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Curriculum of music education for the basic educational stage in Jordan and Singapore: A comparative analytical study in light of the twenty-first century skills

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ABSTRACT

The study's objectives were to compare and contrast the levels of incorporating 21st - century skills into the music curriculum for the basic educational stage in Jordan and Singapore. The study employed the analytical descriptive approach and the comparison approach as a methodology and it used a content analysis that included 13 skills and 52 indicators for data collection, the general framework and general and specific outcomes of the music education curricula for the first six basic grades in Jordan and Singapore which made up the study sample. The results demonstrated that the general structure and learning objectives of Singapore's music education curriculum were highly inclusive of twenty-first century skills except for the skill of media literacy. Communication skills were given a high degree of inclusion in the Jordanian music education curriculum whereas four other skills had medium levels of inclusion and eight had low levels. Comparisons between the two curricula were made to properly understand the results that led to Singapore's music education curriculum being extremely inclusive of abilities essential to the twenty-first century. The study recommends increasing the inclusion of media literacy skills in the music education curriculum of both countries and increasing the inclusion of critical thinking and problem-solving, innovation, creativity, communication, collaboration, leadership and responsibility, flexibility and adaptability, productivity and accountability, information literacy, information communications and technology literacy, social and cross-cultural, and initiative and self-direction skills in the Jordanian curriculum.

Contribution/Originality: Rare studies have focused on analyzing the music education curriculum in Jordan in light of twenty-first century skills. This study also made a comparison of the results of the analysis of the music education curriculum in both Jordan and Singapore and presented proposals to enhance those skills in the curriculum.

1. INTRODUCTION

Emerging technological advancements along with the corresponding changes in lifestyles and requirements and the labor market's demands are posing increasing challenges to human communities. It has become essential to possess and even be proficient in a variety of talents, including digital and technological, life and work, learning, and creative abilities making it possible for the person to keep up with the quick advancements and be successful in overcoming the difficulties of modern life.

Specialists have examined these talents, categorized and organized them into a framework known as the twenty-first century skills framework. Educational institutions are in charge of educating children, preparing them and teaching them a variety of skills so that the result of the educational process is a person who is adequately informed and has mastery of a set of skills that will allow him to carry out his future tasks with flexibility and efficiency and ensure his success in a workplace that requires continuous learning. From the curriculum's general framework to its assessment procedures, the curriculum serves as one of the most important educational tools that work on preparing students, developing them emotionally, cognitively and skillfully and educating them as desired by teachers in particular and society in general. The curriculum has to be consistent with and fulfil the hopes and aspirations of the community. It was vital to provide curriculum changes that kept up with the rate of human development because the developments were ongoing and consecutive. One of the most crucial aspects of the curriculum development process is accessing and benefitting from successful educational experiences. This gives curriculum developers access to the best practices that have been demonstrated to be effective in achieving the goals of the curriculum and saves them the trouble of conducting experiments that might not be as successful as well as one of the most significant global experiences in the field of education. It is based on the educational system in Singapore which is regarded as one of the most effective and successful in the entire world. One of the reasons for the effectiveness of the educational system in Singapore is the interest of those in charge of the curriculum to include twenty-first century skills in it. Therefore, it was necessary to conduct an analysis of the degree of including twenty-first century skills in the music education curriculum in both Jordan and Singapore and to make a comparison between the degrees and methods of including those skills in the curricula of both countries.

1.1. Problems and Questions of the Study

By equipping students with a variety of knowledge and skills, particularly twenty-first century skills which many studies have confirmed to be effective in preparing students and increasing their capacity to engage in effective learning processes in the following stages and the continuity of the learning process for life and achieving success in work and life later through the knowledge, attitudes and experiences that they receive included in the various detective curricula and the music education curriculum as one of these curricula by examining the educational experience of Singapore which is one of the best educational experiences around the world and extracting its strengths to be taken into consideration when conducting a development or a new formulation of the music education curriculum in Jordan. The following issues were addressed to compare Singapore and its Jordanian counterpart in terms of incorporating these talents:

1. What is the degree of including twenty-first century skills in the music education curriculum in Jordan?
2. What is the degree of including twenty-first century skills in the music education curriculum in Singapore?
3. What are the similarities and differences between Singapore's and Jordan's approaches to integrating 21st-century skills into music education curricula?

1.2. Study Objectives

The goal of this study was to determine the extent to which 21st-century skills are incorporated into the music education curricula in Jordan and Singapore. It also examined Singapore's experience, the strategies employed there and how Jordan may apply these strategies to develop its music education curriculum.

1.3. Significance of the Study

The significance of this study lies in its analysis of the music education curricula in Singapore and Jordan, highlighting the strengths in the curricula to support and strengthen them as well as pointing out the flaws to be dealt with and addressed through the curriculum development processes and providing conclusions that enable the people in charge of Jordan's music education curricula to include 21st-century abilities.

1.4. Procedural Definitions

The following three procedural definitions had to be adopted to carry out this investigation:

Curriculum for Musical Education: The curriculum adopted by the Ministries of Education in Singapore and Jordan was taught in their educational institutions during the academic year (2022-2023) to give students access to musical knowledge and abilities that support the goals of the curriculum. It is intended for students in basic and secondary education.

The basic education stage: The grade level in Singapore's school system is one to six; however, in Jordan's, it extends from one to 10.

1- The current study was restricted to comparing the overall framework and the general and specific outcomes of the music education curriculum for the first six grades in both countries due to the intersection of the basic stage classes in both countries being restricted to the first six grades.

2- Twenty-first century skills: The set of competencies that primary school students must learn as part of their music education through the study's content analysis card tool to succeed in school, at work, and in life.

1.5. Limitations

1- Objective limitations: The study was limited to the following:

A: The general framework and specific outcomes of the music education curriculum for the first six grades in Jordan.

b: The general framework and the learning objectives of the music education curriculum for the first six grades in Singapore.

C: List of outcomes and indicators of skills developed by the College Board for the National Coalition for Core Arts Standards (The College Board for the National Coalition for Core Arts Standards, 2011).

2: Temporal limitations: This study was applied to the general framework and specific outcomes of the approved music education curriculum for the basic education stage in both Jordan and Singapore for the academic year (2022-2023).

3: Methodological limitations: The study tools, including the validity and reliability of these tools.

2. THEORETICAL FRAMEWORK

The theoretical framework of the current study included a review of the following topics: twenty-first century skills, music education and the music education curriculum in Jordan and Singapore. Previous studies tackled the music education curriculum in Jordan and Singapore.

2.1. 21st Century Skills

The opinions of teachers and decision-makers may vary depending on the detailed specifications of the twenty-first century curricula. The necessity of including these abilities in curricula and of supporting and encouraging curricula that promote twenty-first-century skills has been recognised by teachers and decision-makers (Hanna, Istance, & Francisco, 2010; Voogt & Roblin, 2012). International organizations have created frameworks that describe 21st-century talents and some have even gone further by creating examinations that help people acquire 21st- century abilities (Dede, 2010) for example:

1st Framework: Assessment and Teaching of 21st Century Skills (ATCS). In 2010, Cisco, Intel, and Microsoft supported a project that was directed in part by the Australian Melbourne University. The goal of the project was to offer concise, procedural definitions of 21st-century competencies. The project split the competencies for the twenty-first century into four categories: ways of thinking, ways of working, tools of work and living in the world. It also provided assessment techniques connected to acquiring the competencies (Binkley et al., 2012; Salas-Pilco, 2013). The 2nd Framework: The Basic Competencies for Lifelong Learning in the European Union (EU Key

Competencies for Lifelong Learning), the European Council and the European Parliament accepted it as a reference framework in 2006. Speaking the mother tongue, speaking foreign languages, math, science, and technology, learning to learn, social and civic competencies, digital competencies, initiative and entrepreneurship, and cultural awareness and expression are among the competencies that are crucial for success in a knowledge society (Commission for the European Communities, 2008; European Parliament, 2007).

The 3rd Framework: Definition and Selection of Competences (DeSeCo), The Organization for Economic Cooperation and Development (OECD) launched this framework in 2003 to create a conceptual framework that identifies and defines the key competencies and serves as the program's theoretical foundation. Three areas were included in the Program of International Student Assessment (PISA): interactive tool use, interactive knowledge and information use, and interactive technology use (Rychen, Salganik, & McLaughlin, 2003; Salas-Pilco, 2013).

The 4th framework: In 2001, the US Department of Education formed a coalition with several private institutions, organizations and businesses. The Partnership for 21st-Century Learning Framework was its official name. The information, abilities and experiences that students need to have are described in this framework. Mastery for success in life and the workplace and aims to assist teachers in incorporating skills into the instruction of important academic courses. It combines intellectual content, with particular skills, experiences and abilities in reading and writing. The development of all students' academic knowledge and understanding of core subject matter as well as their mastery of critical thinking, problem-solving, communication, and collaboration in the context of knowledge learning, are necessary for the implementation of 21st-century skills. Additionally, the framework must be combined with the necessary support systems such as standards and assessments, curriculum and instruction, professional development and learning environments, so that students can achieve their full potential (Khomis, 2018; Partership for 21st Century Learning, 2019; Partnership for 21st Century Skills, 2006).

The 21st century skills were adopted according to the definitions contained in the partnership framework for learning in the twenty-first century, due to the clarity of their domains for the the current study.

The National Standards for Art Education published by the Federation of National Societies for Arts Education in 1994 were the first to explicitly state what students should understand in all grades throughout K–12 in music, theatre, dance, and the visual arts. The 21st century skills map for the Arts was published in 2010 by the partnership for 21st century skills in coordination with art teachers. The following list outlines how the thirteen talents referred to as "skills of the twenty-first century" are connected to artistic productions:

1- Critical Thinking and Problem Solving: Making complex decisions, using common sense, and comprehending the connections between various systems.

2- Communication: The purpose of communication for students is to present ideas and opinions to others in a range of circumstances clearly and effectively whether orally or in writing.

3- Creativity: Demonstrating originality and creativity in work and being open and responsive to new and diverse perspectives.

4- Innovation: Developing, practicing and sharing new ideas with others as well as working on innovative ideas to add something real and beneficial to the industry where innovation takes place.

5- Information literacy: Being able to access and use information efficiently and effectively, evaluating information critically and effectively and understanding related ethical and legal issues.

6- Media literacy: A good understanding of how media messages are created, their characteristics and objectives, what tools are used for, how to interpret media messages differently, how to include values and viewpoints and how the media affects beliefs and behavior as well as relevant ethical and legal issues.

7- Information and communications technology (ICT) literacy: The ability to access, manage, integrate, evaluate and create new information for use in the knowledge economy through the use of technology, communication tools or networks, understand the ethical and legal issues associated with accessing,

organizing, evaluating and communicating information and use technology as a tool to search for, organize, evaluate and communicate information.

8- Flexibility and adaptation: Work effectively in an unpredictable climate, adapt to new roles and responsibilities and change priorities as necessary.

9- Initiative and self-direction: Observing the individual's needs for understanding and learning, attempting to broaden learning and opportunities to gain experience beyond mastering basic skills and curriculums, managing workload efficiently, taking initiative to advance skills towards a professional level and committing to lifelong learning.

10- Social and cross-cultural skills: Collaborating effectively and productively with others, overcoming cultural boundaries and investing in other points of view to boost creativity and quality at work.

11- Productivity and Accountability: Setting and achieving reasonable goals and standards for delivering high-quality work on schedule while exemplifying responsibility and adherence to work principles (such as reliability and timeliness).

12- Leadership and responsibility: Employing interpersonal skills to work with others, using their abilities to move them in the right direction, acting with integrity and morality and acting responsibly by considering the needs of the greater community.

13- Collaboration: Demonstrating the capacity to work well with varied teams, deal flexibly, be open to working with others to find solutions to problems and share responsibility for teamwork (National Coalition for Core Arts Standards, 2014).

2.2. Music Education

Music education plays a fundamental role in the development of the physical, mental, emotional, and social developmental dimensions as it improves sensory-motor response, reflective perception to judge a musical work as good or poor, the ability to observe and melodic and rhythmic memory. Its property of temporal and rhythmic weight sets it apart from other arts and it also fosters creativity. It can be viewed as an alternative to language communication because it is also regarded as a non-verbal kind of communication. In addition, participation enables children to contribute to the best of their abilities, preserving the cultural and artistic legacy for future generations, playing a significant role in achieving national and patriotic goals and occasionally promoting moral and religious values through singing. It also fosters the idea of cooperation within teams as well as competition between them (Al-Zoubi, 2013; Shorman, 2007; Thaher, 2012). Musical education improves and develops 21st-century skills for all students, so they can participate and play regardless of their talents and abilities by offering a variety of musical activities and roles (Eerola & Eerola, 2014; Khalil, 2005; Lee, 2009; Portowitz, Peppler, & Downton, 2014; Thaher, 2012). Innovative methods for putting the music education curriculum into practice have demonstrated their capacity to foster students' lifelong learning of 21st -century skills and have inspired teachers to use them in the fields of art education and performance (Shuler, 2011).

2.3. Music Education Curriculum in Jordan

Since the establishment of the Emirate of Transjordan in 1921, music education has been limited to some extracurricular activities, such as performing songs in national and religious celebrations. In addition, there was a lack of a formal music education program. The Ministry of Education then released a fine arts and music curriculum in 1965 but this curriculum failed to include Arabic music and instead concentrated on Western music making it unable to accomplish its objectives. The Ministry of Education established a national team to provide guidelines for the study of music education. The basic education stage's music education curriculum was accepted by the Education Council in 1990 (Malkawi, 2015; Nusairat, 2010; Tubasi, 2009). Musical education in Jordan is included in the curricula of the Ministry of Education in the form of classroom lessons at the rate of one lesson weekly that

are taught in kindergarten and the basic stage from the first to the tenth grade, in addition to the secondary stage (Haddad & Sada, 2016). The music education curriculum includes four main axes: Musical history and taste, musical theories, reading and notation, and musical performance, singing and playing (Ministry of Education, 2013). On the other hand, the music education curriculum has not been updated since specialized teams created it at the end of the previous century, necessitating a pause to reconsider and work to update it to be more in line with changes and developments in lifestyle and modern technology in general and its effects on education in particular (Dukhan, 2013; Hammad, 2021; Malkawi, 2015).

2.4. Music Education Curriculum in Singapore

During the British occupation of Singapore, hymns and other religious chants were sung in educational settings including missionary schools run by protestant churches and other organizations and at a late stage some popular songs were introduced without addressing the playing of musical instruments (Chong, 1991; Stead & Lum, 2014). The primary and secondary music education curricula in Singapore were initially restricted to singing a group of local heritage songs in addition to some Western songs with the curriculum being noted to have been influenced by Orff-Schulwerk. However, after Singapore gained independence in 1965, it added music education as a compulsory subject to its educational system (Yeo, 1990). The Active Approach to Music Making (AAMM), a Kodaly-based method was then introduced to the music education curriculum in 1982 by specialists in the Ministry of Education of Singapore. It quickly gained widespread acceptance among music teachers and students. Tan (1997) and Stead and Lum (2014) in 1997 following a comprehensive review of curricula in Singapore, an initiative bearing the slogan "Thinking Schools". The learning nation approach was based on the methods of Orff, Dalcroze, and Kodaly and also stressed the need for Singapore students to acquire twenty-first century skills to enable them to perform efficiently in a world based on the knowledge economy and the digital economy. The curriculum specialists did more than develop investors in technological development and employ it in music education and teaching methods. The ministry encouraged teachers to take advantage of modern technology in their teaching of the curriculum and exchange experiences among them to reach the best teaching methods that ensure effective implementation of the curriculum (Ministry of Education, 2016).

The first six grades of Singapore's music education curriculum are broken up into three stages, each of which has two rows and learning objectives that must be met over two academic years. These objectives are:

First: Lyrical and instrumental musical performance, individually or in groups. Students learn and expand their talents to express themselves through music by means of the performance of a variety of musical compositions that will enhance their musical experiences. Second: Lyrical and instrumental musical innovation and creativity, individually or in groups. Through improvisation and musical composition activities, where students apply the musical skills and concepts they learned during listening and performing activities, the composition and musical creativity processes harness and develop students' creative abilities in a musical context. This links to and synthesizes everything they have learned.

Third: Listening and responding to music which is an essential process in music education. Students learn about the elements of sound and various musical genres through listening as they explore new sonic landscapes. During performance and creative processes, they also learn how to listen closely and profoundly, giving students the chance to consider their work and voice their ideas about the work of their classmates and other musicians.

Fourth: Appreciating the music of local and international civilizations. Through early exposure to music from many different local and global cultures students can develop an understanding of other cultures and an openness to various musical genres. They also gain an understanding of the various roles that musicians play in society and the significance of music in various cultures which deepens their understanding of music.

Fifth: Understanding musical elements and concepts. Studying the language of music is the same as studying musical elements and ideas. Students can better comprehend and enjoy the music they listen to by developing a

foundational understanding of its aspects, elements, and concepts. Musically applied experiences are the most effective technique to teach musical principles and elements (Ministry of Education, 2016).

2.5. Previous Studies

Many studies tackled the music education curriculum in Singapore including Chong (1991) which aimed to shed light on the development of the music education curriculum in primary schools in Singapore from 1959 to 1990. This study analyzed all available documents, reports, evaluations and instructions issued by the Ministry of Education in Singapore, in addition to conducting interviews with music education teachers and music specialists in the ministry. The study's two most significant conclusions are that music education in primary schools is mostly taught through singing and that instructors of music education do not receive adequate training which has a negative impact on how well the curriculum's goals are met. Wnog (1999) examined the views of students and teachers about the music education curriculum in secondary schools in Singapore. Two questionnaires were employed in the study and they were given to a sample of 180 students and 12 teachers. The study revealed teachers' attitudes towards their professional development programs and students' attitudes towards the music education curriculum. Yeo (1990) shed light on Singapore's music education curriculum, the tools on hand and the best ways to improve the entire musical learning process. Additionally, it included innovative suggestions for music teachers to use in putting the curriculum into practice.

As for the music education curriculum in Jordan, Tubasi (2009) conducted a study on the music education curriculum in Jordan to establish the reality of school music education in Jordan highlighting the qualities of the music education curricula for the first three grades, identifying the challenges associated with the implementation of the music education curricula for the first three grades and suggesting solutions. The researcher used the analytical descriptive method and analyzed the basic elements of the music education curricula for the first three grades in Jordan, in addition to analyzing the curricula from the teachers' point of view using a questionnaire that included three domains. The questionnaire was distributed to the study sample which consisted of 100 male and female teachers of music education working in the field. The results of the study showed that music education in Jordan's schools still takes on the character of extra-curricular musical activity and faces many obstacles, the most important of which is the lack of qualified human resources to implement the curriculum and the lack of musical capabilities necessary to implement these curricula. Dukhan (2013) aimed to identify the status of the music and chant textbooks for the third grade in Jordan among the international curricula. The study used a content analysis tool and a descriptive analytical method as well as a comparison approach. The study's sample included a third-grade music and chants book, a teacher's manual for a third-grade music and chants curriculum in Jordan and a third-grade music education spotlight on music books and related materials published by the American company McGraw-Hill and used several foreign nations and US states. One of the findings of the study is that, in contrast to the music curriculum where the content topics varied and students were given the freedom to think and express themselves freely, the content of the book of music and chants for the third grade is very short and brief and its topics are not diverse. Malkawi (2015) assesses the Jordanian basic stage music and chants curriculum with a focus on its practical components (playing and singing), the degree to which it fulfills students' future aspirations, the suitability of the learning environment for its implementation and the understanding of the class teachers' actual readiness to do so. A content analysis questionnaire, a questionnaire for classroom teachers and interviews with students, parents and basic school principals were all employed as part of the study's analytical survey methodology. 120 primary school students, 100 classroom teachers, 50 primary school principals and 60 male and female music teachers. The study's most significant finding is that this curriculum still maintains the traditional instructor role. The learning environment is inappropriate and does not allow teachers to apply the curriculum as it should because the curriculum did not provide him with a participatory role which limited the learner's role to receiving information.

Hammad (2021) which used the descriptive analytical approach and the content analysis card to achieve its objectives, intends to determine the extent to which the curriculum for music education in Jordan contains twenty-first century abilities. For the 10 grades of Jordan's basic education stage, the overall framework, the general and specific outcomes, the student book and the teacher's handbook were examined.

The study's findings revealed a serious flaw in the music education curriculum's failure to include the majority of twenty-first century abilities. Additionally, it offered suggestions for how to enhance and enliven the teaching of music to students. With the exception of Hammad (2021) no study that examined the curriculum for music education in Jordan addressed the skills of the twenty-first century as a requirement to adequately prepare students and give them power.

They did not compare the results of Hammad's research. With the knowledge that Singapore's educational system has been successful in incorporating these skills, we can see that studies that have examined the music education curriculum have examined the stages of curriculum development over time, such as Chong (1991) which sought to shed light on the stages of development of the Singaporean music education curriculum for the period between 1959 and 1990 Yeo (1990) which aimed to present proposals for developing the curriculum, presented suggested teaching methods that could make the process of learning music more effective or shed light on the attitudes of students and teachers towards the curriculum as in Wnog (1999).

3. METHODOLOGY

This study used the comparative descriptive analytical approach to determine the reality of the approach. The descriptive analytical approach relies on studying the phenomenon as it is in reality and describing it accurately through qualitative expression that describes it and clarifies its characteristics or quantitative expression that describes it numerically and clarifies its amount and size (Abbas, Nofal, Absi, & Abu Awwad, 2014) to know the reality of the musical education curriculum in both Jordan and Singapore in the light of the skills of the twenty-first century and then using the comparative approach to make a comparison to find out the similarities and differences between the curricula in both countries based on the results of the descriptive analysis.

3.1. Study Population and Sample

The study population consisted of the music education curriculum in Jordan and its counterpart in Singapore, and the study sample consisted of the general framework, learning outcomes and objectives of the music education curriculum for the basic education stage in both countries.

3.2. Study Instrument

The 21st Century Skills list is endorsed by the National Coalition for Essential Arts Standards Board in collaboration with the Partnership for 21st Century Skills. The validity of the tool was confirmed by presenting it to (12) arbitrators who are experts in the fields of curriculum and teaching, psychology, measurement and evaluation, and music education.

They were asked to comment on whether or not the paragraphs were appropriate for the field under which they fall, how much they belong to it and whether they had any suggestions for how to modify the tool in light of their findings. In its final form, the tool consisted of 52 indicators distributed over 13 skills. The general framework document and outcomes of the Jordanian music education curriculum were examined by a researcher and another specialist and the stability of the content analysis card was confirmed by adhering to the same analysis controls and criteria within the analysis card. The Holisti equation's value of the stability coefficient, which gives the study tool a high degree of reliability in its capacity to accomplish the study's goals was (0.92) when the analysis results for the two researchers were compared, and Delliou (2014) mentions that the value of the stability coefficient for content analysis research was (0.92). It is high according to the Holsty equation if it reaches 0.85 or above.

3.3. Procedures for Content Analysis

Analyzing the general framework and outcomes of both curricula involved the following steps:

1. Identifying the purpose of the analysis: The purpose of this study is to discover whether Jordanian and Singaporean basic music education curricula include twenty-first century skills.

2. Selecting the analysis sample: The general structure and objectives of the music education curriculum for the first six grades of the basic education stage in Singapore and Jordan were chosen as the analysis sample.

3. Identifying the categories of analysis: The categories of analysis were determined from the list of twenty-first century skills and their indicators developed in this study which consisted of 52 indicators that covered 13 skills.

4. Determining the units of analysis: The idea was chosen as the unit of analysis due to its suitability for the nature of the study.

5. Determining the criteria for evaluating the indicator: In making their assessment of the extent to which 21st century skills are incorporated in the overall framework and outcomes of the music education curriculum for the basic education stage in both Jordan and Singapore, the researchers drew on the studies of Hammad (2021) and Khazim (2016). Three layers of content analysis were done as follows:

A: In the absence of an index of twenty-first century skills in the sample, it is given a relative weight of 0 degrees.

B: If the twenty-first century skills index is implicitly present in the sample, it is given a relative weight of 1 degree.

C: If the twenty-first century skills index is clearly and explicitly present in the sample, it is given a relative weight of 2 degrees. Accordingly, the relative weight of the availability of 52 twenty-first century skills indicators in the book of music and chants ranges between 0 as a minimum score and 104 as a maximum.

It was possible to extract the percentage of the availability of twenty-first century skills by multiplying the total scores of skill indicators by a hundred and dividing the result by the maximum score of the total scores of skill indicators. Accordingly, the degree of inclusion of twenty-first century skills was judged in light of the resulting percentages according to the following criterion:

A: The availability of skills is considered low if the percentage ranges from 0% to 33%.

B: The availability of skills is considered medium if the percentage is greater than 33% to 66%.

C: The availability of skills is considered high if the percentage is greater than 66% to 100%.

6. Statistical treatment: Data were analyzed using descriptive statistics such as counting frequencies, arithmetic averages and percentages.

4. RESULTS

The study tool was used to analyze the general framework and learning objectives of the music education curriculum for grades (1-6) in Jordan, and the frequencies and percentages are shown in Table 1 to answer the first question:

According to Table 1, the degree of inclusion of twenty-first century skills in the general framework and the general and specific outcomes of the music education curriculum for the basic education stage in Jordan is low at a rate of 19.68%. The percentages of the degree to which twenty-first century skills are included in the general framework and the general and specific outcomes of the music education curriculum ranged between 0-69.44%. Communication skills got the highest rating with a total percentage of 69.44% and a high score followed by information, communications and technology literacy skills with a percentage of (57.41%) and a medium score. Social and cross-cultural skills came in third place. Productivity, accountability and innovation skills came in fourth place with an estimate of 34.72% and 34.22%, respectively with a moderate degree. Similarly, critical thinking and problem-solving skills with an average rating of 34.11% ranked fifth. As for initiative and self-direction and

flexibility and adaptability skills, they were low (13.49% and 12.50%), respectively while the other six skills; (Collaboration, leadership and responsibility, media literacy, information literacy, creativity and innovation) were completely absent.

Table 1. The degree of 21st century skills inclusion in the general framework and the general and specific outcomes of the music education curriculum for the basic education stage in Jordan

Twenty-first century skills in the general framework and the outcomes of the music education curriculum									
#	Skill	Primary 1st grade	Primary 2nd grade	Primary 3rd grade	Primary 4th grade	Primary 5th grade	Primary 6th grade	Total skill percentage	Rank
1	Critical thinking and problem solving	33.33%	38.00%	33.33%	33.33%	33.33%	33.33%	34.11%	5
2	Communication	83.33%	66.67%	66.67%	66.67%	66.67%	66.67%	69.44%	1
3	Creativity	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8
4	Innovation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8
5	Collaboration	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8
6	Information literacy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8
7	Media literacy	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8
8	Information, communications, and technology literacy	33.33%	66.67%	66.67%	55.56%	55.56%	66.67%	57.41%	2
9	Flexibility and adaptability	16.67%	8.33%	8.33%	8.33%	25.00%	8.33%	12.50%	7
10	Initiative and self-direction	0.00%	9.52%	19.05%	19.05%	14.29%	19.05%	13.49%	6
11	Productivity and accountability	50.00%	33.33%	33.33%	22.00%	33.33%	33.33%	34.22%	4
12	Social and cross-cultural skills	50.00%	33.33%	33.33%	33.33%	16.67%	41.67%	34.72%	3
13	Leadership and responsibility	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8
All skills								19.68%	

To answer the second question, the study tool was used to analyze the general framework and learning objectives of the music education curriculum for grades (1-6) in Singapore and the frequencies and percentages are shown in Table 1.

The percentages of the degree to include twenty-first century skills in the general framework and the general and specific outcomes of the music education curriculum in Singapore ranged between 10% and 100% as shown in Table 2 which came with a high score for the total skills with a rate of 75.39%. In the first rank, both communication and collaboration skills got a percentage of 100%. This was followed by innovation skills and social and cross-cultural skills with a percentage of 95.83% and a high degree as well. With the exception of the media literacy skill which got a percentage of 10% and a low score and the information, communication and technology literacy skills which got 60% with a medium score, and the information literacy skill (53.33%) with a medium score as well. The rest of the skills are at a high rate including twenty-first century skills. Leadership and responsibility skills came in third with a percentage of 90%, critical thinking and problem-solving skills came in the fourth (81.67%), flexibility and adaptability skills came in fifth (77.5%) and the skill came in sixth rank. The productivity and accountability skills with a percentage of 74.33%, initiative and self-direction skills came in seventh place with a percentage of 73.33% and creativity skills came in eighth place with a percentage of 71.67%.

Table 2. The degree of 21ˢᵗ century skills inclusion in the general framework and the learning objectives of the music education curriculum for the basic education stage in Singapore.

Twenty-first century skills in the general framework and the outcomes of the music education curriculum (Singapore)						
#	Skill	Primary 1st and 2nd grades	Primary 3rd and 4th grades	Primary 5th and 6th grades	Total skill percentage	Rank
1	Critical thinking and problem solving	70%	85.0%	90%	81.67%	4
2	Communication	100%	100%	100%	100.00%	1
3	Creativity	50.00%	72.50%	92.50%	71.67%	8
4	Innovation	92.50%	95.00%	100%	95.83%	2
5	Collaboration	100%	100%	100%	100.00%	1
6	Information literacy	0.00%	75.00%	85.00%	53.33%	10
7	Media literacy	0.00%	15.00%	15.00%	10.00%	11
8	Information, communications, and technology literacy	0.00%	85.00%	95.00%	60.00 %	9
9	Flexibility and adaptability	75.00%	77.50%	80.00%	77.50%	5
10	Initiative and self-direction	55.00%	82.50%	82.50%	73.33%	7
11	Productivity and accountability	50.00%	85.00%	88.00%	74.33%	6
12	Social and cross-cultural skills	90.00%	97.50%	100%	95.83%	2
13	Leadership and responsibility	70.00%	100%	100%	90.00%	3
All skills					75.39%	

Table 3. Similarities in the degree of inclusion of twenty-first century skills in the curricula of music education in both Jordan and Singapore.

No.	Skills	The degree of inclusion in Jordanian curriculum	The degree of inclusion in Singaporean curriculum	Similarities in the inclusion of twenty-first century skills in the music education curriculum
1	Communication	69.44%	100.00%	The inclusion of communication skills is similar with a high degree and a great advantage in favor of the Singaporean curriculum.
2	Information, communications, and technology literacy	57.41%	60.00%	The inclusion of ICT skills is similar to a medium degree with a preference in favor of the Singaporean curriculum.
3	Media literacy	0.00%	10.00%	The similarity of including media literacy skills with a low degree of preference in favor of the Singaporean curriculum.

A comparison was made to find out the similarities and differences in including twenty-first century skills in the music education curriculum in both Jordan and Singapore to answer the third question.

4.1. Similarities

Table 3 shows that there is a similarity in the degree of inclusion of twenty-first century skills in the curricula of music education in both Jordan and Singapore in three skills which are the communication skill with a high degree of inclusion with preference in favor of the music education curriculum in Singapore, the information, communications and technology literacy skills in both curricula with an average degree, with preference in favor of

the Singaporean curriculum and the lastly, the media literacy skill with preference for the Singaporean curriculum as well.

Table 4. Differences in the degree of inclusion of twenty-first century skills in the curricula of music education in both Jordan and Singapore

No.	Skill	The degree of inclusion in the Jordanian curriculum	The degree of inclusion in the Singaporean curriculum	Similarities in the inclusion of twenty-first century skills in the music education curriculum
1	Critical thinking and problem solving	34.11%	81.67%	It came with an average score in the Jordanian curriculum while it had a high score in the Singaporean curriculum.
2	Creativity	0.00%	71.67%	It was low in the Jordanian curriculum and had a high score in the Singaporean curriculum.
3	Innovation	0.00%	95.83%	It came with a low score in the Jordanian curriculum and a high score in the Singaporean curriculum.
4	Collaboration	0.00%	100.00%	It was low in the Jordanian curriculum while it came with a high score in the Singaporean curriculum.
5	Information literacy	0.00%	53.33%	It had a low score in the Jordanian curriculum while it came with a medium score in the Singaporean curriculum.
6	Flexibility and adaptability	12.50%	77.50%	Low in the Jordanian curriculum while it came with a high score in the Singaporean curriculum.
7	Initiative and self-direction	13.49%	73.33%	Low in the Jordanian curriculum while it came with a high score in the Singaporean curriculum.
8	Productivity and accountability	34.22%	74.33%	It came with an average score in the Jordanian curriculum while it came with a high score in the Singaporean curriculum.
9	Social and cross-cultural skills	34.72%	95.83%	It came with an average score in the Jordanian curriculum while it came with a high score in the Singaporean curriculum.
10	Leadership and responsibility	0.00%	90.00%	It had a low degree in the Jordanian curriculum while it had a high degree in the Singaporean curriculum.

4.2. Differences

Table 4 shows differences in the degree of including twenty-first century skills in the music education curriculum in Jordan and Singapore where the skills of creativity , innovation , collaboration , information literacy, flexibility and adaptation, initiative and self-direction, and leadership and responsibility appeared with a low degree of inclusion in the music education curriculum in Jordan while these skills appeared with a high degree of inclusion except for media literacy skill which appeared to a medium degree in the music education curriculum in Singapore. As for the skills of critical thinking, problem solving, productivity and accountability and social and cross-cultural, they came with a moderate degree of inclusion in the music education curriculum in Jordan while the same skills came with a degree of high inclusion in the music education curriculum in Singapore.

5. DISCUSSION

The analysis of the general framework and outcomes of the music education curriculum in Jordan and Singapore and the extent of including 21st -century skills in both Jordanian and Singaporean curricula of music education was found to favor of Singaporean. Below is a discussion of the extent of the inclusion of these skills:

1: Critical thinking and problem-solving skills: The degree of inclusion of these skills is found to be high (81.67%) through the musical experiences included to achieve all of the first, third, fourth and fifth learning objectives. In addition, evaluating musical works and making comparisons between them, the degree of including this skill in the general framework and outputs of the music education curriculum in Jordan was medium with a percentage of 34.11% as the goals were absent. The outputs concern innovation and musical composition and thus the evaluation of works that support and develop students' abilities and higher thinking skills in analysis, composition, innovation and creativity while the outputs include the student making some comparisons and what was referred to in Hammad (2021) and Dukhan (2013).

2: Communication skills: The curricula of music education in both Jordan and Singapore showed a high degree of inclusion of communication skills with a preference for the Singapore curriculum.

3: Creativity and innovation: The music education curriculum in Singapore in its general framework and the second learning objective in innovation and creativity for all grades focused on developing students' abilities in innovation, composition and creativity while there was no indication of interest in innovation or creativity in the general framework or public and private outcomes of the music education curriculum in Jordan as indicated by Hammad (2021) and Dukhan (2013).

4: Collaboration: The music education curriculum in Singapore is concerned with the skill of sharing clearly and explicitly, individually or in groups as it aims for students to play, sing, improvise and compose individually and in groups to achieve the skill of sharing effectively while the general framework and specific outcomes of the basic education stage in Jordan did not include any goal or product that would develop the skill of sharing referred to in Dukhan (2013).

5: Information Literacy: The music education curriculum in Singapore aims to develop the informational literacy skill in its general framework and learning objectives of the research, collection and evaluation of information about local musical compositions and from different international civilizations using various sources to achieve this to discover its elements and characteristics and pass judgment on them. This is similar to the fifth learning objective which aims at understanding musical elements and concepts while the products of the music education curriculum in Jordan which include local and international musical compositions have been limited to informing students and introducing them to these concepts without assigning them to collect information about them from various sources of knowledge and to classify and evaluate that information. The analysis concerning this skill shows the absence of including this skill in the music education curriculum in Jordan and this is what was referred to in Malkawi (2015), Hammad (2021) and Dukhan (2013).

6- Media literacy: This skill was completely absent in the music education curriculum of Jordan and its inclusion in the music education curriculum in Singapore was low. There was no explicit or implicit reference that could be considered a representation of this skill in the general framework and general results and this is what was referred to in Hammad (2021).

7: Information, communications and technology literacy: This skill was included in the general framework and learning objectives of the music education curriculum in Singapore to a medium degree (60%) while the skill was included in the general framework and specific outcomes of the music education curriculum in Jordan with a medium degree and a nearby percentage (57.41%). The relative advantage of the Singapore curriculum is attributed to the general framework and learning outcomes and its investment in technology as a source of knowledge in the fourth learning goal of appreciating local music and the music of global literacy and as a tool for implementing music in the first learning goal of musical performance. concerning the second learning objective which is to innovate and create lyrical and instrumental music individually or in groups, and to exploit digital platforms whether they are social platforms to publish musical works or specialized to view musical works of different genres and cultures. The fifth learning objective is to understand musical elements and concepts. According to Hammad (2021) and Dukhan (2013) interest in the general framework and the general and specific outcomes of the music

education curriculum in Jordan was limited to the use of technology as a tool for musical implementation and as a source of knowledge in some cases.

8: Flexibility and adaptability: The learning goals of the music education curriculum in Singapore ensured superiority over its counterpart in Jordan. When looking at the first learning goal in performing, playing and singing individually and in groups in which students play various roles, playing and singing, individually or in groups (performance ensembles) as well as the second learning objective in innovation and creativity of music individually and in groups in which students also play various roles, playing and singing, individually or in groups (performance ensembles) to present what they have improvised or composed of music, we find that the learning objectives of the curriculum musical education in Singapore encourage students to adapt to various artistic contexts and work effectively in them. This explains the high degree of inclusion of this skill with a percentage of 77.5% while the degree of inclusion in the Jordanian curriculum was low with a percentage of 12.5%. The low inclusion indicates the limited roles that students play in the music education curriculum in Jordan especially in the absence of the skills of participation, creativity and innovation as indicated by Hammad (2021).

9: Initiative and self-direction: This skill was included in the music education curriculum in Singapore with a high degree (73.33%). The fifth learning objective encourages students to pursue their understanding and learning needs, expand the scope of learning and acquire experiences and skills, taking advantage of the various sources of knowledge while the low degree of its inclusion in the Jordanian curriculum of music education (13.49%) is attributed to the fact that the curriculum in Jordan does not encourage students to search for various sources of knowledge to meet their needs of understanding and learning, expand the scope of learning and improve their skills. The student's book and the information provided by the teacher are the sources of musical knowledge as indicated by Hammad (2021) and Dukhan (2013).

10: Productivity and accountability: The goals that students should achieve in the music education curriculum in Jordan were limited to playing and singing individually, reading and notation, understanding musical elements and concepts and reading and tasting selected musical works from different cultures while the music education curriculum in Singapore increased additional goals as students should play and sing individually and in groups, improvise and compose music individually and in groups, understand musical elements and concepts and use them in the processes of innovation and musical composition, and read and taste musical works of different types and cultures and accordingly the skill of productivity and accountability appeared to a degree Inclusion is high (74.33%) while the skill was included to a medium degree in Jordan (34.22%) as indicated by Hammad (2021) and Malkawi (2015).

11: Social and cross-cultural: These skills in the curricula of Jordan were limited to viewing and tasting selected musical works from different cultures and getting to know the most famous musicians around the world while in Singapore music education curricula were to view and taste selected musical works from different cultures in a more extensive and specialized way to discuss the structural formulas and musical forms prevailing in different cultures and the folk instruments of different cultures around the world and the nature of their sounds and to discuss the role that music plays at the level of individuals and societies, events and flags. Musical composition in different cultures made the inclusion of social and cross-cultural skills in the general framework and learning outcomes of the music education curriculum in Singapore a high degree and a percentage of 95.83% while its counterpart in the general framework and the general and specific outcomes of the music education curriculum in Jordan was a medium degree and a percentage. of 34.72% as indicated by Hammad (2021) and Malkawi (2015).

12: Leadership and responsibility: This skill has been included in the music education curriculum in Singapore with a high degree and a percentage of (90%). A group that contributes to the promotion and development of this skill by exploiting the strengths of the members of the group to achieve a common goal of acting responsibly and showing integrity and ethical behavior. The second is innovation and creativity, singing and playing individually or in groups while this possibility is not available in the music education curriculum in Jordan due to the absence of

any reference to working in groups in the general framework and specific results as indicated by Hammad (2021) and Dukhan (2013).

6. CONCLUSION

The researchers came to the following conclusion and suggested the following based on the aforementioned discussion: Conclusions and recommendations related to the music education curriculum for the basic education stage in Jordan:

1: There is a need to increase the number of products that include critical thinking and problem-solving skills by adding products that encourage students to improvise, create and compose music, products that encourage in-depth listening so that listening tasks include assessment and analysis, products that encourage the evaluation and analysis of local music and the music of global cultures and products that deepen understanding of elements and musical concepts and demonstrate this understanding while students listen and compose.

2: There is a need to increase the amount of innovation, creativity and communication skills by adding products that encourage students to improvise and compose music individually or in groups and to express their opinions on various musical works.

3: There is a need to increase the skills of collaboration, leadership and responsibility, flexibility and adaptability, productivity and accountability by adding products that encourage students to perform singing and playing in groups and products that encourage improvisation, composition and musical creativity individually or in groups.

4: There is a need to increase the amount of the products that include the skills of information literacy , media literacy , information , communications and technology literacy, social and cross-cultural, and initiative and self-direction by adding products that encourage students to use digital music applications, tools and electronic musical instruments in performing and composing music and using music sites and specialized platforms to collect information and use it to write reports and research assignments that deepen their understanding of musical concepts and develop their skills, use social platforms to communicate and publish their music and analyze and critique the work of their peers and musicians from diverse cultures.

Concerning the music education curriculum for the basic education stage in Singapore, the researchers recommended raising the degree of inclusion of media literacy skills by adding products that encourage students to create media messages and know their specifications and objectives, the tools used for that, and the influence of the media on beliefs and behaviors, with an understanding of relevant ethical and legal issues.

Future research suggestion: Researchers suggest future research investigating the best practices for implementing twenty-first century skills and the role teachers can play in enriching the curriculum with these skills.

REFERENCES

Abbas, M., Nofal, M., Absi, M., & Abu Awwad, F. (2014). *An introduction to research methods in education and psychology* (5th ed.). Amman: Dar Al Masirah for Publishing and Distribution.

Al-Zoubi, M. (2013). Music education and music activity an analytical study for the reality of music education in Jordan Amman city as a model. *Journal of Arts, 6*(4), 477-488.

Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining twenty-first century skills in: P. Griffin, B. McGaw, and E. Care (Ed), Assessment and teaching of 21st century skills. In (Vol. 17-66). Dordrecht: Springer.

Chong, S. (1991). *General music education in the primary schools in Singapore, 1959-1990.* Ph.D. Dissertation, University of Illinois at Urbana-Champaign: USA.

Commission for the European Communities. (2008). *New skills for new jobs anticipating and matching labor market and skills needs communication from the commission to the european parliament, the council, the European economic and social committee and the committee of regions, brussels.* Retrieved from https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0868:FIN:EN:PDF

Dede, C. (2010). Comparing frameworks for 21st century skills in: J. Bellance, and R. Brandt (Eds.), 21st century skills: Rethinking how students learn. In (pp. 51-76). Bloomington, IN: Solution Tree Press.

Delliou, F. (2014). Standards of validity and reliability in quantitative and qualitative research. *Journal of Arts and Social Sciences, 19*, 82-91.

Dukhan, A. (2013). *Music education curriculum for the third grade of primary school in Jordan: A comparative analytical study in the light of contemporary global educational trends.* Master's Thesis, University of Jordan, Amman, Jordan.

Eerola, P.-S., & Eerola, T. (2014). Extended music education enhances the quality of school life. *Music Education Research, 16*(1), 88-104. https://doi.org/10.1080/14613808.2013.829428

European Parliament. (2007). *Key competences for lifelong learning: A European reference framework annex of a recommendation of the European parliament and of the council of 18 December 2006 on key competences for lifelong learning, official journal of the European Union.* Retrieved from https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF

Haddad, R., & Sada, E. (2016). Music teaching environment in schools of Jordan "reality and challenges. *Dirasat: Human and Social Sciences Journal, 43*(3), 2459-2491.

Hammad, M. (2021). *An analytical study of music education curriculum for basic education in Jordan according to the twenty-first century skills.* Ph.D. Dissertation, University of Jordan, Amman, Jordan.

Hanna, D., Istance, D., & Francisco, B. (2010). *The nature of learning: Using research to inspire practice.* Paris: OECD Publishing.

Khalil, E. (2005). The effectiveness of a proposed program to acquire some behavioral values through teaching musical activities to primary school students. *Journal of Studies in Curricula and Teaching Methods, 106*, 107-195. http://search.mandumah.com/Record/41122

Khazim, K. (2016). The analysis of the content of mathematics textbook of the upper grades of the primary school in the Kingdom of Saudi Arabia in the light of the 21st century skills. *Journal of Education and Psychology, 53*, 61-88. https://doi.org/10.12816/0031427

Khomis, S. (2018). 21st century skills: A framework for education for the future. *Journal of Childhood and Development, 9*(31), 149-163.

Lee, L. Y. L. (2009). An empirical study on teaching Urban young children music and english by contrastive elements of music and songs. *Online Submission, 6*(3), 28-39.

Malkawi, A. (2015). *Playing and singing in the curricula of music and chants for the first basic stage in schools in Jordan, an analytical study.* PhD Dissertation, Holy Spirit University, Kaslik, Lebanon.

Ministry of Education. (2013). *General framework and outcomes of music education curriculum.* Amman: The Hashemite Kingdom of Jordan: MOE.

Ministry of Education. (2016). *Music teaching and learning syllabus.* Singapore: MOE.

National Coalition for Core Arts Standards. (2014). *National core arts standards: A conceptual framework for arts learning.* Retrieved from https://www.nationalartsstandards.org/sites/default/files/Conceptual%20Framework%2007-21-16_0.pdf

Nusairat, N. (2010). *A proposed educational foundation for music education students of the basic stage in Jordan.* PhD Dissertation, University of Jordan, Amman, Jordan.

Partership for 21st Century Learning. (2019). *Framework partership for 21st century learning*. Retrieved from http://battelleforkids.org/networks/p21

Partnership for 21st Century Skills. (2006). *Framework for 21st century learning*. Retrieved from http://www.p21.org/overview/skills-framework

Portowitz, A., Peppler, K. A., & Downton, M. (2014). In harmony: A technology-based music education model to enhance musical understanding and general learning skills. *International Journal of Music Education, 32*(2), 242-260. https://doi.org/10.1177/0255761413517056

Rychen, D., Salganik, L., & McLaughlin, M. (2003). *Contributions to the second DeSeCo symposium neuchâtel*. Switzerland: SFSO – Swiss Federal Statistical Office.

Salas-Pilco, S. Z. (2013). Evolution of the framework for 21st century competencies. *Knowledge Management & E-Learning: An International Journal, 5*(1), 10–24. https://doi.org/10.34105/j.kmel.2013.05.002b

Shorman, A. (2007). The inevitability of integrating music education for qualitative outputs. *Dirasat: Human and Social Sciences Journal, 34*(3), 455.

Shuler, S. C. (2011). Music education for life: The three artistic processes—paths to lifelong 21st-century skills through music. *Music Educators Journal, 97*(4), 9-13. https://doi.org/10.1177/0027432111409828

Stead, E. P., & Lum, C. H. (2014). The development of the general music programme in primary and secondary schools in J. Zubillaga-Pow & C. K. Ho (Eds.), Singapore soundscape: Musical renaissance of a global city. In (pp. 235-250). Singapore: National Library Board.

Tan, S. H. (1997). *Teacher perception of and pupil achievement in the new primary school music programme the active approach to music-making*. Master's Thesis, National Institute of Education, Nanyang Technological University, Nanyang, Singapore.

Thaher, M. (2012). *The effectiveness of a proposed program to develop some musical education skills in the light of international standards among the ninth grade students in Gaza*. Master's Thesis, Al-Azhar University, Gaza, Palestine.

The College Board for the National Coalition for Core Arts Standards. (2011). *Arts education standards and 21st centuryskills: An analysis of the national standards for arts education as compared to the 21st century skills map for the arts*. New York: College Board.

Tubasi, A. (2009). *Music education curricula for the first three grades in Jordan: An analytical study*. Master's Thesis, Yarmouk University, Irbid, Jordan.

Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Sudies, 44*(3), 299-321. https://doi.org/10.1080/00220272.2012.668938

Wnog, E. (1999). *A study of student and teacher attitudes toward music education in Singapore secondary schools*. Doctoral Dissertation, Temple University, USA.

Yeo, S. C. (1990). *Looking beyond curriculum: Music in the Singapore education system*. Honor's Thesis, Southern Illinois University Carbondale, USA.