

What is the Most Effective Method for Teaching Improvisation in the Music Classroom?

Abstract

Improvisation is a wonderful aspect of music which offers musicians the opportunity to engage in creative self-expression, while simultaneously providing benefits to brain activity across all areas. A large proportion of music teachers lack confidence in teaching improvisation, often stemming from a lack of experience improvising themselves and research has indicated teachers want support in becoming more capable in this area. From the students' perspective, improvisation can be a daunting prospect because it often leads to anxiety about making mistakes, and embarrassment in front of their peers. The purpose of this study is to provide music teachers with information about the optimum method to assist students grow as improvisors, and view improvisation as an enjoyable activity rather than something to be nervous about. This study conducted a systematic review of existing literature related to music improvisation education by searching databases for studies conducted since 2010. Data were extracted from the information contained within literature that passed a quality and relevancy test, and each piece of literature was evaluated to determine to what extent it would contribute to the findings of this study. The data were analysed to find commonalities across the literature and to evaluate the strength of contrasting ideas, and the findings were synthesised to produce the answers to the research questions. The data demonstrated that creating a supportive, relaxed environment where students are encouraged to take risks and not be afraid of making mistakes is incredibly important in designing an improvisation class. There were contrasting opinions on how a teacher could do this, with a clear division between advocacy for highly-structured improvisation activities, or emphasising improvisation as a communicative practice. Some of the data indicated that if students were asked to follow a pre-ordained structure when improvising, they would feel comfortable as they have a set of notes to stick to and an understanding of the direction of the music, as opposed to being overwhelmed by choice and lacking an idea of where to start. Other data displayed that in fact, asking students to stick to a structure would lead to worries about playing wrong notes, and it is more beneficial for students to be thinking about self-expression and their role within the ensemble when they are improvising, not getting worked up about individual note choice. A unanimous finding was the role strong aural skills plays in students' development, as the data strongly displayed that methodologies which include aural activities lead to evident achievement in improvisation. This study definitively demonstrates that students engage most effectively in improvisation when the teacher creates a classroom environment which does not instil fears over making mistakes and encourages risk-taking, as well as accentuates the role of aural development in their teaching methodology. Further studies are needed to resolve what approaches are best at reducing students' nerves, as this research project could not determine whether structured improvising, or free improvisation, is more agreeable to students.

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Chapter 1 - Introduction

Research Context

Traditionally, music in the western education system involves students learning how to read music, playing pieces which are progressively more difficult and becoming familiar with significant pieces and composers (Kertz-Welzel, 2020). However, learning how to tackle challenging notated compositions is not the only strand of music worth exposing students to, and it is not even the sum total of musical performances from the Classical era, much of which forms the inspiration for current teaching methodology (Vigran, 2020). Improvisation, where musicians are able to be spontaneous and express themselves through their own solos, melodies and pieces is a prominent aspect of many genres such as pop, classical cadenzas and music from various cultures around the world, yet the study of improvisation is often left only to those specifically interested in jazz (Tobar, 2021). A key criterion of the Australian music curriculum is understanding and exploring music from other cultures and countries ("*Music,*" n.d.), and improvisation is a key part of other musical traditions including Arab, West African and Latin music (Solis, 2004). As Bauer (2014) states, "improvisation can assume a variety of forms, from the experimentation with pitch, rhythm, and timbre... to the highly intricate interactions of professional jazz artists" (p. 51). Prior to the eighteenth century the "practice was so common, the word improvisation did not exist; instead the word *fantasia* was used, which indicated that something was performed on a whim... it was assumed that a performer would add their own musical ideas throughout the composition" (Vigran, 2020, p. 6). However, as particular improvisations were notated down and distributed, these became canonised versions which were to be meticulously studied and replicated, minimising the role of improvisation in performing traditional western music (Vigran, 2020). In modern times, improvisation is rarely included in conservatory music education and is not considered part of performance tradition (Vigran, 2020).

For decades, there have been prominent music pedagogies which do contain aspects that promote improvisation. The Dalcroze method is a tradition of music teaching based around movement and designed by Swiss pedagogue Emile Jacques-Dalcroze. This method includes a system where students begin improvising by exploring and experimenting with different sounds on their instruments and developing high standards of listening skills, so that they can improvise with other musicians effectively (Choksy et al., 1986). A lot of improvisation teaching has been undertaken in the jazz sphere. Studying the blues and conventions of jazz music more broadly has long been considered helpful to students in understanding methods of practising, and how they can improve the quality of their improvisations (Spencer, 1980).

In between 2000-2009, there was some notable research conducted into the benefits of engaging students in reflective practices following their improvisations. Improvisation can be approached in a philosophical manner if students are encouraged to consider their musical experiences, what their improvisations are expressing and conveying, and what part of themselves they are representing in the process (Kanellopoulos, 2007). Group improvisation presents students with opportunities to discuss improvisations they have just completed. This encourages students to reflect, analyse and think deeply about musical improvisation and their actions during a group activity (Burnard, 2002).

Burnard (2002) came to his conclusion after observing a group of twelve-year old children regularly participate in a club which provided musical creativity opportunities, whilst Kanellopoulos' (2007), findings were produced based on interactions/conversations with eight-year old students.

Motivations for Conducting this Research

Improvisation, creativity and spontaneity are natural elements of children's play; "they incorporate improvisation through simple songs with melody and lyrics that they create as part of their game" (Tobar, 2021, p. 2). Whilst improvisation often does not need to be taught to young children for them to feel comfortable participating in it, if it is not an element which is emphasised throughout schooling, students will find it less natural and more daunting to take the risk of getting something 'wrong' (Giddings, 2013). Edmund & Keller (2019) state that "every teacher's goal is to develop students' inclination to take risks" (p. 3), and improvisation can play an important role in this process as it encourages risk-taking and moves students away from thinking which treats everything they do as either correct or incorrect. Bloom's Taxonomy recommends that any unit of learning should conclude with a creative component, and that "creating is considered the highest level of thinking" (Giddings, 2013, p. 45), and studying improvisation both theoretically and practically allows students to develop voice in the classroom (Kanellopoulos, 2007). There is evidence to demonstrate the benefits that can be obtained by developing improvisation skills, benefits which are useful to students outside the music classroom and transferable to beyond the education setting. Studies have demonstrated that studying musical improvisation has a positive effect on general intelligence, academic ability and performance achievement, and more specifically "has a vital role in cultivating musical creativity and encouraging creative achievement." (Cheong, 2018, p. 201). However, there are barriers to teachers and students approaching improvisation in the music classroom. Most of my music teachers had not learnt how to improvise when they were students, and they lacked the confidence and knowledge to help me develop skills in this area. When there were opportunities in band situations for myself or fellow students to have an improvised solo, the teachers sourced an experienced musician to write out a solo for me to practise and learn precisely, even though I would be playing it over a traditionally improvised section and this was a clear opportunity for me to learn and develop skills in improvisation. Removing possibilities for improvisation removes risk-taking opportunities; risk-taking is important for students to challenge themselves and make mistakes so that they can learn from them and grow to play at a higher standard (Hedden, 2017).

As my experience indicates, improvisation can often be absent from music education (Filsinger, 2013) and there are several factors which provide barriers to teachers and students being willing to approach improvising in the classroom. Gagne (2014) notes if teachers were not taught how to improvise when they were students, they lack the knowledge and confidence to teach it, resulting in a perpetual cycle. Even if they are introduced to improvisation in higher education degrees, they will not teach this aspect if it is not an emphasised element in the school curricula, and they also need to be provided with continuing support to have the confidence to teach it in the classroom (Gagne, 2014). Research indicates teachers acknowledge the importance of improvisation and are interested in learning more about how to teach it (Gagne, 2014 & Bernhard, & Stringham,

2015), so it is important that through professional development teachers are given strategies and methods which will help them effectively approach this aspect of music. Even in Niknafs' (2013) study of music teachers in Illinois, which found that over eighty-five percent of teachers did incorporate improvisation into the classroom, the results still demonstrated a desire amongst the teacher cohort to develop their abilities in this area and have greater support in how to teach it. The Australian Curriculum's content descriptors state that students must be given opportunities to improvise and experiment in the music classroom, including at the secondary school level ("*Music*," n.d.).

Factors Impeding Teaching Improvisation

Fear and lack of experience with improvisation also affect elementary school music teachers (Whitcomb, 2013). Despres (2016) expressed that starting improvisation activities as early as possible in a musician's journey is beneficial to their creative development, and the earlier they start being creative the more natural this aspect of music will feel to them. It is also important for improvisation to be introduced in the primary classroom so that by the time they reach secondary school they are not scared of improvising, allowing them to engage with it and reap the benefits that research has shown come with being creative.

For students, one of the largest barriers to willingness to engage with improvising is nervousness leading to self-consciousness and fear of making mistakes (Coss, 2018). If students are not given direct opportunities to improvise and see examples of others taking risks and making mistakes, they will leave school afraid of improvising and doing something 'wrong.'

Other research has shown that teachers who do use improvisation in the classroom are likely to be older and more experienced teachers, and/or those that had improvisation included as a component of their higher education studies (Koutsoupidou, 2005). Teachers at all levels struggle with improvisation when they do not possess such skills themselves, and some teachers do not know how to introduce the concept and help students grow as improvisors when students have not already had some experience in the area (Bell, 2003).

Research has indicated that teachers would like information in how to teach improvisation to be delivered to them in higher education courses and workshops, and out of all the methods covered in this research, reading about methodologies in books was the least desirable way for teachers to understand more about this subject (Ward-Steinman, 2007).

Research Aims

If all music teachers taught improvisation in their classrooms, much would be gained as music is a creative art form that only evolves when musicians improvise, compose and take risks in creating something original and different (Giddings, 2014). Practising improvisation also contains general musical benefits, including understanding of musical elements and being able to create music without relying on notation (Hedden, 2017). For teachers who were not taught how to improvise when they students, they would struggle to know how to address it in the classroom without resources and professional development opportunities to assist them with developing their knowledge. This research topic focuses on the problem

of music teachers lacking the confidence and skillset to teach improvisation, which results in them either avoiding teaching it at all or feeling under-skilled when teaching this aspect. The research will address this problem by seeking the most effective method for teaching improvisation in the classroom to help teachers to feel more confident when approaching this aspect of music. This research seeks to find out what strategies teachers can use to introduce improvisation to their students, how teachers can assist their students when they are not confident improvisors themselves and how to differentiate in a classroom which has students who come with differing experience levels. It is intended that at the conclusion of this research, there could be a resource based upon the outcomes of this research, which could guide teachers looking further into effective ways to teach improvisation. The outcomes are largely intended to be utilised when teaching a class which is predominantly made up of students who have not done improvising before, so the teacher will need to go through introductory steps before progressing to more sophisticated levels. The research is primarily focused on assisting secondary school teachers, but it is likely that aspects of the findings would be transferable and helpful for primary school and one-on-one music educators additionally.

The primary research question this project addresses is What is the Most Effective Method for Teaching Improvisation in the Music Classroom? To assist answering that overall question, smaller sub-questions are also explored. These are:

- What are the barriers to teaching and learning improvisation?
- Are there consistent themes amongst the methodologies currently being employed?
- Are different methodologies needed for different types of students?
- How should improvisation be taught when the class is composed of students with varying prior improvisational experiences?

Chapter two of this dissertation addresses how this research was conducted and the rationale behind using the chosen method and methodology. Chapter three is the systematic review, where each piece of literature's strengths and weaknesses are assessed in order to inform the weight I will be giving to the data collated in the data extraction. Chapter four is the discussion, analysed and synthesised in order to provide an answer to the research question, and the fifth chapter concludes by summarising the research project and synthesising the findings. Chapter six provides recommendations for further research.

Definitions

Here are some explanations for terms which are used:

- A call and response activity is when two players take it in turns to play for a set amount of time. For example, the teacher and student can swap every four bars, and this activity can be done by either both improvising during their turns, or one copying what the other has played.
- Pentatonic scales are scales made up of five notes, so pentatonic improvisation is improvisation centred around pentatonic scales.

- A fugue is a compositional technique designed for multiple voices.
- A cadenza is an ornamental passage of a piece, either improvised or written-out, for a soloist to display virtuously and be rhythmically free.
- Free improvisation, which is where improvisation happens without players having to adhere to a structure and is entirely made up on the spot, can be used in education and research has been done which highlights the benefits that can occur when free improvisation is a student-led activity in higher education (Ford, 1995).

Chapter 2 – Methodology

Ontology & Epistemology

This research was conducted from an interpretivist standpoint, from which the assumption is that the social world is constructed through interactions occurring within social contexts (Gephart, Jr., 2018). Interpretivism sees the world as understandable by interpreting and describing these interactions, and “interpretive social science takes an insider view that privileges social actors’ knowledge of social context and their commonsense meanings” (Gephart, Jr., 2018, p. 35). The world can be understood from a foundation of commonsense knowledge, and thus interpretivist research analyses interactions to extract commonsense meaning and find answers to their research questions.

I found literature detailing the above information by searching for the keywords ‘qualitative research epistemology’ in the Adelaide University Library database. I read the titles and abstracts of the search results to see if they were relevant, and for those that were promising I read the relevant sections of each piece of literature until I found one which provided me with a detailed understanding of the different standpoints qualitative research can be conducted with.

Systematic Review

The methodology used in this research was a systematic review of the existing academic literature related to this topic. This was qualitative research as I utilised data that was extracted words from the existing literature (Creswell, 2020), and qualitative research involves “analysing the data for description and themes using text analysis and interpreting the larger meaning of the findings” (Creswell, 2020, p. 40). Qualitative research was the appropriate approach for this research as only secondary data could be collected, and to answer the research question the findings of the existing literature needed to be analysed and grouped to find commonalities and themes from a variety of existing studies and articles. Literature was sourced with the aim of finding examples of students developing their improvisation skills with a clear methodology or plan from the teacher. Literature was found by searching the Adelaide University Library database and the SAGE Journals database. In the Adelaide University database, I searched for any titles containing ‘music* AND improvis*', which also contained at least one of ‘teach*, class*, pedagog* Or educat*’ in the title. The * symbol at the end of words allowed the search to look for any words which start with the term inputted, and captured a variety of endings. For example, educat* searched for education, educator, educational etc. The other search restriction I applied was only searching for items that were initially written or had been translated into English, a restriction that I was unable to apply in the SAGE database and did so manually. I used the same search terms and asterisk points for both databases, and in each database I set 2010 as the earliest year for search results to help narrow down my results and make it manageable for this research project. In the SAGE Database, I applied the restriction ‘Only Content I Have Full Access To,’ to avoid having results I would not be able to read. To keep the literature size manageable for the scope of this research, non-peer-reviewed articles were filtered out. After I had my results, I read the abstracts to ensure they were relevant to

my topic. I did not include any literature which did not feature the teacher having an active role in facilitating students' improvising, and I included literature about strategies which could be applied universally, as opposed to strategies which were seen as relevant to a singular instrument or context. I ensured I did not only include literature which supported my point of view by including all literature which contained data concerning how to foster creativity in the music classroom; I did not exclude anything on the basis of the methodology used in the classroom; only literature which did not have relevancy to the topic was excluded and not analysed.

Whilst conducting preliminary research for the proposal prior to conducting the systematic review, literature published prior to 2010 was used to establish the background information for this research. Most of this literature was identified by searching the University of Adelaide online database, using the same key words as the systematic review without the year restriction. When I had to access the literature through physical copies in the University library, some literature was located by browsing the relevant parts of the library and scanning the books to find any information related to improvising in the music classroom.

For books which did not have an abstract to provide an overview of the research, websites and online databases often had a keyword search tool to help locate occurrences of certain key words within the text. 'Improvisation' was a keyword I used to search through the books to help me locate the parts relevant to my research. For physical books, I had to look at the content pages and skim through the books, looking out for chapters and points which would be beneficial. The data in this research were drawn from the existing literature, and I conducted a thematic analysis of the data to find common themes and methodologies related to teaching improvisation.

The methodology of a systematic review and the method of a thematic analysis were chosen because they provided an effective way of finding the data, and then collecting useful themes and findings from the data. The sourcing of literature was a systematic review so that if it were to be replicated, other researchers would be able to locate the same literature (Creswell, 2020). The recording of search terms used and in which databases was done with the objective of demonstrating the systematic nature of the research. Search engines are being constantly updated and algorithms modified, so whilst it is probable that were this research to be replicated it would come up with identical or near-identical results, that slight caveat should be noted. It is important for the implementation of thematic analysis to be systematic and recorded so that the research methods can be critiqued, verified and demonstrated to be rigorous and replicable (Nowell et al., 2017). The thematic analysis resulted in no piece of literature being examined in great depth in the final research paper, with only the themes and supporting evidence from literature being necessary, not a detailed overview of the sources (Creswell, 2020). This method was chosen as locating the themes is what was necessary for this research to provide its findings, and this is a common method for student dissertations of this nature (Creswell, 2020).

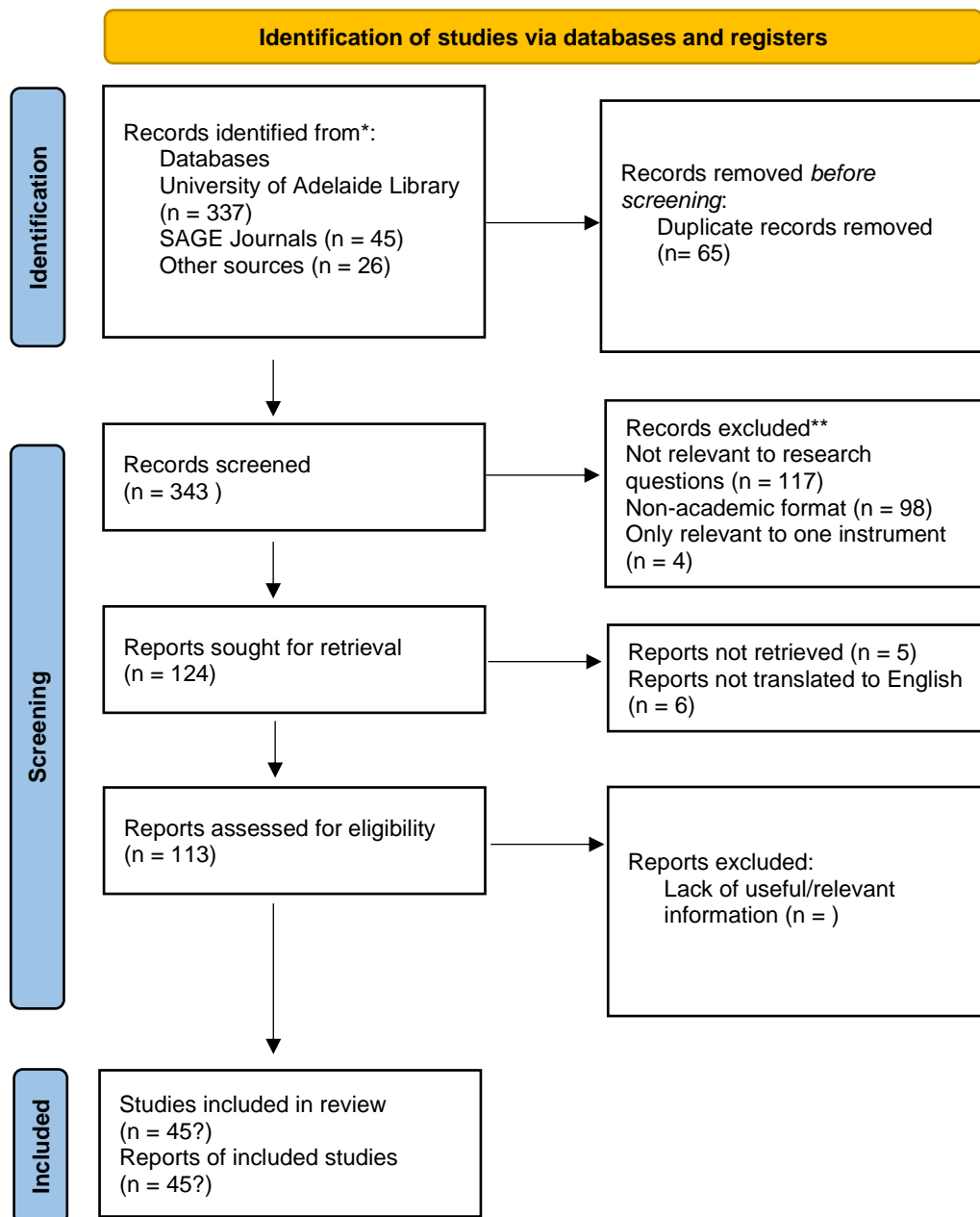


Figure 1: PRISMA Flow-Chart

Evaluation

To evaluate the quality and appropriateness of each source and the information within it, I applied the CRAAP test to ensure the included literature was sound and appropriate to be contributing to my findings. The five elements to the CRAAP test are Currency, Relevance, Authority, Accuracy and Purpose. Currency was applied in the systematic review by applying the year filter in the database searches. I checked for Relevance by looking at the titles and abstracts of the literature, and ensuring that reference to teaching improvisation was in the context of music. For Authority I only included journal articles which were peer reviewed, and I ensured that the authors worked in a field related to the topic, such as researching education, music and/or improvisation. I included literature which was from music teachers

who had experience with improvisation, however as is shown in the Discussion this data is not given as much weight as the more rigorous studies included. I did not include literature from teachers and academics who did not have any authority in the music field. I applied Accuracy whilst reading the literature, checking that their claims and findings were consistent with what they had researched and was based off research and experience, not unfounded opinion. For Purpose, I read the literature to check that any bias was made clear and that the findings were based off results, not pre-determined leanings towards a particular outcome. I needed literature that was addressing education and how to improve in the subject, rather than looking at the thought process of those who are already accomplished in the area without consideration of how their skills were developed. I did not include literature regarding improvisation in other subjects, unless the findings were about broader creativity and clearly transferrable to general principles for encouraging and coaching improvisational skills. For the literature that I sourced outside of the systematic review, since some of it was from outside the year limit, I applied the rest of the CRAAP test particularly rigorously. I ensured that the literature was specifically directed towards teaching music and that the information would not have changed, such as data about traditional and long-established methodologies for music education. The authors had to be music educators and/or academics with significant experience in teaching and researching music education.

Data Analysis

To find the themes amongst the data, quotes were collected from the literature and collated in a table, with one column containing the quote and another column stating where the quote was located. I read the data, found commonalities in the quotes and used these commonalities to group the data into themes and recurring ideas which provided the basis of the findings for the final paper. When writing the literature review, I grouped the data, in the form of ideas and quotes, into themes as related ideas started to appear. After grouping it in this way, I was able to analyse similarities and differences in the conclusions from the existing literature and this began the process of drawing conclusions from the findings.

Synthesis

I synthesised the findings by summarising the results of the analysis. Having already evaluated and analysed the strength of each piece of literature, for the synthesis I did not include information that did not have strong research to support it, focusing only on strong conclusions which could support future teaching practices. I thematically grouped the synthesis for ease of reading and understanding the commonalities found in the literature.

Limitations

A limitation to this research is that the sourcing of literature was limited to what I was able to access without having to pay for anything. There was no funding or budget for this research, so any literature consulted was limited to what I could access with what my University account enables me to access, or had no barriers to being accessed and is free to every individual. No specific equipment or resources were required for this research; I

already had access to technology which enabled me to access the databases. There was no travel or field work and no monetary costs involved in this research.

Bias

I did not enter this research desiring a particular outcome and took steps to ensure the systematic review process was not biased, however I must acknowledge the possibility of my own experiences influencing my results. I was already convinced of the benefits of improvisation prior to commencing this research, and it is an activity I regularly undertake with my own music students. My improvisation experience as a student was predominantly with jazz, and I took jazz courses at university. Therefore, a structured, scale-and-chord based method of improvisation is what I have always been inclined towards when practising and teaching improvisation myself.

Ethics

Since there was no collection of primary data for this research project, there was no need to undertake an ethics report. I ensured my research was ethical by only accessing literature I had legal access to, and whilst there were no instances of this being the case, I would not have included any literature which had unethical practices in my review.

After finding literature in the systematic review, I assessed the relative strength of each piece of literature in the Evaluation. The table below the Evaluation shows the common themes that appeared in the literature and what papers these themes cropped up in. This leads into the data extraction in which I presented the information and grouped it into themes to make the information easier to read and highlighted connections.

Evaluation

Whilst forty-five pieces of literature passed the eligibility assessment criteria to be included, after reading them more in-depth it became apparent there is a diversity in the quality of research conducted across the remaining literature. This section will highlight how vigorous the research was behind each piece of writing, because whilst the relevant findings will all be highlighted in the data extraction, those with less gaps in the research process will bear more weight in the conclusions I draw from the data.

Primary Research

Several of the studies took data from observing what occurred in the classroom. Driscoll (2014) taught ten fourth-grade music classes and had a multi-faceted way of collecting data about the teaching techniques, including video-recordings, student journals, Driscoll's written observations and audio-recordings. I considered this to be a very high-quality research and data collection process, although there is a slight caveat in regards to relevance as it is outside the age group in my research question. With the same caveat, Wall observed eight group improvisation sessions featuring six fifth-grade students and Hunter (2019) interviewed and observed multiple classes of six Orff Schulwerk educators in upper-primary classrooms. In a study which did focus on high-schoolers, Brumbach (2017) conducted a study comparing two methods of instructing jazz improvisation in an ensemble context.

Wright & Kanellopoulos (2010) produced findings by collecting data from the learning journals of ninety-one student teachers across two Greek universities, and Watson (2010) produced findings after assessing how sixty-two university instrumentalists developed across six universities. Pellegrino et al. (2018) conducted a self-study by two university music educators and a music theorist, obtaining data from their meetings, journals and surveys of students. Two differing pedagogical methods were assigned to students, and the results compared. Hickey (2014) interviewed and observed four university free improvisation instructors. This was a strong way of collecting data, except for the fact that all of the interviewees would clearly be biased towards the benefits of free improvisation. Varvarigou (2016) observed first-year undergraduate university students, studying western classical music, during peer work to assess their development. These were all good research studies, however an important caveat is that all of the musicians in them were already highly skilled and technically proficient, meaning that the results might not translate to teaching students with significantly less musical experience.

Rowe et al. (2014) studied nineteen students across two schools, one in England and the other in Greece. The children were all piano students, were aged between six and ten and

had been learning for between one and four years. The activity completed during the study was not specific to piano students, however again there is a relevancy caveat in regards to their age.

Another recurring research method was surveying teachers or experienced improvisors. Niknafs (2013) conducted a survey of more than 3,000 music teachers in Illinois, and in a broader study Gruenhagen & Whitcomb (2013) surveyed one-hundred-and-three music teachers in the United States. Rummel (2010) surveyed one thousand, two hundred and seventy-four active music teachers in Pennsylvania in what had by far the greatest number of responses amongst literature I consulted. Filsinger (2013) interviewed novice music teachers before and after a series of professional development workshops, with group meetings occurring in-between the workshops. Coss (2018) surveyed seven expert jazz educators, Taylor (2018) interviewed six music teachers, Shevock (2018) interviewed three expert improvisors, and Hedden (2017) interviewed a music educator in Lithuania who was specialising in teaching improvisation at University. There is a clear variety in the number of respondents across these surveys. Each one possesses limitations, such as a small sample number or being limited to one city/country. Often, those that were interviewing small groups were asking much more detailed questions about teaching techniques and aimed to find experienced improvisation teachers, and those with larger scopes were asking questions that required less depth of answer. Whilst each survey has limits if wanting to extrapolate the data, together they provide a descriptive picture.

Three piano teachers provided West (2020) data through interviews and lesson recordings. There were a couple of caveats with relevancy, as they were specifically piano teachers and for the student age range of eight-to-ten. I have included this study because the data being collected was not looking at improvisation specific to instrumental piano lessons, with conclusions being drawn which were more universally applied to music students, but its findings needed to be supported by other studies for me to evaluate it highly.

Watson (2011) wrote a book based on his non-academically researched experiences of teaching creativity as a music teacher. I did not consider this data to be as rigorously tested as the research studies I found, but the author's credentials in music and education, and variety of scenarios and students he taught creativity, were credible enough for the data to be included and considered. In the same group is Freedman (2013), who drew findings from her experiences as a teacher, having tested activities on her classes.

Giddings (2014) passed the eligibility criteria to be included, however I found his research process to be very weak. He tested his methodologies on his sister, a professional adult musician, although there is some relevancy in that she was new to improvisation and would have to go through beginner steps in this area. I would not draw any conclusions from Giddings' work unless it was clearly supported by stronger work.

As something I elaborate on in the data extraction, the achievement opportunities presented to the two groups in Cheong's (2018) did not appear to be equal and so conclusions drawn about the development of the two groups is skewed.

Secondary Research

Two previous systematic reviews were part of my research. Both strong pieces of literature, Larsson & Georgii-Hemming (2018) reviewed twenty peer-reviewed journals published between 2000-2015, whilst Siljamaki & Kanellopoulos (2020) completed their review of research published between 1985-2015. 1985-2015 allowed for an older, less up-to-date timeframe than Larsson & Georgii-Hemming, and they prioritised papers in leading journals rather than peer reviewed ones. I would consider this selection criteria as not as consistent and more open to bias than looking for peer reviewed.

Johnston (2013) drew on prior practice-based and ethnographic research concerning the Jimmy Giuffre 3, and researched the rehearsal techniques of the group.

A couple of articles were not primary research in themselves, but the authors were discussing previous work they done in addition to interpreting previous literature. Whitcomb (2013) had previously surveyed music teachers in New York and, whilst not giving an exact number, it was implied a significant number of respondents participated. Norgaard (2017) had previously interviewed expert improvisors.

Bernhard & Stringham (2015) interpreted previously literature and referenced data in 2012 which was specific to Ontario. Guderian (2011) and Monk (2012) both formulated methods based their own experiences as teachers, and these systems were supported with literature that aligned with the theory behind the designs. Buonviri's (2013) article was not researched and written just from his experience and observations as an educator, although he had previously conducted research in other work so he does not lack credentials.

Monk's (2013) comprehensive theory of music as dialogue was not researched or tested, rather a program he developed after he had analysed previous literature. Biasutti (2015) conducted a literature review, but it did not have a clear selection criteria for the studies that Biasutti analysed.

There were numerous articles which interpreted previous literature, but without any stated methodology or apparent research practice. Healy (2014), Yoo (2015), Edmund & Keller (2019) and Biasutti (2017) all fall into this category. Beckstead (2013) had the same flaw, although it was at least clear that his perspective was based on brain activity during improvisation, a completely novel research area within this systematic review. Despite being a published dissertation in which it was clear they had analysed existing literature, Vigran (2020) contained no methodology or detail of research practices.

Heil's (2017) article has no research process and it was entirely unclear how their recommendations were reached. I would not use Heil's article for anything more than looking at individual one-off activities to use with students; I consider it to have very little validity in regards to constructing a greater pedagogy.

Table 1: Key Themes Across Literature from Systematic Review

Key Themes	Papers Themes Present In
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Improvisation in Classical Music	Kertz-Wiesel (2020) Vigran (2020)
Universality of Improvisation	Siljamaki & Kanellopoulos (2019) Tobar (2021)
Benefits of Improvisation	Cheong (2018) Despres (2016) Beckstead (2013)
Risk-Taking/Fear of Making Mistakes	Edmund & Keller (2019) Hedden (2017) Coss (2018) Pellegrino et al. (2018) West (2020) Healy (2014) Giddings (2014) Whitcomb (2013) Larsson & Georgii-Hemming (2018) Driscoll (2014)
Teachers Lacking Confidence	Gagne (2014) Niknafs (2013) Whitcomb (2013) Coss (2018) Bernhard, II, & Stringham (2015) Rummel (2010)
Scaffolding	Whitcomb (2013) Pellegrino et al. (2018) Giddings (2014) Driscoll (2014) Hunter (2019) Taylor (2018) Yoo (2015) Buonviri (2013) Larsson & Georgii-Hemming (2018) Guderian (2011) Biasutti (2015)
Aural Skills	Biasutti (2015) Giddings (2014) Edmund & Keller (2019)

	Brumbach (2017) Niknafs (2013) Larsson & Georgii-Hemming (2018) Heil (2017) Gagne (2014)
Chords & Scales as Basis for Improvisation	Biasutti (2017) Biasutti (2015) Healy (2014) Giddings (2014) Taylor (2018) Heil (2017)
Class Discussions/Reflective Practises	Watson (2011) Larsson & Georgii-Hemming (2018)
Free Improvisation	Wright & Kanellopoulos (2010) Niknafs (2013) Johnston (2013) Hickey (2014) Grunehagen & Whitcomb (2013) Healy (2014) Niknafs (2013) Larsson & Georgii-Hemming (2018)
Collaborative/Group Improvisation	Monk (2013) Monk (2012) Johnston (2013) Hickey (2014) Healy (2014) Larsson & Georgii-Hemming (2018)

Data Extraction

Background Information

Siljamaki and Kanellopoulos (2019), looked at current trends of research around improvisation and highlighted many areas for further research. Music improvisation in general was considered a field that should be researched more widely, including a focus on genres in which improvisation is more prominent than regularly acknowledged, improvisation in music from other cultures and pedagogical uses of improvisation. Beckstead (2013) researched the areas of the brain which are activated during improvisation activities, finding that the brain functions involved in playing pre-learned musical material are completely different to improvising, which activates the more creative parts of the

brain. Beckstead (2013) found that in regard to brain function, there is no difference that occurs if the improvisation is simple or complex, so it only needs to be basic improvising in order for the creative part of the brain to be activated.

Research into the teaching of improvisation in one-on-one lessons has explored how the relationship between teacher and student impacts the way knowledge and understanding of improvisation is taught. Part of the findings was that one of the components for successful improvisation tuition is expert understanding of the subject from the teacher, allowing them to pass on and demonstrate depth of knowledge to the student (de Bruin, 2017).

Existing research into elementary school music indicated that starting off simple and integrating improvisation with already-explored musical aspects and techniques is a strong starting point when touching upon improvisation for the first time (Whitcomb, 2013).

Existing Views of Teachers

Existing literature related to this topic has identified that this is an under-researched area and something which needs to be looked at more to help improve teaching standards in relation to improvisation (Coss, 2018 & Larsson, & Georgii-Hemming, 2019). A survey undertaken in America found that music education majors' confidence in teaching improvisation in the senior years was not particularly high, and there was a clear interest from this group in gaining more knowledge on strategies for teaching effective improvisation (Bernhard, II, & Stringham, 2015). Rummel (2010) had similar findings to the rest of the literature, although this survey was about jazz improvisation in particular. The results displayed very positive attitudes towards the place of jazz improvisation in the school curriculum and the perspective that teachers should possess the capability to teach it, but the teachers felt under-prepared to teach or participate in jazz improvising.

Watson (2010) detailed how there is currently a perception that improvisation is an inherent skill which cannot be taught or trained. Watson (2010) countered this perception, his research demonstrating that improvisation is actually a skill that can develop with instruction and facilitation of opportunities to practise. Pellegrino et al. (2018) identified that when jazz is the only context in which improvisation is taught in schools, improvising is not thought of as something that can be associated with other genres and cannot be performed or taught by non-jazz musicians.

Specific Methods

Hunter (2019) described the Orff Schulwerk approach to improvisation. The Orff method is a methodology of teaching music with an emphasis on music and movement. This research highlighted techniques used by Orff teachers to teach improvisation. Rhythm was seen as a good starting point for improvisation, and improvisation activities could be used as ways to teach new rhythmic concepts. For example, when learning about semiquavers (notes which are worth one-quarter of a beat) for the first time, students could be asked to improvise a rhythm which uses semiquavers. Then, the students' short rhythms would be applied to an instrument, resulting in the students having improvised a melody. Edmund & Keller (2019)

commented that in Orff students perform, create and experience music and sound environments before there are attempts to interpret and find meanings in the music.

Basso continuo, where only the bass line is written in advance, is a form of improvisation widely used throughout the Baroque period (Vigran, 2020). Figured bass, which used chord symbols rather than writing out the whole chord, was also common. *Partimenti* is a pedagogical method used to help musicians become comfortable with this form of improvisation. *Partimenti* exercises deliberately progress in complexity, from simple scales to concert-length pieces (Vigran, 2020).

Biasutti (2017) noted that, particularly in the context of jazz, one of the most common methodologies for teaching improvisation is built on teaching students more about music theory, particularly how scales and chords work together. Biasutti also commented that learning how to replicate others' solos by listening and copying was a cornerstone of jazz improvisation. Brumbach (2017) conducted a study comparing two methods of instructing jazz improvisation in an ensemble context, a theory-based method and a practical-based method. Results showed that students' standard of improvisation increased in both methods, but the improvement was significantly greater in students who had been part of the practical-based method. The practical group also became more interested in jazz outside of the school context and felt they could express themselves in their improvisations. Listening to improvisations and development of aural skills was indicated as one of the biggest benefits in the practical-based approach, and this was noted as lacking from the theory-based method.

Monk (2013) noted that learning improvisation in the context of stylistic conventions, such as jazz, fugues and concerto cadenzas, is useful for developing and stylistic mastery and free improvisation focuses on inventiveness. However, Monk proposed eight strategies for teaching collaborative improvisation, where the emphasis is on musicians' interactions with each other, and "the objective is to develop the ability to understand partners and make oneself understood to partners through improvisation." (Monk, 2013, p. 2)

The first three strategies were 'copying', 'adapting' and 'contrasting', where a musician directly responds to a partner's material and continues the musical dialogue that the previous player has started. When 'copying', the musician exactly replicates what the other has played, which serves to musically acknowledge and compliment the other band members. 'Adapting' is when rather than exactly copying, they make alterations to the other musician's phrase, providing their own take on another's musical idea. 'Contrasting' is where the musician plays something completely opposite, such as if the first player went higher in the musical register the second might go down, or if the first plays something light and bouncy, the second musician can contrast this by sounding dark and heavy. (Monk, 2013).

The next three strategies, 'punctuating', 'highlighting' and 'supporting', related to when multiple musicians are improvising at once, one is the soloist and as such the other musicians are aiming to complement the musical dialogue of the lead player. 'Punctuating' is when a musician fills in the gaps between the soloist's phrases. This can take the form of playing something short which finishes off the ideas contained in the soloist's phrase, or to start off their next musical sentence by playing something which can prompt a new idea

from the soloist. 'Highlighting' is when a backing musician notices something the soloist is doing and emphasises this aspect by joining in. 'Supporting' is providing an unobtrusive platform for the soloist to play over. 'Signposting' is when a player directly refers back to something which happened earlier in the piece, and 'allowing' is when you just let the other improviser play, either by literally not playing yourself or playing a very simple backing, not jumping in at every space and opportunity to fill the sound. Monk (2013) provided exercises which can be used with students to help them practice improvising collaboratively. Previously, Monk (2012) had looked at dance and movement as something which can be used to teach collaborative improvisation, as musicians and movers can improvise together, the musician reacting to and complimenting the movements and vice versa.

Biasutti (2015) detailed a seven-level sequential model to teaching improvisation, based on cognitive research into the behaviours which occur during improvising.

1. Exploration. A pre-improvisational activity that constitutes making random sounds and exploring soundscapes.
2. Process-oriented improvisation. Improvisation becomes more focused on patterns as students start to audiate based on the sounds they created during the exploration level.
3. Product-oriented improvisation. The teacher provides students with constraints, such as a rhythm and/or chord changes, which the student will improvise over.
4. Fluid improvisation. The student is technically proficient on their instrument, allowing for reproduction of musical ideas in their head to become automatic.
5. Structural improvisation. The student develops an awareness of the structure of the improvisation and can play a role in shaping the structure.
6. Stylistic improvisation. The student has mastered how to improvise in a particular style, understanding its stylistic conventions.
7. Personal improvisation. The improviser is able to develop their own style and sound. At this level, the teacher should continue encouraging the student to explore improvising in other styles, as understanding multiple styles can enhance an improviser's playing.

Edmund & Keller (2019) commented that having shared structures and styles, known as musical syntax, is beneficial as providing a foundation for improvisors. It creates a shared musical language and gives students the opportunity to imitate musical role models when improvising in a specific style. Being familiar with the musical structure provides the improvisor with a sense of security, something to fall back on.

Classroom Environment

The teacher Hedden (2017) interviewed highlighted that freedom to be creative and take risks, and convincing the students not to be demotivated by fear of judgment by peers when improvising, were key elements to their approach in teaching improvisation. Coss (2018) found that one of the teacher's main roles in helping students learn how to improvise is to act as a motivator, acknowledging that one of the biggest challenges in improvising is having the courage to do so and try something new. This also involves helping students not to "over-judge" their improvisations, combatting feelings of intimidation from the audience or

peer pressure of being scared to ask for help. One of the participants of this study believed that “spontaneously creating new music in the moment involves removing our own barriers – mental or physical.” (Coss, 2018, p. 527) Pellegrino et al. (2018) found that confidence and being afraid to make mistakes are the biggest concerns for students, and freeing students of these burdens would allow them to enjoy improvising and not want to give it up. One participant who was teaching music teachers-in-training, observed that their students became overwhelmed as the improvisation activities became increasingly complex over a two-day course. It was noted that it would be more beneficial to approach improvising “in small segments that gradually increased in difficulty over time.” (Pellegrino et al., 2018, p. 35)

West (2020) found that students need to be taught to ‘recontextualise a mistake’, being given strategies to make something out of a note which initially sounds unpleasant, making it work in the context of the improvisation rather than just stopping once something sounds dissonant. This could be by repeating the note, as the repetition makes it sound less ‘wrong’, or using the dissonant note as the starting point for a new musical idea. Healy (2014) noted that anxieties over improvisation are often due to lack of confidence with playing a particular chord or scale, and that when over-focusing on chord changes it can “paralyse a student’s creative awareness.” (Healy, 2014, p. 70)

Giddings (2014) also found that learning how to improvise is a scary concept for musicians who have not done it before. To ensure the learning process does not exacerbate nerves, he started off simply by having his student play a scale, then find harmonies which sound nice when played together, listening by ear as to what does and doesn’t work as harmonies. The student thought this did not count as improvising as they were only playing long tones; Giddings pointed out that she was independently making decisions on what notes to play based on what sounded good. The student’s biggest barrier was fear of making mistakes, described by Giddings as improvising with ‘ego’. As this student progressed, Giddings would provide tips such as ‘use more skips and steps’ if the student was finding her improvising was becoming less interesting and getting frustrated. Vigran (2020) commented that students need to be encouraged “to experiment with ideas, and not be disappointed when the resulting sound is less than their ideal.” (p. 23). Driscoll (2014) found that a successful classroom environment was one that afforded time for class discussions, helping students to develop the emotional skills to cope with inaccuracies in their playing and giving students opportunities to make musical choices.

Whitcomb (2013) found that an obstacle to regularly including improvisation in the classroom is lack of class time. A suggested strategy is to incorporate improvising into lessons where other concepts are being explored; improvising does not have to be the central focus of the lesson for it to be part of the learning. For teachers who lack experience with improvising, it is suggested that they practise it with their students and participate in the activities. If students see their teaching being willing to make mistakes and grow as an improviser, then the classroom environment will become more encouraging to those who are novice improvisors.

Watson (2011) offered “eight principles for unlocking musical creativity”. These are:

1. Allow students to share themselves. This can include asking students to share with the class pieces or genres of music that they like, or sounds they like producing on their instruments.
2. Offer compelling examples to imitate and inspire.
3. Employ parameters and limitations that remove distractions and help students focus, such as giving students only five note options when beginning to improvise in any music genre.
4. Remove parameters and limitations that stifle creativity and lead to contrived expression. An example of this is music software which enables students to compose and be musically creative, so even if they lack understanding of music theory and traditional notation, they are still able to produce creative works. Building on the first principle, students' first improvisations can be based around their favourite sounds.
5. Facilitate improvisation. Watson recommends having an emphasis on rhythmic improvisation, noting that chord changes are complex and lots of students would find it difficult, whilst being rhythmically creative comes 'naturally'. Watson also comments that since music technology is new and 'unconventional' in the music world, students feel free to improvise with it and it doesn't require traditional music training to succeed. The same feeling of freedom is said to be found when students are exposed to unconventional instruments, such as the Theremin.
6. Engage in coaching interaction. This means the teacher finds time during class to have one-on-one discussions with students and provides tailored feedback for each student.
7. Foster opportunities for feedback and critique. This involves making the classroom a safe environment for feedback to be given and received between students, and the teacher must model how to critique creativity in a constructive manner.
8. Employ performance and recital. This principle is mostly geared towards compositional work, although students can be provided with performance opportunities which include elements of improvisation.

De Bruin (2017) noted that students have very limited opportunities to see expert improvisors practising and working on their craft, so they develop a limited understanding of what it takes to become a 'good' improvisor. Students can be prone to making the assumption that creativity is easy for 'good' improvisors, and if a teacher is able to deconstruct the processes of expert improvisors it can help to demystify improvisation and empower students to see quality improvisation as attainable.

Larsson & Georgii-Hemming (2018) found that meaning-making is enhanced when students are given opportunities to reflect on their improvising and articulate what they were trying to achieve or convey in their playing. Creating a positive environment includes saying yes to students' initiatives and encouraging the class to go along with their peers when they try something risky, and establishing that there are no rights or wrongs. Question-and-answer activities are seen as a good way of introducing improvising to the classroom, as is the teacher discussing how to improvise and providing examples, which can give students a platform for them to start from. Edmund & Keller (2019) found that when creating a safe environment for students to be creative, the first step is to ensure it is acceptable for students' own compositions to be heard and performed, and for risks to be taken and

originality displayed in the classroom and composition of music. Then, when it comes to improvising students should not be overwhelmed with theoretical and structural aspects before they start playing. Students should be able to focus primarily on their own playing, without worrying about it being 'correct' and having to fit within the pre-ordained structure.

Edmund & Keller (2019) presented five principles to use "when planning for fear-less improvisation activities":

1. Experience first, before intellectualising
2. Improvise within structure/syntax
3. Perform by ear
4. Improvisation is a way of being in music
5. Balance freedom with structure

Beckstead (2013) recommended that complexity should be avoided until students are comfortable with simpler tasks, as this will help to dispel fear. Beckstead recommended having enough structure to keep students on task and to help them feel comfortable, but not so much that the activity becomes constraining and removes creative benefits. Finally, Beckstead recommended that students should be educated on the role improvisation plays in many different genres, to counter predominant associations with jazz.

Free Improvisation

Niknafs (2013) described the pillar of free improvisation as "the interplay between sound and silence, the feel and texture of the sound, and the ways in which performers respond to one another's musical stimuli". (p. 2) Other research concluded that teaching improvisation in a traditional, structured sense is not truly possible and free improvisation should be a regular feature of student music-making (Wright, & Kanellopoulos, 2010). Johnston (2013) found that free improvisation is crucial in enabling students to feel confident as improvisers outside of a set of rules and conventions, empowering them to be creative outside out pre-determined structures and not only seeking to replicate elements from existing solos by revered improvisers. Johnston emphasised group activities as being particularly useful for obtaining benefits from free improvisation. Hickey (2014) highlighted that free improvisation allows for students to engage with improvisation immediately, without the requirement of background theoretical knowledge and needing to have already developed proficiency with technical skills. The research detailed several techniques from educators teaching free improvisation, including beginning with an exercise or short piece to act as a 'prompt' for the band's improvisation session. Smaller ensembles worked best with free improvisation, with an average number of twelve band members, and any instrumentation was workable. The band directors did not 'conduct' the improvisations, the improvisations would start naturally following on from the prompt and end naturally.

Gruenhagen & Whitcomb (2013) found that a large percentage of the teacher respondents implemented specific guidelines for students' improvisations, with far less allowing time for free improvisation. This is because the teachers felt students struggled with free improvising, either by being unproductive and unmusical or being overwhelmed by choice. Having guidelines gave students a sense of security. It was felt that students needed

guidelines to be put in place initially before they were comfortable working 'outside the box.'

Healy (2014) explored how to instigate free improvisation, advising that in small groups students can assign themselves a role to perform in the improvisation, such as playing long tones or short melodic flourishes. Niknafs (2013) described free improvisation as democratic; it teaches students to value their individual voice as well as the whole as everyone is invited to participate in a group musical creation by bringing their individualistic voice and own musical tendencies. This builds students' self-confidence and as it is within a group, alleviates anxiety whilst fostering trust and understanding between players. Importantly, it also develops aural skills, as musicians must listen to each other and have a heightened awareness of the sounds being produced (Niknafs, 2013). Niknafs advocated for the inclusion of this practice in schools, as students of any experience and ability can participate. Because there are no mistakes in free improvising, it can help to de-mystify improvisation as a whole for teachers and students who are not regular improvisors, creating a safe environment for individual musical expression.

Scaffolding

Driscoll (2014) defined scaffolding as "when an individual helps guide another individual to a higher plane of knowledge, building on prior mastered knowledge". (p. 63) Driscoll found that scaffolding was important for students to successfully engage in improvisational activities, and that if the teacher improvised alongside the students they were scaffolding musical risk-taking, encouraging students to take risks themselves. Scaffolding is an important element of teaching improvisation in Orff, moving from teacher-led improvising to student-led, as the students gained more confidence and creative skills (Hunter, 2019). This is demonstrated in an activity where the teacher presents students with a melody, and they are asked to change one rhythmic element in the melody. Students' ability to make choices in the music grows, up to the point that they are in full control of the pieces. This is referred to as "the gradual release of responsibility". Accounting for the fact that in the music classroom there is likely to be variations in students' capabilities and prior experiences with improvising, when activities involved pairs or groups the teachers would ensure students with little improvising experience were grouped with more experienced improvisors, so that they could be guided by and learn from their peers.

Taylor (2018) found that starting with simpler improvisation tasks with clear boundaries was easier for students to start with, and providing students with a visual aid indicating which notes to use was helpful. Another strategy was to spend a lot of time building up the students' understanding of chords and scales before starting improvisation activities. Yoo (2015) explored how improvisation techniques used in the Baroque era can be used to teach improvisation in the classroom. They provided activities which provide the student with a clear framework and pre-existing structure for them to start exploring improvisation. Often in these activities, the teacher supplies the students with a limited number of rhythms which they can use during improvisation, so that their focus is on melodic improvisation and they do not have to think too much about their rhythms.

Buonviri (2013) also saw the first step to teaching improvisation as asking the student to make musical choices, and those choices did not necessarily have to mean notes, as choice can include dynamics, rhythms etc. "Gradually, as developing improvisors become more comfortable making rapid choices, more aspects can be explored simultaneously." (Buonviri, 2013, p. 1). Exercises should be scaffolded, for example – start by playing rhythms on one particular pitch. The student should copy the teacher's patterns, then progress to making up their own musical patterns. Buonviri recommended that during the early activities, the word improvisation should not be mentioned. This is so that students are not immediately frightened by any connotations they may have about what the word 'improvisation' indicates, and are able to engage with creative activities without feeling daunted or unnecessarily under pressure. If the teacher is not presenting that the "students are experiencing a major breakthrough in their creativity and musicianship" (Buonviri, 2013, p. 24), there is more chance the atmosphere in the classroom will remain relaxed and not stressful for the students. In contrast, Shevock (2018) found that improvisation can regularly be non-teacher-led, as "music teachers can benefit from surrendering musical control regularly, and by facilitating ungraded and out-of-school learning opportunities" (p. 113).

Larsson & Georgii-Hemming (2018) compared two approaches to teaching improvisation, improvisation as a 'tool' and improvisation as a 'communicative and expressive practice.' When improvisation is taught as a tool, it is significantly based around having a strong rhythm and pulse and ability to navigate chord and harmony changes. When being taught as a tool, it tends to be product-oriented and taught in a way which makes the improvising assessable. The improvisation activities are structured, scaffolded and teacher-directed, but this approach has criticisms as it limits students' originality by having pre-determined skills and outcomes.

When approached as a communicative practice, it is mostly done through group activities with an emphasis on communication, interaction and students understanding and having their own thoughts on the process. "Through group improvisation, learning is understood as the collective creation of meaning: students develop their abilities to negotiate musical decisions, to solve problems in co-operation, and to shift between a leader's and a follower's role." (Larsson & Georgii-Hemming, 2018, p. 60) Aural skills are very important in this context, as students need to listen to each other's musical ideas and respond in turn. This is seen as student-directed, and "includes a view of improvisation as a process of discovery where mistakes are seen as new opportunities and possibilities rather than failure." (Larsson & Georgii-Hemming, 2018, p. 60) This approach is seen as also giving students more opportunity to reflect, explore and discuss on their musical ideas and how they express themselves. Following their literature review, Larsson & Georgii-Hemming (2018) suggested that free music-making, or free improvisation, should be the focus of music education in schools.

Guderian (2011) highlighted that the assessment criteria within assignments can form a framework for students to work within, and within the parameters of the criteria students can work creatively and explore ideas. "Over time, a variety of assigned frameworks, some structured and some more open-ended than others, help students develop a comprehensive understanding for the endless possibilities inherent in creative music making." (Guderian, 2011, p. 9) Guderian (2011) also suggested a method for how musical creativity and traditional notational elements, musical 'facts,' can co-operate in the

classroom. Students can learn the fact, such as dynamic markings, and then be asked to apply these markings in a creative activity.

Aural Skills

The importance of aural skills is a repeated notion within the literature, along with the technical capabilities needed to execute the imaginative thoughts improvisors might think of whilst playing. Jazz is commonly associated with improvisation, and as such can result in a clear path to introducing improvisation in the classroom. According to Freedman (2013), skill in improvisation “enhances comfort with the language of music in every genre,” (p. ?) and composition skills begin with improvisation. In order not to overwhelm students with the prospect of improvising, improvisation should start out as rhythmic before adding in notes and pitch to create melodic improvisations.

Watson (2010) compared aural activities with notation-based activities, and found that the aural strand was more effective to assist with improvisational development. Aural imitation in particular was identified as an activity which is beneficial, and Watson recommended that teachers who predominantly employ notation-based improvisation activities re-evaluate their approach. Coss (2018) found that improvisation is about hearing something in your head, and then producing that on your instrument or singing it. To do that, students need the skills to identify and describe what it is they’re hearing, and should be asked to take part in exercises where they listen to music and have to use describing words to analyse it. This particular skill is known as audiation (Taylor, 2018). De Bruin (2017) defined audiation as “the pre-hearing of sound ideas as one plays them.” (p. 167)

Cheong (2018) conducted a study comparing the impact of aural-imitative activities and aural-motivic analysis activities. Aural-imitative and aural-motivic analysis started out the same, with participants learning a motif by ear, learning a variation on this motif by ear and then having the opportunity to play their own improvised variations. The aural-motivic analysis included an extra component, where participants were presented with a notated motif which they then analysed, before playing another motivic improvisation. The study found that the aural-motivic analysis group’s improvisations and ability to be creative were stronger.

Varvarigou (2016) conducted a study looking at how learning material by ear supported musicians’ imitation, invention and improvisation in groups. The study found that the improvisation and creativity came naturally out of the collaborative group process, and the study recommended that aural work through imitation should be part of music education at the earliest possible stage because it lays the groundwork for musicians to feel comfortable being creative.

Ensemble Situations

Gagne (2014) found within the classroom band teacher demographic “a deep lack of consensus over what kind of improvisational methodology should be used within a general classroom setting” (p. 105). Despite this, Gagne (2014) also found a group of predominant improvisation activities currently being used in middle school classrooms and big bands.

These are group improvisation activities, free improvisation activities, single pitch improvisation activities, call and response exercises, pentatonic improvisation activities, chord-scale improvising and blues-form improvisations.

Taylor (2018) found that teachers who are leading ensembles had success when they integrated improvisation into performance scenarios. This was done in response to the challenge of not having 'enough time,' and needing to have the ensemble ready for performances whilst also having a desire to work on improvisation with the group. Another strategy was to only introduce improvisation towards the end of the school year, where improvisation can serve as a fun, unique activity which is worked on away from the pressures of performance preparation. The most effective strategy referenced in this research was treating improvisation not as a separate activity to other learning, "rather supplements and enhances the learning that would be happening anyway." (Taylor, 2018, p. 150)

This research found that "one of the primary risks students feel around improvising is being singled out in front of their peers." (Taylor, 2018, p. 159). The common strategy used to alleviate this risk was to reduce the visibility of students' improvising. This included group improvisation, where individual mistakes would be less noticeable because of the simultaneous improvising occurring, or setting improvisation tasks to be completed at home. Also mentioned was ensuring improvisation was not made out to be a big deal. Teachers should treat it like just 'another activity,' and could create a relaxed atmosphere by not forcing any student to improvising, making it an optional activity for those who felt comfortable, and ensuring it was a space where risk-taking was encouraged and participants could feel comfortable when making mistakes.

Wall (2018) found that when students are given the opportunity to improvise, they do so in the style that they are interested in and therefore, are showcasing their musical preferences. Wall found that students' fluency in playing was greatly increased when it was in a style they preferred and were interested in.

Wall (2018) recommended that in group settings, teachers should provide a small amount of class time each lesson for students to improvise, and the teacher should observe and take notice of what these improvisations reveal about each student's musical sensibilities. The teacher can then use this understanding of their students to personalise their instructions and assist individual students within a group context along their musical growth. Wall (2018) also noted that in group settings, learning can happen best when the students are managing it themselves. The teacher is not there to manage every detail of the students' learning; they need to design the space to encourage creativity and collaboration, they would be able to see the students actively engaged in their learning. The teacher would be providing a framework which is responsive to students' needs. For example, if the students knew their group playing had to focus around a triplet-beat feel but apart from that they had free reign, they are being creative and in control whilst still learning about musical elements.

Specific Activities

Heil (2017) listed activities which are beneficial to developing skills in improvisation. These include embellishing existing melodies, transcribing, aural skills, learning set patterns to be replicated in a variety of contexts and understanding chord functions. Guide tones, which are notes which are shared between different chords, are also explored in the context of how they can be useful with improvising. Gruenhagen & Whitcomb (2013) found that call-and-response improvising, which can incorporate singing, instruments and/or body percussion, was a commonly used activity in every year level. Norgaard (2017) recommended that in a classroom, a short, simple improvisation activity is used to start lessons so that every student can have success. This is recommended to look like briefly improvising on only one or two notes, then improvising rhythms whilst going up and down scales. This can then evolve to changing scalar direction on different notes. Norgaard also highlighted an activity in which students focus on not individual note choice, rather the general direction of music. For example, over the course of eight bars, students would start low, go into the higher register and then come back down.

Giddings (2013) noted that creativity does not have to come in a full song or a long solo, simply making musical choices by arranging and making decisions about form is an example of creativity. Students can change the parts of pieces because they think it sounds better, and students have to be creative to decide on an ending for a pop song which might simply fade out in the recording. Whitcomb (2013) stated that musicians are most able to be comfortable and creative within styles and pieces they are familiar with and understand stylistically. Teachers should find what pieces of music their students are listening to and build improvisation activities around those songs.

Healy (2014) defined two types of activities, convergent and divergent activities. Convergent activities are those which have one correct answer, such as students learning how to play a scale, transcription or particular phrase. A divergent activity is one that does not have a correct answer, and therefore can “often involve personal experimentation and discovery, whether prompted by a teacher or not.” (Healy, 2014, p. 68) Healy concluded that both convergency and divergency are important, and convergent activities have a particular place in undertaking jazz studies whilst divergent activities are crucial in making all students feel at ease and comfortable with risk-taking. Divergent activities should be undertaken and creative values established before convergency is introduced, as students should feel comfortable improvising and taking risks before being asked to simultaneously take music theory into account. Healy (2014) stated that constantly pointing out to students that they are playing the wrong chord, note or scale can “can lead to feelings of censorship and self-consciousness for young improvisors. Neither... is beneficial for improvisation. Instead, these qualities create barriers to students’ self-expression, personal experimentation, and self-discovery.” (p. 69) Teachers should use both types of activities to complement each other, as convergent activities provide students with technical skills and raw materials. However, teachers should not use the terms divergent and convergent with students so not to separate them completely, as often when improvising the elements are overlapping.

Gagne (2014) identified four factors which were directly linked to achievement in improvisation: self-evaluation, imitation, modelling and harmonic accompaniment. Self-evaluation took the form of students recording their solos and listening back to them, or reflecting on their improvisation as soon as they had finished it. Imitation ability, where

students were able to copy a piece of music using their aural skills, such as transcriptions or call-and-response, was linked to improvisational ability. Modelling is the teacher providing improvisational examples for the student to analyse, and it was found that it is beneficial for students to have a harmonic accompaniment when they are improvising.

Process-Oriented Teaching

Whitcomb (2013) presented an order of learning to improvise, starting with exploration and experimentation with sounds on a particular instrument. Then process-learning improvisation, which Biasutti (2015) also encouraged. This is when the process of teaching improvisation and the scaffolding of activities students undertake is seen as more important than the product, or the improvisation, that they produce in lessons. The teacher should ensure that the student is being assisted to develop key skills for musical improvisation. This includes:

- Anticipation of what is coming ahead in the music and how the improviser will adapt to any changes
- Learning short musical motifs which the improviser can use as the basis for their improvisations
- Expressing emotions and inner feelings through improvisations
- The ability to think on-the-spot and adapt their approach during the improvisation to make it better and more synchronous with their accompanying musicians
- Flow; being completely focused on the improvisation

Technology

Technology can be used as an educational tool, as electronic instruments and sound manipulation tools allow students to be creative and explore different sounds and styles (Bauer, 2014). Rowe et al. (2014) studied how MIRROR impacted student's creative capabilities. MIRROR is an artificial intelligence (A.I.) which is connected to a keyboard, and when something is played on the keyboard the A.I. responds with a musical phrase, designed to be musically appropriate to what was originally played and lasts for the same length as time as the original phrase. Rowe et al. (2014) found that this technology was useful for supporting students' "musical explorations, introducing new ideas and sounds, while retaining something of their own playing as a basis, revealing a portrait of their personal musical identity." (p. 128)

The existing literature clearly demonstrates that approaches to educating improvisation have been documented, but it is spread out and the methodologies are often buried in discussions about other topics related to music education.

Chapter 4 – Discussion

In the Analysis, I assess the strength of each piece of data based on the piece of literature it was sourced from, building on the information in the Evaluation. In the Analysis I assess contrasting views against each other, and begin to draw conclusions after determining which findings from the literature are supported by other strong research. In the Synthesis, I summarise the findings from the analysis, and draw conclusions that will enable the research questions to be answered in the Conclusion.

Analysis

Barriers to Teaching and Learning Improvisation

The literature was consistent with perspectives on teachers lacking confidence with either improvising themselves, teaching improvisation or both. None of the literature presented findings which indicated a large percentage of music teachers feel confident with improvisation in the classroom, with all studies finding that the teacher group would be appreciative of extra support and professional development in this area. Discrepancies did occur in regards to whether or not improvisation was present in a majority of classrooms. Bernhard & Stringham (2015) and Filsinger (2013) had similar findings to each other, demonstrating that teaching improvisation was often left to the wayside. Bernhard & Stringham found this data in relation in Ontario; Filsinger's was more universal although utilised less up-to-date research. In contrast was Niknaf's (2013) study, which demonstrated over eighty-five percent of teachers in Illinois did incorporate improvising, and Rummel (2010) found that attitudes towards jazz improvisation were very positive among Pennsylvania teachers and it was a common feature in Pennsylvanian schools. Even if Niknaf and Rummel's results were replicated in other locations, the universal lack of teacher confidence in approaching improvisation demonstrates a need to tackle the barriers preventing teaching improvisation.

A consistently recurring theme amongst the literature was confidence being a large barrier to participating in and/or finding success with improvisation, both from teachers and

students. Therefore, any methodology for teaching improvisation should take into account this obstacle and contain strategies which prevent students from being scared to participate and enables teachers to successfully help their students develop as improvisors even if it is not a personal skill. The literature from which this theme emerged varied in regards to quality and scope of research; if there were differing perspectives amongst the literature I would treat the data with more rigorous research as more reliable. However, this set of literature had a unanimous view that fear of risk-taking and making mistakes in front of peers was a significant issue in improvisation education. The data makes it clear that teachers should take an active role in encouraging students to be creative, take risks and not fear making errors and being imperfect. West's (2020) recommendation to recontextualise mistakes was the most well-defined example of how to address this barrier and acknowledge that unpleasant sounds do have their place in music, and once students are more comfortable with this way of thinking they will enjoy improvisation more and be less likely to want to stop practising it (Pellegrino et al., 2018). This approach also benefits from class discussions, in which students can learn to emotionally manage imperfections in their improvisations and understand how there is not only one approach to music-making (Driscoll, 2014).

Consistent across the literature was the perspective that teachers should take steps to create an environment which is relaxed, supportive and as unthreatening as possible, otherwise nerves and anxiety about improvising, particularly in front of peers, will flourish and discourage students from participating. A common strategy was teachers participating in the improvisation, which would address two key concerns from across the literature as it would reduce both students' and teachers' fears of giving it a go and making mistakes (Whitcomb, 2013, & Driscoll, 2014). This finding ties in with de Bruin's (2017) comment that watching teachers practise improvisation demystifies the process and empowers students. Watson's findings included the principle that students should be able to share their own musical interests and compositions (Edmund & Keller, 2019), and in a similar vein Larsson & Georgi-Hemming (2018) said that when students show initiative in improvisation, the class should support them and work with their musical contributions. Taylor (2018) emphasised that it should not be treated as an activity which was of heightened importance, so that students wouldn't be stressed about it. Buonviri's (2013) article was the only literature which stated that using the word improvisation would be harmful to the classroom environment. Whilst it thematically ties into the other findings and was not contradicted, I did not find Buonviri's article to have a strong enough methodology for this finding to be considered as part of my conclusions without further corroboration.

There were differing perspectives on whether or not a methodology based around scales and chords helps to provide students with a feeling of security when improvising, or instead works to increase anxiety as they are worried about playing a note outside of the key, therefore a 'wrong note.' Healy (2014) interpreted that basing improvisational activities on chord changes works against fostering creativity, and that stress about improvising is often related to not being confident with a chord or scale.

Current Methodologies Being Used

Larsson & Georgii-Hemming (2018) found two distinct approaches to teaching improvisation. Improvisation as a tool is very chord/scale and scaffolding focused, whilst improvisation as a communicative practice places much greater emphasis on understanding how to improvise in groups and demonstrate self-expression. Similar is Healy's (2014) concept of convergent and divergent activities, with convergent being useful for jazz as is looking for a correct answer/note usage. Divergent activities are notable for ensuring students all feel comfortable, which is of more importance than emphasising convergent approaches. Larsson & Georgii-Hemming's (2018) research was more rigorous and well-defined than Healy's, so I have determined that analysing findings through the lens of improvisation as a tool/communicative as more appropriate than convergent and divergent. Convergent would clearly fit within the tool approach, and divergent activities which focus on classroom atmosphere would have a lot to offer a communicative pedagogy.

Taylor's (2018) findings were more aligned with improvisation as a tool as he found that it helped students to start simpler with clear boundaries, and to ensure students had a strong knowledge of chords and the notes they should be using. Gruenhagen & Whitcomb's (2013) survey produced similar results, with the consensus being that students should be given clear guidelines to improvise within before they developed the confidence to be more experimental. Pellegrino et al. (2018) felt that improvisation activities should start simply and gradually grow in complexity, a clear example of scaffolding, and Buonviri (2013) elaborated on scaffolding as students gradually making more and more musical choices. Giddings (2013) echoed how asking students to make choices is a gentler way of approaching improvisation; whilst Edmund & Keller (2019) provided a perspective on the benefits of teaching students rules and structures to improvisations.

Musical syntax was noted as providing a sense of security to students, as opposed to the anxiety that others wrote about. The starkest example of musical syntax, one which regularly cropped up across the literature, was jazz and it is clear jazz is considered largely synonymous with improvisation. The above authors who felt strict scaffolding and scale/chord heavy pedagogies would likely see Jazz as the perfect vehicle for students to be exposed to improvisation due to its emphasis on chord changes, structures and knowing the rules to improvising. Across the literature, there was consensus that this was the best approach for jazz improvisation, and this was elaborated on particularly by Biasutti (2017). However, another theme was that efforts should be made to break jazz's monopoly on association with improvisation. Pellegrino et al. (2018) identified that when improvisation is strongly associated with jazz, it promotes exclusivity to the musicians who practise jazz and implies other types of musicians do not have the capacity to participate, a concept which would be contrary to efforts to create a more democratic classroom environment where students of every experience are encouraged to improvise. Wall (2018) and Whitcomb (2013) found that students' improvisation is most fluent when they are improvising in a favoured style. In a similar vein but in association to research rather than education, Siljamaki & Kanellopoulos (2020) desired a greater diversity in the genres and cultures explored and associated with improvisation.

Beckstead (2013) had concurrent findings but added the caveat that too much structure is constraining, and Watson (2011) similarly advised initially not overwhelming students by giving them too much to work with, whilst also removing anything which might stifle

creativity. Beckstead's and Watson's findings sit in-between the recommendations for heavy scaffolding and those which recommended free improvisation as the dominant methodology. Guderian (2011) was not the only one who stated open-ended and structured improvisation activities should both be implemented, but it was the most explicit in acknowledging that students should be exposed to the full spectrum of what improvisation can be.

Coming from the perspective in that chord changes are complex and difficult, Watson (2011) noted that this was an unnatural way for students to improvise. Therefore rhythmic improvisation, as well as unconventional instruments to improvise with, are more accessible for students to be creative with. Yoo (2015) recommended a different form of scaffolding by giving students pre-set rhythms so they do not have to be concerned about that aspect, and then applying the rhythms to notes of their choosing. Freedman (2013) concurrently found that starting with rhythms was an easier way for students to start improvising before being concerned about notes and melodies. Hunter (2019) found that Orff also places great emphasis on rhythm as the starting point of improvisation. Hunter also found scaffolding was a crucial part of Orff education, with the 'gradual release of responsibility' working to not overwhelm students with too many choices at the start, and as time goes on they become responsible for more aspects of the music. This is the most convincing approach to scaffolding amongst the literature, as it is addressing concerns from across the literature. By only asking the students to make one choice to begin with, the anxiety that comes from improvisation is alleviated as it is a gentle way of asking students to make musical choices. It also provides the safety net others referred to as being helpful to students, and over time the student becomes more liberated and free to take the music in any direction they want, removing the constraining elements. There is no mention made of chords and scales, just 'choices', and so anxieties about getting notes correct is not present. These findings support those made by Buonviri (2013), who provided examples of how to scaffold choices for students. Shevock (2018) produced a polar opposite view that it can be beneficial for improvisation activities to not be facilitated by the teacher, and this was supported by Wall (2018). Wall felt that whilst the teacher can provide a general framework, learning occurs best when the students are taking creative control.

Edmund & Keller (2019) strongly advocated for improvisation education to begin without much, if any, reference to structure as it can cause students to focus more on being 'correct' than the sound they are producing. Norgaard (2017) had findings along a similar theme in that students should be focusing on the general direction of the music, rather than individual note choice.

Watson (2011) recommended giving students examples for students to be inspired by and try to replicate, and this was backed up by Brumbach (2017). Listening to improvisations was linked with stronger aural skills, which across the literature were commonly depicted as key skills needed to be a strong improviser. Watson (2010) and Gagne (2014) also found that when aural skills are emphasised, progression in improvisation is increased. The students assigned to the aural-based methodology were judged by experts to have developed their improvising more. The flaw in Cheong's (2018) study were noted above, but both methods tested were aural in nature and did lead to an improvement in students' improvisational performance. Varvarigou (2016) assessed how imitation by ear in a group

setting works to develop students' creativity, and found that this was an important activity for students to undertake. Varvarigou was the only author to look specifically at aural imitation in a group setting; the rest of the literature had a more generalised approach to describing aural and imitation skills. In free improvisation, aural skills were shown to be of critical importance (Larsson & Georgii-Hemming, 2018).

Larsson & Georgii-Hemming (2018) found music as a tool to be a constraining and unnatural pedagogy, whilst communicative practices, involving lots of free improvisation, to be the way forward in music education. Despite a lack of research done on enacting the principles, Monk (2013) would thematically appear to align with Larsson & Georgii-Hemming's (2018) recommendations for how improvisation should be approached. Biasutti (2015) did not look at the negative elements of pedagogies that other literature emphasised, rather found a place for the different approaches and how they complement each other. Structured improvisation was placed after students go through exploration and non-chordal steps, which would tie in with other literature that highlighted how starting with a focus on structure and rules can overwhelm students. His analysis reached the same conclusion as multiple other studies in that process-oriented improvisation should be emphasised over product-oriented improvisation. The product-oriented approach has links to viewing music as a tool, as both definitions centre around what musicians produce under the constraints of structure and are looking to match what the teacher is expecting to hear. Process-oriented is not as clearly in sync with the musical dialogue approach, but there are similarities in that they aim for students to develop their own musical voice and they need to be equipped with the tools to understand their role in improvising, and how to self-reflect. Gagne (2014) and Heil (2017) found that the different types of improvisation activities are all used in the context of ensembles, with places for being found for structured and free improvisation.

Biasutti (2015) also highlighted that a supportive, reflective learning environment is important in process-oriented learning, and this clearly aligns with the rest of the literature. Watson (2011) referenced feedback between students as an important part of improvisation in the classroom, and it is the teacher's role to model how to critique another's creativity in a supportive and encouraging way. This reflecting process links to viewing improvisation as musical dialogue, as students are invited to think about what they are expressing in their music and how they are interacting with other students to create these expressions. This link is strengthened by Larsson & Georgii-Hemming (2018) also mentioning that meaning-making from music is more successfully achieved when students are given chances to state what it is they were aiming for in their improvising, which opens the door for discussion on how they went about this and whether or not they were successful. Gagne (2014) also highlighted how self-evaluation leads to improvement.

Free improvisation offers a complete alternative to structured improvisation; it is entirely in opposition to music as a tool and sits within improvisation as musical dialogue. Johnston (2013) elaborated on the benefits of free improvisation, and Wright & Kanellopoulos (2010) had concurrent findings. Hickey (2014) advocated for free improvisation and had similar findings to others in regards to the benefits, but I have determined it lacking in regards to my research. It focused on teaching highly proficient musicians, as opposed to the varying degrees of ability and experience that would be present were a teacher be approaching improvisation in the classroom for the first time. Healy (2014) & Niknafs (2013) described

how free improvisation can work in small groups where students think about their own roles and how it express themselves individually, whilst part of a group. This is evidently an example of music as dialogue; through the process of free improvisation students work with each other to express something as a group, whilst also being a space in which each musician is authentic to their own voice.

A completely separate argument was how improvisation should be incorporated into the curriculum, especially considering the time constraints faced by educators. Taylor (2018) promoted two approaches, one where improvisation is incorporated into performances and another where it is a fun activity done after the stress of performances and assessments is in the rearview. Wall (2018) presented another approach, in which a small section of each class is devoted to improvisation. Wall's findings were specifically in relation to group improvisation. Norgaard (2017) had a similar approach to Wall in that the start of each lesson should be a short, simple improvisation activity.

Rowe et al.'s (2014) research that identified the benefits of MIRROR was the only piece of literature that looked at how A.I. can be useful for developing students' creativity. One of the largest benefits of MIRROR is how it is immediately accessible to students of any skill or prior experience, and it connects to other literature by identifying how beneficial the technology can be for developing individual voice in improvising. The findings from Rowe et al. are not part of my findings of this research because the methodology does not bridge to the rest of the literature, but the intentions behind using the A.I. address the same concerns as other methodologies.

Synthesis

On some key points, the literature is unanimous in opinion on what music teachers should do to help students grow as improvisors, but there is also a clear point of difference which this research could not find a definitive solution to.

There is a clear lack of confidence amongst music teachers in knowing how to teach improvisation, often stemming from no experience in practising improvisation themselves. This is paralleled by students' own anxiety, instigated by fear of making mistakes, particularly if they are inexperienced improvisors. To combat this, teachers should make every effort to make the learning of improvisation as stress-free as possible, and actively encourage risk-taking and embracing the possibility of making 'mistakes'. Teachers should be active improvisors within the classroom, regardless of whether or not they have improvised before. If the teacher demonstrates that there is no shame in making imperfect/unpleasant sounds, and that there is not an expectation for improvisations to be perfect, then this could go a long way to establishing a classroom culture in which students feel comfortable taking risks and developing self-expression through music.

Class discussions provide students with an opportunity to reflect on their music-making and think about what it is they wish to achieve when they are improvising. In relation to classroom environment, it helps encourage students to be open to receiving feedback on how they could improve, and through discussions learn to value and understand different opinions on music-making. To improve the strength of their improvising, students should be

encouraged to think about, and given opportunities to explain, what they are desiring to achieve in their improvisations.

Another key finding which was never contradicted is the important role aural skills play in achievement in improvisation. Methodologies which put aural skills front-and-centre saw students progress at a faster rate than other methodologies which were put up in comparison. Aurally imitating other improvisations was highlighted as a highly beneficial activity which can be done in group settings as well as individually.

The big split in the data is whether or not it is beneficial for students to be taught improvisation which is centred around structure and adhering to pre-determined chords and scales, or if that in fact is detrimental to students' abilities to be creative and inventive in their improvising. Some very strong research, and some weaker pieces of literature, contributed to the arguments on both ends, but both were argued for in the context of making it less stressful for students. Providing students with a structure to follow, which can take the form of sets of notes which they should focus on in scales/chords, was argued as being supportive of students as they would not be overwhelmed by choice and unsure where to start. On the other hand, the other half of the literature felt that actually, structure constrains students' true creativity and can cause stress as it leads to more right-and-wrong interpretations of improvising. There was a spectrum of structure and scaffolding presented across the literature, with jazz as a very chord-heavy and structured style of improvising, to the other extreme of free improvisation.

Chapter 5 - Conclusion

The purpose of this research study was to assist music teachers in teaching improvisation by interpreting previous literature and deducing what elements are important for students to grow as improvisors. The central question focused on what the most effective method is for teaching improvisation in the music classroom, with four sub-questions being explored to assist with finding an answer to the main question.

Findings

What are the barriers to teaching and learning improvisation?

Teachers possessing a lack of confidence in teaching improvisation, often due to a lack of experience as improvisors themselves. Students similarly suffer from a lack of confidence, stemming from inexperience and fears of getting it wrong, which would result in embarrassment in front of their peers.

Are there consistent themes amongst the methodologies currently being employed?

The answer provided to the above question is indicative of the consistency of themes in relation to the barriers. The most consistent theme was that teaching improvisation should be done in a manner which reduces stress to students, primarily by constructing a comfortable classroom environment. The positive role aural skills play in development of improvisation capability was a consistent theme, and these themes underpinned different methodologies argued for across the literature. Another consistent theme was that students should be encouraged to think about their role within the ensemble when improvising, and to consider what they are trying to express with their music.

Are different methodologies needed for different types of students?

This particular question was not addressed by the literature, but the discrepancies that arose in the literature could be as a result of how students can differ in what kind of activity would make them feel comfortable. If students enjoy musical freedom, they would be more willing to embrace free improvisation, whilst those who need rules and structure to feel comfortable and able to express themselves would appreciate being provided with some guidelines to follow with their playing. This is a hypothesis which is not supported by the research in this project and is not a conclusion I have drawn, but it is an idea which has not been contested in the literature at all and remains a question worth looking into.

How should improvisation be taught when the class is composed of students with varying prior improvisational experience?

The literature has demonstrated that if there is a varying ability level within the class, this does not have to be a constraining factor on the personal development of each student in the class, and there are multiple routes that a teacher could take. Free improvisation offers

students equal chance to contribute to the music; they can determine for themselves how complicated their involvement is and discuss beforehand what their role in the ensemble will be. If it is a scaffolded activity, the teacher can scaffold to each student depending on their confidence and experience levels. The teacher can ask a student who is new to improvising to play simply and in a straightforward manner, whilst simultaneously asking more advanced improvisors to extend themselves more and explore avenues they have not risked before. In both scenarios, each student is being challenged at the level appropriate to them and would be learning how to be more accomplished improvisors.

What is the most effective method for teaching improvisation in the music classroom?

There is not a specific methodology identified by this research, but there are key principles which are demonstrated to be the most effective to help teachers and students get the most out of improvisation classes.

The most evident conclusion from this research is that students perform best in improvising when they are not stressed about making mistakes, and the classroom environment is a supportive one with peer-discussion opportunities and an encouragement of risk-taking.

The teacher does not have to be an experienced improvisor to be able to approach it effectively in the classroom. Being willing to grow as an improvisor themselves and participate in improvisation activities would be a positive force on the students' perceptions of their improvisation capabilities.

Methodologies that emphasise aural skills greatly assist students with their improvisational skills. A clear link was drawn across the literature between aural skills and improvisation achievement.

Implications

The implications for classroom practice are that teachers who do not feel confident teaching improvisation do not need to avoid it in the classroom, and there are resources out there that can assist with this aspect. The same applies to teachers who are not experienced improvisors; this does not need to be an impediment to their teaching.

It would be helpful if the classroom was as relaxed an environment as possible during improvisation classes, and unnecessary pressure was not put on students for every improvisation to be fantastic, or every note to be correct. If the teacher role-modelled risk taking and willingness to make mistakes can lead to growth as an improvisor, this would assist the students in breaking down barriers and fears around improvising. Whatever the form improvising activities take, students would benefit from participating in aural exercises and being encouraged to develop this side of their musicianship.

If I were to implement my own recommendations, I would begin improvisation work by demonstrating as the teacher, and I would be just 'messing-around' on my instrument by taking risks and playing nothing too complicated, so as to not set a standard students don't feel they can reach. By messing-around, I would showcase that improvisation is meant to be

fun and does not have to be taken incredibly seriously to count as improvising, indicating that any musician can do it.

I would scaffold improvisation activities relative to the experience of each student, and what they indicate to me they would be more comfortable with. An example of this could be getting the whole class to play a simple backing part, as each player has a turn being the soloist. I would offer the students a small range of notes to start on, but make it clear that if they are confident experimenting and going outside that range of notes they would be free to do so. Students could also be offered rhythms they just have to apply notes to, or vice-versa. I would provide a mixture of activities, swapping between a structured activity, as seen above, with free improvisation. Free improvisation would start out in pairs, and as students develop their ensemble improvisation skills and abilities to communicate musically, that number could grow.

I would provide students opportunities to receive feedback, from myself and from my peers, and to have experiences where they state beforehand what they would like to achieve in their improvising, and afterwards to reflect on whether or not they expressed what they wished to.

Finally, I would ensure aural skills are a prioritised component of the curriculum. Students would engage in aural activities such as listening to recordings, analysing them and/or copying elements of them. Students would be encouraged to listen to their and others' improvisations, so that they are thinking about what they are doing and not just playing aimlessly.

Conclusion

This study significantly contributes to the body of research in education by pooling together key elements that can work together to construct a highly effective methodology for teaching music improvisation. The aim to define one singular pedagogy was not met, but the research did identify clear differences between approaches to improvisation which could often be divided into two categories, and both had strong arguments for their usage. This research was important as teachers lack confidence with approaching improvisation in the classroom, and by highlighting some important strategies that can be realised in the classroom, this research can inform teachers' approaches and build confidence in their teaching strategies.

Chapter 6 - Recommendations for Future Study

I would recommend research being conducted into how to encourage teachers to seek out information, or how to design workshops and courses to empower teachers and communicate effective methods of teaching improvisation. The information in the literature identified that reading is teachers' least preferred method of professional development, further research could provide more depth by finding out why, and whether or not teachers are missing out on helpful resources by not engaging with this medium. One study did indicate that tertiary courses lead to greatly increased confidence and capability in regards to improvisation and how to teach it, but this was a course completed by preservice teachers and did not address how to assist those who are already teachers and lack the time or opportunity to enrol in a university course (Ward-Steinman, 2007).

If a quantitative system could be developed that assessed achievement in improvisation, then further research would be able to statistically assess the effectiveness of different methodologies. I believe that the lingering issues from this research project could be addressed by a comparative study between the benefits of structured improvisation and free improvisation methodologies.

Another avenue for further research is the prospect of looking further into how A.I. can assist in developing improvisation. Only one piece of literature addressed this, and considering it highlighted strong benefits to such technology, I believe it would be worth exploring how A.I. can be incorporated into a broader methodology and units of teaching.

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