3. The instrument was distributed to respondents as a five-point scale (from 1, strongly disagree, to 5, strongly agree), as recommended by Doshi et al. (2020). Respondents accessed the questionnaire on Google Forms via a smartphone, tablet, laptop computer, or desktop computer. Respondents were allowed to answer the questions once at a time.

**Table 3**

*MUSIC Inventory*

Items	No. of items	Domain
I have the freedom to complete my music class work on my own way.	5	Empowerment

I have choices on what I am allowed to do in music class.	12	
I have control over how I learn the content in music class.	16	
I have options on how to achieve the goals in music class.	18	
The knowledge I gain in music class is important for my future.	1	Usefulness
In general, music class work is useful for me.	9	
I find music class work to be relevant to my future.	13	
I am confident that I can succeed in music class work.	2	Success
I am capable of getting a high grade in music class.	4	
I feel that I can be successful in meeting the academic challenges in music class.	7	
During music class, I feel that I can be successful on the class work.	10	
The music class work is interesting to me.	6	Interest
I enjoy completing music class work.	8	
The music class work holds my attention.	17	
My music teacher cares about how well I do in music class.	3	Caring
My music teacher is friendly.	11	
My music teacher is willing to assist me if I need help in music class.	14	
My music teacher is respectful of me.	15	

*Note.* Adapted from *User Guide for assessing the Components of the MUSIC® Model of Motivation*, by B. D. Jones, p. 24, December 2017 (<https://www.themusicmodel.com/wp-content/uploads/2019/06/User-Guide-to-Assessing-the-MUSIC-Model-Components-December-2017-2.pdf>). Copyright 2021 by Brett D. Jones.

Data collected from the questionnaires were tabled and analysed using SPSS Statistics version 23. Descriptive and inferential statistics were reported, including percentage, mean, and one-way multivariate analysis of variance (MANOVA). We determined the level of the mean score by following Hassan et al. (2009) mean interpretation as in Table 4.

**Table 4**

*Mean Score Interpretation*

Mean score	Interpretation
1.00–1.99	Weak
2.00–2.99	Low
3.00–3.99	Moderate
4.00–5.00	High



*Note.* Adapted from “Kajian persepsi pelajar terhadap tahap profesionalisme guru Pendidikan Islam MRSM [A study on students’ perception towards teachers’ professionalism in MRSM school]” by S.N.S. Hassan, 2009, *Journal of Islamic and Arabic Education*, 1(2), p. 38. Copyright 2009 by the Journal of Islamic and Arabic Education.

**Procedure**

As shown in Table 5, a four-week music lesson comprising various music fields, such as movement, history, and instruments, was planned. The distance learning lesson was executed in a way in which respondents attended the class virtually via either a desktop computer, smartphone, tablet, or laptop computer. Participants required a strong Internet connection to access the class.

**Table 5**

*Lesson Plan*

Week/time	Activity
Week 1 (Tuesday) 9.00 am–10.00 am	<p>I. Students were taught through video about music creative movement, namely <i>Inang</i>, as shown:</p>  <p>The video was uploaded in a group on Telegram messenger.</p> <p>II. Students imitated and improvised the dance steps of the video based on <i>Inang</i> rhythm:</p>  <p>III. Students recorded their dance steps and sent to the respective teacher through Telegram. The teacher exhibited the best dance video in the Telegram group.</p>
Week 2 (Tuesday) 9.00 am–10.00 am	<p>I. Students watched a video about Malaysian traditional music uploaded in the Telegram group.</p> <p>II. Students gave their opinion through discussion with the teacher in the Telegram group.</p> <p>III. Students were given a slide presentation in the group. Students read the slide and answered a quiz.</p>
Week 3 (Tuesday) 9.00 am–10.00 am	<p>I. Students learned music entitled <i>Muzik Istana</i> through Google Meet.</p> <p>II. The teacher presented slides and videos from YouTube (<a href="https://youtu.be/J9Skrt_rxI8">https://youtu.be/J9Skrt_rxI8</a>).</p> <p>Students prepared a digital folio and submitted to the teacher.</p>
Week 4 (Tuesday) 9.00 am– 10.00 am	<p>I. Video, notes, and a quiz about <i>Muzik Gamelan</i> were sent through Google Classroom. The Gamelan music movement was as below.</p>

### Timang Burung

Md Jais Ismail

The musical score for 'Timang Burung' is written in 4/4 time and consists of five staves of music. Each staff contains a sequence of notes with corresponding fingerings indicated below them. The fingerings are: Staff 1: 2 2 3 6 5 3 2 3 2 1 1 5 5 3 5; Staff 2: 5 5 2 3 2 3 5 3 5 6 5 3 2 5; Staff 3: 5 5 2 3 2 3 5 3 5 6 5 3 2 3; Staff 4: 3 2 1 1 2 3 1 3 2 1 1 5 6 1 2; Staff 5: 2 2 3 6 5 3 2 3 2 1 1 5 5 3 5.

- II. Students accessed Google Classroom, listened, watched the video, and comprehended the notes and music piece.
- III. The students answered simple essay questions through the Google Form and practised the music piece using a recorder or any pitched instruments.
- IV. Students were required to enclose their video presentation in the Google Form.

The best presentations were uploaded in the Telegram group.

## Results

The results of this study were analysed and reported in descriptive and inferential statistics. As shown in Table 6, we found that respondents scored high in almost all domains tested, with a mean score above 4.00. Hasan et al. (2009) interpreted a mean score above 4.00 to be considered high. Specifically, in the empowerment domain, female students scored slightly higher than male students ( $M = 4.10$ ,  $SD = 0.49$ ;  $M = 4.00$ ,  $SD = 0.68$ , respectively). In the usefulness domain, female students ( $M = 4.23$ ,  $SD = 0.58$ ) scored higher than male students ( $M = 4.02$ ,  $SD = 0.64$ ), while female students ( $M = 3.78$ ,  $SD = 0.70$ ) scored slightly higher than male students ( $M = 3.72$ ,  $SD = 0.77$ ) in the success domain. Additionally, female students ( $M = 4.06$ ,  $SD = 0.62$ ) scored higher than male students ( $M = 3.75$ ,  $SD = 0.94$ ) in the interest domain and in the caring domain, male students ( $M = 4.41$ ,  $SD = 0.48$ ) scored slightly higher than female students ( $M = 4.40$ ,  $SD = 0.52$ ). We conclude that a higher mean was recorded for female students in most domains, with the compared mean value between 0.06 and 0.20.

The Google Forms results showed slightly different mean scores with reference to location. Students who lived in rural areas ( $M = 4.10$ ,  $SD = 0.54$ ) scored higher those living in urban areas ( $M = 4.02$ ,  $SD = 0.63$ ) in the empowerment domain. In the useful domain, urban students ( $M = 4.15$ ,  $SD = 0.62$ ) scored slightly higher than rural students ( $M = 4.10$ ,  $SD = 0.62$ ). While in the success domain, urban students ( $M = 3.76$ ,  $SD = 0.69$ ) scored slightly higher than rural students ( $M = 3.73$ ,  $SD = 0.79$ ), urban students ( $M = 3.92$ ,  $SD = 0.81$ ) were shown to score slightly higher than rural students ( $M = 3.89$ ,  $SD = 0.79$ ) in the interest domain. Additionally, in the caring domain, urban students ( $M = 4.41$ ,  $SD = 0.52$ ) scored slightly higher than rural students ( $M = 4.40$ ,  $SD = 0.47$ ). We conclude that urban



students scored higher in most domains with the compared mean value within an extremely small range, between 0.01 and 0.05.

**Table 6**

*Descriptive Statistics*

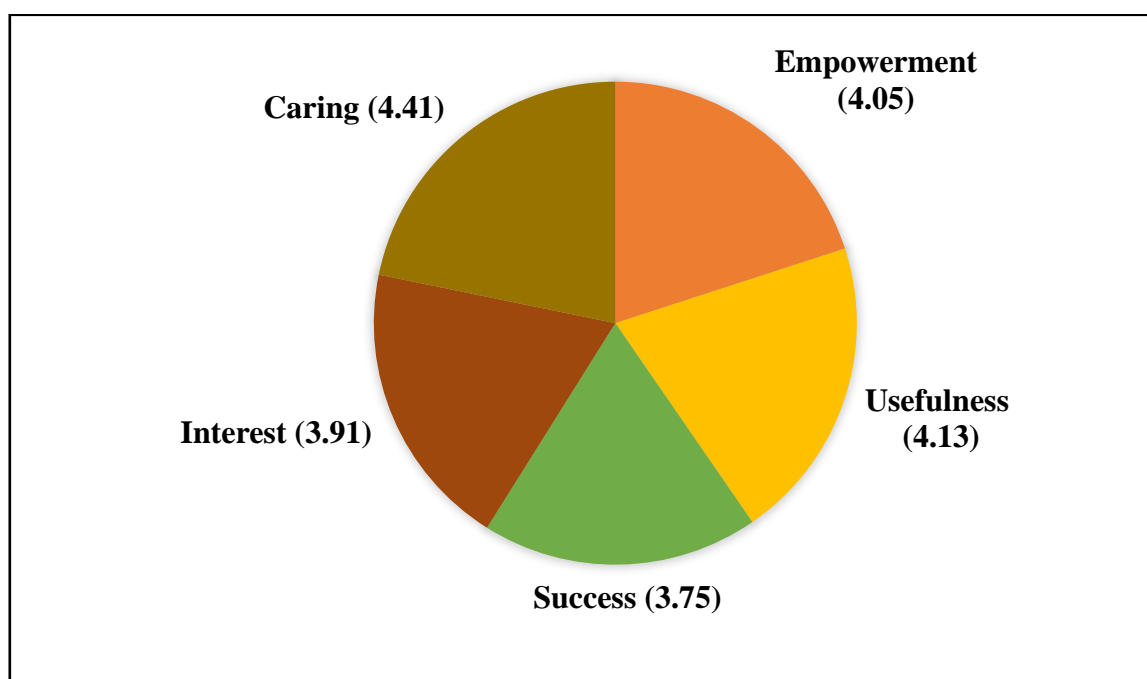
Domain	Gender	Location	<i>N</i>	Mean	<i>SD</i>
Empowerment	Male	Urban	19	3.94	0.78
		Rural	20	4.06	0.59
		Total	39	4.00	0.68
	Female	Urban	28	4.08	0.50
		Rural	14	4.16	0.49
		Total	42	4.10	0.49
	Total	Urban	47	4.02	0.63
		Rural	34	4.10	0.54
		Total	81	4.05	0.59
Usefulness	Male	Urban	19	4.05	0.67
		Rural	20	4.00	0.63
		Total	39	4.02	0.64
	Female	Urban	28	4.22	0.58
		Rural	14	4.26	0.60
		Total	42	4.23	0.58
	Total	Urban	47	4.15	0.62
		Rural	34	4.10	0.62
		Total	81	4.13	0.62
Success	Male	Urban	19	3.80	0.70
		Rural	20	3.65	0.85
		Total	39	3.72	0.77
	Female	Urban	28	3.74	0.69
		Rural	14	3.85	0.72
		Total	42	3.78	0.70
	Total	Urban	47	3.76	0.69
		Rural	34	3.73	0.79
		Total	81	3.75	0.73
Interest	Male	Urban	19	3.76	1.07
		Rural	20	3.74	0.82
		Total	39	3.75	0.94
	Female	Urban	28	4.03	0.57
		Rural	14	4.11	0.73
		Total	42	4.06	0.62
	Total	Urban	47	3.92	0.81

		Rural	34	3.89	0.79
		Total	81	3.91	0.80
Caring	Male	Urban	19	4.55	0.45
		Rural	20	4.29	0.49
		Total	39	4.41	0.48
	Female	Urban	28	4.32	0.56
		Rural	14	4.57	0.39
		Total	42	4.40	0.52
	Total	Urban	47	4.41	0.52
		Rural	34	4.40	0.47
		Total	81	4.41	0.50

Table 6 shows that gifted students scored highest in the caring domain, with a total mean value of 4.41, followed by usefulness ( $M = 4.13$ ), empowerment ( $M = 4.05$ ), interest ( $M = 3.91$ ), and success ( $M = 3.75$ ). Figure 1 shows the total mean for each domain of the effectiveness music ODL.

**Figure 1**

*Total Means of the Motivation Domains*



MANOVA analysis was used to test whether there was a significant difference on the effectiveness of ODL for the two hypotheses. In conducting MANOVA, we ensured that the analysis met the MANOVA assumptions as recommended by Tabachnick and Fidell (1989). Box's  $M$  test is a prerequisite that must be performed before performing the MANOVA test to determine the homogeneity of variance—

covariance among independent variables (Pallant, 2011). The results of the analysis showed that no variance–covariance difference existed between the dependent variable and the independent variable ( $F = 1.21, p = 0.16$ ) ( $p > 0.05$ ). This allowed the MANOVA test to proceed since the number of samples was also robust. Pallant (2011) further minimized the probability of type I errors. Table 7 shows the results of Box’s *M* test.

**Table 7**

*Box’s M Test Result*

Box’s <i>M</i>	<i>F</i>	<i>df</i> <sub>1</sub>	<i>df</i> <sub>2</sub>	<i>p</i>
62.37	1.21	45	9744.502	0.16

The results of the Levene’s test can be seen in Table 8. With this test, we found that the significance values for the four variables, namely, empowerment, usefulness, success, and caring, were greater than 0.05. This means that these variables have identical (homogeneous) variance, which allows the MANOVA test to proceed. In contrast, Levene’s test findings for interest variables were less than 0.05. This indicates differences in variants. Even so, Pallant (2011) asserts that differences in variants are not an obstacle to conducting MANOVA tests if the sample size is robust.

**Table 8**

*Levene’s Test of Equality of Error Variances*

Dependent variable	<i>F</i>	<i>df</i> <sub>1</sub>	<i>df</i> <sub>2</sub>	<i>p</i>
Empowerment	1.44	3	77	0.23
Usefulness	0.02	3	77	0.99
Success	0.47	3	77	0.69
Interest	3.11	3	77	0.03
Caring	1.01	3	77	0.39

Next, Wilks’s lambda ( $\lambda$ ) statistic shows a comparison of mean scores in terms of music ODL implementation based on gender in gifted students. Based on Table 9, the value of Wilks’s  $\lambda = 0.93, p = 0.35$  ( $p > 0.05$ ). The eta squared value of 7.2% was found, which means that the effect of the difference between skills tests is very small. Therefore, no sufficient evidence exists to accept  $H_1$ . This means that there is no significant difference between male and female gifted students using music ODL in terms of empowerment, usefulness, success, interest, and caring.

**Table 9**

*Multivariate Tests Result*

Effect	Wilks’s $\lambda$	<i>F</i>	<i>p</i>	Partial eta squared
Gender	0.93	1.139	0.35	0.072

The next  $\lambda$  statistic shows the comparison of mean scores in the aspect of implementing music ODL based on the location of gifted students. Based on Table 10, the value of  $\lambda = 0.98$ ,  $p = 0.91$  ( $p > 0.05$ ). The eta squared value of 2% was found, meaning that the effect of difference between skill tests is very small. Therefore, there is no sufficient evidence to accept hypothesis H<sub>2</sub>. Our second hypothesis was rejected as no significant difference was found between urban and rural gifted students using music ODL in terms of empowerment, usefulness, success, interest, and caring.

**Table 10**

*Multivariate Tests Result*

Effect	Wilks's $\lambda$	$F$	$p$	Partial eta squared
Location	0.98	0.303	0.91	0.02

Since the independent variables in this MANOVA test are divided into two categories, namely, gender and location, a two-way MANOVA analysis should be performed (Pallant, 2011). Table 11 shows the test of between-subjects effects to demonstrate the differences in the dependent variables. Findings show that the difference in effect for empowerment is 0% with value  $F = 0.02$ ,  $p = 0.88$  ( $p > 0.05$ ); usefulness is 0.1% with value  $F = 0.09$ ,  $p = 0.75$  ( $p > 0.05$ ); success is 0.8% with value  $F = 0.59$ ,  $p = 0.44$  ( $p > 0.05$ ); interest is 0.1% with value of  $F = 0.81$ ,  $p = 0.77$  ( $p > 0.05$ ); and caring is 6.2% with value of  $F = 5.05$ ,  $p = 0.02$  ( $p < 0.05$ ). This offers the impression that no significant difference exists in the aspects of empowerment, usefulness, success, and interest between the variables of gender and location during music ODL implementation. However, there are significant differences in the caring aspect between the gender and location variables in the same instance.

**Table 11**

*Tests of Between-Subjects Effects*

Dependent variable	Sum of squares	$df$	Mean square	$F$	$p$	Eta squared
Empowerment	0.007	1	0.007	0.02	0.88	0.000
Usefulness	0.037	1	0.037	0.09	0.75	0.001
Success	0.329	1	0.329	0.59	0.44	0.008
Interest	0.052	1	0.052	0.08	0.77	0.001
Caring	1.245	1	1.245	5.05	0.02	0.062

## Discussion

We found that music ODL has impacted gifted students' learning in certain domains of empowerment, usefulness, success, interest, and caring. Our results indicate that music ODL is effective, according to gifted students, since all the respondents scored high in most domains. Students in our study believed that music ODL empowered them to learn music topics and further enabled them to complete all tasks given by teachers. This is aligned with the findings of Edward et al. (2019), who found that through online learning, students may feel it is easier to complete music tasks rather than through the traditional

method. This is due to the flexibility and uniqueness of distance learning that allows students to commit to and focus on the topic, as mentioned by Spencer (2020).

Additionally, gifted students agreed that music ODL is useful. They believed that the knowledge that they gained during ODL could help them to achieve their goals and further attain a bright future. Skills included those related to computers and music, which students could master during ODL sessions. This is supported by Keast (2009): his study shows that students gradually become more proficient in using high-tech materials in music classes. Song et al. (2004) adds that distance learning experiences enable students to find styles that best match their learning preferences. This allows them to achieve a bright future.

All gifted students also were found to believe that music ODL would help them to achieve success. It would help them to increase their comprehension of music subjects and, further, score high marks. They agreed that the tasks given, as well as the activities conducted, on the digital platform could improve their musical skills. This is in line with Schmidt's (2005) findings that students involved in music activities have a high motivation to attain success. Music intrinsically motivates students, which relates to their academic achievement and grade level. Montacute and Cullinane (2018) state that parents should support their children's learning by providing facilities, encouragement, and a proper learning environment. With parents' support, students may experience quality online classes and may score higher marks than those who do not receive parents' support.

Gifted students also felt that music ODL held their interest, made their learning joyful, and created an interesting environment to complete tasks. They believed that virtual classes and online tasks heightened their interest in music. Both approaches could be a solution for some situations where the students lose their interest in learning, as mentioned by Anderhag et al. (2016). Teaching music remotely can be an intervention to attract students' attention and make an online class active. Thus, it is strongly suggested that while teaching students virtually, we may also replicate the method recommended in the present study to catch students' interest in a subject. It is essential to capture gifted students' interest as they may easily lose intentions to study music once they find that a class is boring and not challenging. This study proves that the topics suggested in this study that consist of creative movement, traditional music, *Muzik Istana* and *Muzik Gamelan* are significant and interesting to gifted students.

In terms of caring, gifted students believed that teachers were concerned about their needs. This means that teachers played their roles and achieved the students' expectation fulfilled what the gifted students required. Particularly during the COVID-19 pandemic, students need support from teachers to understand their feelings and guide them to fix technical issues. This goes beyond the actual practice of teaching, where teachers not only help students understand a topic but also need to be friendly and always account for students' needs. In this study, students also felt that teachers helped them, noted their level of achievement, and respected their ideas. Zhang et al. (2019) similarly found that teachers' caring behaviour affected students' cognitive reappraisal and suppression of expression. Noddings (2012) also found that teachers' concerned behaviour can be described as listening, advising, critical thinking, reflecting, and establishing thoughtful connection between disciplines and life itself.

From the results, we found that female students scored higher than male students in empowerment, usefulness, success, and interest, while male students scored higher in caring. Numerous studies show that females score better than males in music studies (Armstrong, 2013; Comber et al., 1993; Kuntsche

et al., 2016), and the present study also shows evidence that female students score higher than males in music. Our findings indicate that females are likely to be more motivated than males, as they scored higher in most of the motivation domains. Males recorded a higher score in the caring domain, probably because the teacher was male, which may have caused male students to feel more comfortable as they were learning with a teacher of the same gender. This is related to Mills's (2000) findings suggesting that males should work with other males as they can understand each other, and thus, male students feel more comfortable talking to and learning from male teachers.

In addition, students who lived in urban areas believed that music ODL was useful, helped them to succeed, heightened their interest, and created a more caring teacher–student atmosphere. Gifted students living in rural areas more strongly believed that that music ODL empowered them to learn music. These results indicate that urban students feel more comfortable with music ODL than rural students. We assume that they possessed proper and better facilities to partake in distance learning than rural students. In fact, urban students used online tools in their daily lives—for example, chatting through Skype, online gaming, using social media (e.g., Facebook, Instagram, Twitter), and so forth. These daily activities help urban students feel more comfortable with distance learning and may influence their beliefs that ODL is useful to them and could lead them to success.

Researchers feel that rural students still need more sophisticated learning facilities to enable music ODL to be carried out and enable them to master a subject. Although there are differences between genders and locations, the results indicate that the effects between domains were extremely minor. Due to a minor value that each domain contributed to genders and locations, the findings revealed no significant difference on the effectiveness of music ODL between male and female gifted students in terms of empowerment, usefulness, success, interest, and caring. We also found no significant difference on the effectiveness of music ODL between urban and rural gifted students in term of empowerment, usefulness, caring, and success. However, from gifted students' perspectives, ODL is quite effective, with moderate to high ratings recorded for the five domains in the questionnaire (Table 6). Further research could be conducted with larger sample sizes involving students from more urban and rural areas. Other tests looking at how ODL affects the different academic and practical results of music students could also be conducted. Nevertheless, this approach also encourages further dissemination of the many perspectives of music learning, not only on instrumental classes but also on institutionalization of traditional music (Ismail et al., 2020, 2021).

## Conclusion

The novelty of this research demonstrates that music ODL has changed the music education landscape from physical to virtual instruction. Data from the descriptive results show that gifted students tend to be motivated with regard to the implementation of music ODL. Although schools' implementation of distance learning has been rushed, the present study provides an overview of music ODL from gifted students' perspective that might help schools to consider implementing proper music ODL amidst during the critical situation of the COVID-19 pandemic. We believe that it is important for gifted students to be involved in evaluating the effectiveness of music ODL as they are unique students with extra sensitive learning needs. Without a proper education strategy, gifted students are more prone to feeling bored and tend to withdraw from music class. This may greatly impact their emotions, making them vulnerable to depression, burnout, and even suicidal thoughts.

Findings from the present study have practical implications in deploying a music distance learning system for gifted students. Schools could deploy online applications as outlined in this study for music activities for gifted students. In developing music distance learning, key activities such as virtual instruction, online tasks, and virtual discussions could be implemented to ensure learning effectiveness. We believe that music ODL is more flexible, is cost-effective, and increases students' motivation. Flexibility in ODL as highlighted in this study resonates with past mobile learning studies that have explored the possibilities of simultaneous learning of embedded secondary learning material, such as cultural heritage (Loo & Loo, 2021; Loo et al., 2016), and we see potential for further studies on gifted students. Thus, a proper intervention could be planned based on the evidence in the present study to fulfil gifted students' needs. It is hoped that the transition from physical to virtual music classes can be conducted smoothly by providing motivating material to gifted students. We recommend a true experimental research design related to music ODL among gifted students to be conducted in the future.

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## References

- Abakumova, I., Bakaeva, I., Grishina, A., & Dyakova, E. (2019). Active learning technologies in distance education of gifted students. *International Journal of Cognitive Research in Science, Engineering and Education*, 7(1), 85–94. <https://doi.org/10.5937/IJCRSEE1901085A>
- Almusharraf, N., & Khahro, S. (2020). Students satisfaction with online learning experiences during the COVID-19 pandemic. *International Journal of Emerging Technologies in Learning (iJET)*, 15(21), 246–267. <https://online-journals.org/index.php/i-jet/article/view/15647/0>
- Anderhag, P., Wickman, P. O., Bergqvist, K., Jakobson, B., Hamza, K. M., & Säljö, R. (2016). Why do secondary school students lose their interest in science? Or does it never emerge? A possible and overlooked explanation. *Science Education*, 100(5), 791–813. <https://doi.org/10.1002/sci.21231>
- Armstrong, V. (2013). *Technology and the gendering of music education*. Ashgate Publishing, Ltd.
- Atabey, D. (2021). COVID-19 from the perspective of preschool prospective teachers: What can we do for children? *International Journal on Social and Education Sciences*, 3(1), 82–94. <https://doi.org/10.46328/ijonses.76>
- Atterbury, B. W. (1990). Speaking the “gifted and talented” language: The key to program success. *Music Educators Journal*, 76(7), 46–49. <https://doi.org/10.2307/3401037>
- Bartel, L., & Cameron, Linda. (2004). From dilemmas to experience: Shaping the conditions of learning. In L. Bartel (Ed). *Questioning the music education paradigm* (Vol. II, pp. 39-61). Canadian Music Educators Association. <http://hdl.handle.net/1807/24437>
- Comber, C., Hargreaves, D. J., & Colley, A. (1993). Girls, boys and technology in music education. *British Journal of Music Education*, 10(2), 123–134. <https://doi.org/10.1017/S0265051700001583>
- Davies, R. B. (1971). Hypothesis testing when a nuisance parameter is present only under the alternatives. *Biometrika*, 74(1), 33–43. <https://doi.org/10.2307/2336019>
- Dori, Y. J., Zohar, A., Fischer-Shachor, D., Kohan-Mass, J., & Carmi, M. (2018). Gender-fair assessment of young gifted students’ scientific thinking skills. *International Journal of Science Education*, 40(6), 595–620. <https://doi.org/10.1080/09500693.2018.1431419>
- Doshi, D., Karunakar, P., Sukhabogi, J. R., Prasanna, J. S., & Mahajan, S. V. (2020). Assessing coronavirus fear in Indian population using the Fear of COVID-19 Scale. *International Journal of Mental Health and Addiction*. Advance online publication. <https://doi.org/10.1007/s11469-020-00332-x>
- Edward, C. N., Asirvatham, D., & Johar, G. (2019). The impact of teaching Oriental music using blended learning approach: An experimental study. *Malaysian Journal of Learning and Instruction*, 16(1), 81–103. <https://eric.ed.gov/?id=EJ1219911>



- Feldhusen, J. F. (2005). Giftedness, talent, expertise, and creative achievement. *Conceptions of giftedness*, 2, 64–79. <https://doi.org/10.1017/CBO9780511610455.006>
- Hassan, S. N. S., Tamuri, A. H., Othaman, I., & Mamat, M. S. (2009). Kajian persepsi pelajar terhadap tahap profesionalisme guru Pendidikan Islam MRSM. *JIAE: Journal of Islamic and Arabic Education*, 1(2), 31–50. <http://journalarticle.ukm.my/768/>
- Hernández-Torrano, D. (2018). Urban–rural excellence gaps: Features, factors, and implications. *Roeper Review*, 40(1), 36–45. <https://doi.org/10.1080/02783193.2018.1393610>
- Hymer, B., & Michel, D. (2013). *Gifted and talented learners: Creating a policy for inclusion*. Routledge.
- Ismail, M. J., Hamuzan, H. A., & Maarof, N. H. (2021). Meneroka tingkah laku unik pelajar pintar cerdas berbakat akademik [Exploring Unique Behavior of Gifted Students with Academic Talented]. *Malaysian Journal of Learning and Instruction*, 18(2), 301–328. <https://doi.org/10.32890/mjli2021.18.2.11>
- Ismail, M. J., Loo, F. C., & Anuar, A. F. (2021). Learning music through rhythmic movements in Malaysia. *Malaysian Journal of Learning and Instruction*, 18(1), 241–263. <https://doi.org/10.32890/mjli2021.18.1.10>
- Ismail, M. J., Loo, F. C., Anuar, A. F., Yusof, R. (2020). Institutionalising the Kompang for primary school students in Malaysia. *International Journal of Innovation, Creativity and Change*, 13(5), 275–292. <https://www.ijicc.net/index.php/volume-13-2020/188-vol-13-iss-5>
- Jones, B. D. (2017, December). *User guide for assessing the components of the MUSIC® Model of Motivation*. <https://www.themusicmodel.com/wp-content/uploads/2019/06/User-Guide-to-Assessing-the-MUSIC-Model-Components-December-2017-2.pdf>
- Keast, D. A. (2009). A constructivist application for online learning in music. *Research and Issues in Music Education*, 7(1), 1–8. <https://files.eric.ed.gov/fulltext/EJ894765.pdf>
- Kerr, B. A., & Huffman, J. M. (2018). Gender and talent development of gifted students. In S. I. Pfeiffer (Ed.), *Handbook of giftedness in children: Psychoeducational theory, research, and best practices* (2nd ed., pp. 115–128). Springer. [https://doi.org/10.1007/978-3-319-77004-8\\_8](https://doi.org/10.1007/978-3-319-77004-8_8)
- Kuntsche, E., Le Mével, L., & Berson, I. (2016). Development of the four-dimensional Motives for Listening to Music Questionnaire (MLMQ) and associations with health and social issues among adolescents. *Psychology of Music*, 44(2), 219–233. <https://doi.org/10.1177/0305735614562635>
- Loo, F. Y., & Loo, F. C. (2021, March 8–9). The Importance of a cultural-embedded learning model: Raising awareness of cultural heritage. In edited L. G. Chova, A. L. Martinez, & I. C. Torres (Eds.), *Proceedings of the International Technology, Education and Development Conference* (pp. 308–316). IATED Academy. <https://doi.org/10.21125/inted.2021.0090>

- Loo, F. Y., Loo, F. C., & Chai, K. E. (2016). Learning traditional Malay folk song and tempo control by using an M-learning model design for beginner pianists. *Turkish Online Journal of Educational Technology* [special issue], 41–46.
- Md Jais, I., & Azu Farhana, A. (2020). The significance of music to gifted students. *Quantum Journal of Social Sciences and Humanities*, 1(4), 33–43.  
<http://qjoest.com/qjssh/index.php/qjssh/article/view/21>
- Mills, M. (2000). Issues in implementing boys' programme in schools: Male teachers and empowerment. *Gender and Education*, 12(2), 221–238.  
<https://doi.org/10.1080/09540250050010027>
- Montacute, R., & Cullinane, C. (2018). *Parent power 2018: How parents use financial and cultural resources to boost their children's chances of success*. Sutton Trust.  
<http://dera.ioe.ac.uk/id/eprint/32179>
- Noddings, N. (2012). The caring relation in teaching. *Oxford Review of Education*, 38(6), 771–781.  
<https://doi.org/10.1080/03054985.2012.745047>
- Pallant, J. 2011. *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Open University Press. <https://searchworks.stanford.edu/view/8839418>
- Renzulli, J. S. (2016). The three-ring conception of giftedness: A developmental model for promoting creative productivity. In S. M. Reis (Ed.), *Reflections on gifted education: Critical works by Joseph S. Renzulli and colleagues* (pp. 55–90). Prufrock Press Inc.  
<https://www.routledge.com/Reflections-on-Gifted-Education-Critical-Works-by-Joseph-S-Renzulli-and/Renzulli-Reis/p/book/9781618215055>
- Rogers, J., & Revesz, A. (2020). *Experimental and quasi-experimental designs*. Routledge.
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences* (2nd ed.). Holt Rinehart & Winston.
- Ruokonen, I., & Ruismäki, 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.  
<https://doi.org/10.1016/j.sbspro.2016.02.039>
- Ruthmann, S. A., & Hebert, D. G. (2012). Music learning and new media in virtual and online environments. In S. A. Ruthmann & D. G. Hebert (Eds.), *The Oxford handbook of music education, Vol. 2* (pp. 567–583). New York: Oxford University Press.  
<https://doi.org/10.1093/oxfordhb/9780199928019.013.003>
- Schmidt, C. P. (2005). Relations among motivation, performance achievement, and music experience variables in secondary instrumental music students. *Journal of Research in Music Education*, 53(2), 134–147. <https://doi.org/10.2307/3345514>

- Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *The internet and higher education*, 7(1), 59-70. <https://doi.org/10.1016/j.iheduc.2003.11.003>
- Spencer, J. (2020, October 15). Empowering students in distance learning environments. *John Spencer*. <https://spencerauthor.com/empower-distance-learning/>
- Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics*. Harper & Row.
- Urruzola, M. V., & Bernaras, E. (2020). Music performance anxiety in 8-to 12-year-old children. *Revista de Psicodidáctica* (English ed.), 25(1), 76–83. <https://doi.org/10.1016/j.psicoe.2019.10.003>
- VanTassel-Baska, J. (1994). *Comprehensive curriculum for gifted learners*. Allyn & Bacon.
- Wallace, P. (2005). Distance education for gifted students: Leveraging technology to expand academic options. *High Ability Studies*, 16(1), 77–86. <https://doi.org/10.1080/13598130500115288>
- Wen, K. Y. K., & Kim Hua, T. (2020). ESL teachers' intention in adopting online educational technologies during COVID-19 pandemic. *Journal of Education and e-Learning Research*, 7(4), 387–394. <https://doi.org/10.20448/journal.509.2020.74.387.394>
- Zhang, T., Wang, Z., Liu, G., & Shao, J. (2019). Teachers' caring behavior and problem behaviors in adolescents: The mediating roles of cognitive reappraisal and expressive suppression. *Personality and Individual Differences*, 142(1), 270–275. <https://doi.org/10.1016/j.paid.2018.10.005>

