



UWL REPOSITORY

repository.uwl.ac.uk

They Like it Like That: An Analysis of the Musical Attributes that are Identified as Engaging by Upper Primary School Music Teachers.

Cardenas, Rosalind (2025) They Like it Like That: An Analysis of the Musical Attributes that are Identified as Engaging by Upper Primary School Music Teachers. Doctoral thesis, University of West London.

10.36828/thesis/13412

This is the Published Version of the final output.

UWL repository link: <https://repository.uwl.ac.uk/id/eprint/13412/>

Alternative formats: If you require this document in an alternative format, please contact: open.research@uwl.ac.uk

Copyright: Creative Commons: Attribution-Noncommercial 4.0

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy: If you believe that this document breaches copyright, please contact us at open.research@uwl.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

**They Like it Like That: An Analysis of the Musical
Attributes that are Identified as Engaging by Upper-
Primary School Music Teachers**

PhD Thesis

Submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Rosalind Cardenas, MMus, BA (Hons), PhD Student, London College of
Music, University of West London

Supervisors:

Dr Liz Pipe, Head of Popular Music Performance, Associate Professor
and LCM Partnerships Lead, London College of Music, University of
West London

Professor David Osbon, Professor of the Creative Arts, London College
of Music, University of West London

ACKNOWLEDGEMENTS

Firstly, I would like to thank my main supervisor, Dr Liz Pipe, for her endless encouragement, support, and understanding. I would also like to express gratitude to Professor David Osbon and Professor Simon Zagorski-Thomas for their guidance during this process, and to the University of West London graduate school and vice chancellor for funding and making this PhD possible.

Thanks must be extended to the research participants, without whom this research would not have been possible, and to Bruno Cardenas for supporting and inspiring me. I would like to thank my mum, Angela Bruce, for never doubting my ability, and my son, Leonard, for coming into the world and providing the extra motivation needed to keep going to the end. Finally, I'd like to thank Whoopi, our cat, for her company, comfort, and expert proof-reading.

ABSTRACT

Engagement is an essential component of musical skill-building. The phenomenon has been dissected into five modes: appreciating, evaluating, directing, exploring, and embodying, with the understanding that the inclusion of all five is essential for a well-rounded music education and that there are activities best suited to specific modes (Brown, 2015).

Whilst Brown (2015) has described the types of activities conducive to modes of musical engagement, and some research has been done into the types of musical and learning styles which teachers identify as engaging (Campbell, 2010; Ilari *et al.*, 2020; Creech, Saunders and Welch, 2016), minimal knowledge exists regarding the attributes of repertoire and activities which encourage musical engagement – in its different forms – in the primary classroom.

This thesis presents a constructivist grounded theory study into the musical attributes of repertoire and activities that primary music teachers have identified as engaging. Findings from interviews with music teachers of 7- to 11-year-olds demonstrate that there are specific characteristics identified by teachers as engaging. Data from semi-structured interviews also highlights the importance of embodied music cognition (Leman, 2019) as a function of engagement.

Substantiating with existing knowledge in the areas of music pedagogy (Atkinson, 2018; Green, 2008; Jeanneret and DeGraffenreid, 2012; King, 2018), children's musical preferences (Ilari *et al.*, 2020), and methods of musical analysis (Frith, 2017; Middleton, 2000; Moore, 2016; Tagg, 2013), this thesis details which musical attributes are found to be engaging in the upper primary music classroom, and why. As well as contributing to the academic fields of musicology and music education, it offers clarity to upper primary music teachers, in an area where it has consistently been lacking (Spruce, Stanley and Li, 2021)

CONTENTS

1. Introduction

- 1.1. The Current Situation of Primary Music Education
- 1.2. The Importance of Primary Music Education
- 1.3. The Role of Musical Attributes in Pupil Engagement
- 1.4. Research Aims and Approach
- 1.5. Structure of the Thesis

2. Literature Review

- 2.1. Chapter Introduction
- 2.2. The Role of the Literature Review in Constructivist Grounded Theory Research
- 2.3. Defining Pupil Engagement
- 2.4. Brown's Compartmentalisation of Musical Engagement
- 2.5. Potential Pathways from Musical Attributes to Engagement
- 2.6. Engagement in the Primary School Music Classroom
- 2.7. How Musical Attributes Influence Engagement
- 2.8. How Repertoire is Chosen for the Primary School Music Classroom
- 2.9. Music-Making Activities that are Common in the Primary School Music Classroom
- 2.10. Chapter Summary

3. Methodology

- 3.1. Introduction
- 3.2. Constructivist Research Paradigm
- 3.3. Qualitative Approach
- 3.4. Constructivist Grounded Theory Methodology
- 3.5. Data Collection Methods
- 3.6. Data Analysis Methods
- 3.7. Musicological Analysis
- 3.8. Pilot Study
- 3.9. Validity and Credibility of Data
- 3.10. Ethical Considerations
- 3.11. Chapter Summary

4. Attributes of Rhythm

- 4.1. Chapter Introduction
- 4.2. Extramusically Familiar Tempo and Tempo Changes
- 4.3. Syncopation
- 4.4. Cyclicity and Simplicity in Rhythmic Patterns
- 4.5. Chapter Summary

5. Attributes of Timbre and Loudness

- 5.1 Chapter Introduction
- 5.2. The Timbres of The Body
- 5.3. The Use of Instrumental Sounds which have Physical Familiarity
- 5.4. Percussive Timbre
- 5.5. Attributes of Loudness
- 5.6. Chapter Summary

6. Attributes of Pitch and Tonality

- 6.1. [Chapter Introduction](#)
- 6.2. [Minor Thirds and Major Second Melodic Intervals](#)
- 6.3. [Limited Pitch Range](#)
- 6.4. [Simple Patterns of Pitch and Tonality](#)
- 6.5. [Chapter Summary](#)

[7. Music-Making Activities and the Learning Environment](#)

- 7.1. [Chapter Introduction](#)
- 7.2. [Improvisation](#)
- 7.3. [Composition](#)
- 7.4. [Using Sequencing Software](#)
- 7.5. [Body Percussion](#)
- 7.6. [Dancing and Coordinated Movements](#)
- 7.7. [Singing](#)
- 7.8. [Playing Instruments](#)
- 7.9. [Learning by Ear](#)
- 7.10. [Active Listening](#)
- 7.11. [Performing](#)
- 7.12. [Chapter Summary](#)

[8. Lyrical Attributes](#)

- 8.1. [Chapter Introduction](#)
- 8.2. [Personal, Social, and Cultural Relevance and Meaning-Making](#)
- 8.3. [Lyrical Silliness](#)
- 8.4. [Censoring and Rewriting Pop Lyrics](#)
- 8.5. [Repetition, Rhyme, and Lyrical Memorisation](#)
- 8.6. [The Use of Verbs, Prosody, and Active Responses](#)
- 8.7. [Chapter Summary](#)

[9. Conclusion and Implications](#)

- 9.1. [Chapter Introduction](#)
- 9.2. [Musical Attributes Identified as Engaging](#)
- 9.3. [Distinguishing between Musical and Extra-Musical Features](#)
- 9.4. [Implications for Teachers](#)
- 9.5. [Strengths and Limitations](#)
- 9.6. [Final Words and Suggestions for Further Research](#)

[Bibliography](#)

[Appendices](#)

CHAPTER ONE: INTRODUCTION

1.1 The Current Situation of Primary Music Education

Music has been a compulsory part of the Key Stage 2 curriculum in the UK since 1992 (Bath *et al.*, 2020). However, recent years appear to have seen its decline (Cooper, 2019; Bath *et al.*, 2020; Savage and Barnard, 2019). Characterised by inconsistency (Dale, 2017; Zeserson *et al.*, 2014), music education is now considered to be 'unacceptably variable' (Zeserson *et al.*, 2014, p. 8) and in a 'perilous state' due to 'chaotic education policies' (Savage and Barnard, 2019, p. 3). Katherine Zeserson *et al.* (2014) have identified that the detrimental variability in primary music provision stems from the following:

- 1) low teacher confidence, due to insufficient training and the fact music is often taught by generalist teachers,
- 2) weaknesses in curriculum and pedagogy,
- 3) a lack of clarity about how to ensure retention and progression,
- 4) a lack of internal and external support, and
- 5) education policy changes.

Accountability measures, funding cuts, the narrowing of curriculum (to focus on 'core' subjects), and an 'erosion and de-professionalisation' (Bath *et al.*, 2020, p. 451) of the music teaching workforce are also argued to have contributed to the perceived decline in music education. Bath *et al.* (2020) have also highlighted how there have been a breadth of studies which demonstrate generalist primary teachers' lack of musical training and the low confidence that persists as a result (Cooper, 2018; Daubney *et al.*, 2019; Hennessy, 2013). However, it is widely agreed that music education is the

right of every child and that it should be provided as part of the curriculum in all state-funded schools (Bath *et al.*, 2020; Heimonen, 2006; Shuler, 2012; Spruce, 2013).

Further study into the experiences of trainee teachers in primary schools has evidenced how primary teachers would benefit from more support with their music teaching and has reiterated that confidence levels are often low (Devaney and Nenadic, 2021). It has been found that instrumental lessons delivered via external teachers are prioritised and that trainee teachers believe that this hinders their own development, and that developing music teaching skills is not a pursuit considered valuable by their schools (Devaney and Nenadic, 2021). It has also been suggested that the use of specialist music teachers such as those provided by music hubs can reinforce divisive beliefs in generalist primary teachers, most of whom are not music-specialists (Hennessy, 2017). This includes the notion that teachers must have advanced musical skills in order to encourage musical learning in their classes (Hennessy, 2017).

Whilst the lack of musical confidence evident in generalist primary teachers suggests a less than positive impact upon primary school children's educational experiences, research suggests that this problem is not remedied through external providers alone (Hallam *et al.*, 2009; Hennessy, 2017). Visiting music educators can share their specialist knowledge and commitment to and enthusiasm for music. However, they cannot integrate music into the wider curriculum of the school, nor can they connect with pupils on the same level as the teachers who are with them every day (Hallam *et al.*, 2009). Susan Hallam *et al.* (2009) point out how teaching music only through visiting music teachers can pose the risk of separating music from the rest of the curriculum, as well as becoming viewed as 'release time' (p. 237) for generalists, who would both receive and elicit more benefit by being involved.

It is apparent is that generalist primary teachers are in need of assistance if they are to deliver music lessons that are effective and consistent. Until the introduction of the Model Music Curriculum (MMC) in 2021 (DfE, 2021), less than one page of A4 was committed to advising primary school teachers what to teach in music at Key Stages 1 and 2 (DfE, 2013). Now, there are thirty-six pages which offer non-statutory advice to primary school teachers on repertoire that they can include in their lessons in order to build a varied curriculum (DfE, 2021). The document provides examples from Western classical, popular, and traditional music from a variety of cultures. However, the Incorporated Society of Musicians (ISM, 2021) express disappointment at the lack of guidance the model provides for non-specialists, as well as the lack of detail in learning focus and purpose. These absences, ISM (2021) argue, continue to leave generalist teachers without the resources needed to inspire confidence in their own practice. The MMC has also been criticised for focusing too heavily on content over process, losing meaning as a result (Philpott, 2022), as well as containing misjudgements regarding content and basic errors (Lydon, 2021).

Whilst the MMC (DfE, 2021) offers examples of repertoire that can be taught across the Key Stages, the musical attributes which are present within examples are only fleetingly addressed. Moreover, problematic statements such as ‘good repertoire for this age group includes’ (p. 13) appear throughout the document, with little explanation.

This thesis explores how the attributes present within examples of repertoire can contribute to children’s musical engagement in the Key Stage 2 classroom¹. This new knowledge will equip music specialists with a deeper understanding of what works in the classroom and will provide generalist primary teachers with an explanation of how repertoire can influence levels and types of musical engagement. By investigating the musical details of materials which are identified as conducive to

¹ Further discussion about the choice of the word ‘attribute’ will be discussed in section 1.3.

engagement, an understanding of how this can be fostered is achieved. Rather than relying on examples given by others, this thesis equips both specialist and non-specialist teachers with the knowledge required to choose musically engaging repertoire and activities, based on the attributes they possess.

1.2 The Importance of Upper Primary Music Education

That it is important to teach music to upper primary school children is widely agreed (Bath *et al.*, 2020; Heimonen, 2006; Shuler, 2012; Department for Education, 2011, 2021, 2022). In 2011, the Department for Education (2011) released a fifty-two page document advocating for music provision and highlighting a national plan. This stated that all primary-aged children should be given the opportunity to learn instruments with specialists. This was later followed by the *Model Music Curriculum* (2021), which contains a lengthy collection of suggestions for repertoire across age groups. In 2022, it was recommended by the Department for Education (2022) that music should be valued and celebrated in all primary schools via at least one hour per week of musical learning for all students. This was due to a recognition of the social, emotional, and academic benefits of music education (DfE, 2022).

Highlighted benefits of primary music education across literature include aesthetic appreciation² (Goolsby, 1984; Littleton, 2015), social and cultural enrichment (Edgar, 2017; Littleton, 2015; O'Neill, 2015), emotional development (Edgar, 2017; Varadi, 2022), motor development (Sidnell, 1986; Teachout, 2005), and increased intellectual ability (Costa-Giomi, 2012; MacDonald *et al.*, 2013). High-quality primary school music education also facilitates a bottom-up impact on secondary school

² Aesthetic appreciation refers to what Littleton (2015) describes as the 'meaningful discovery, experience, and knowledge of music' (p. 88).

music provision, a stage where pupil engagement is understood to rapidly decrease (Dale, 2017; Daubney *et al.*, 2019).

To enable aesthetic appreciation, repertoire and instruments must be chosen based on aesthetic value (Littleton, 2015). Danette Littleton (2015) argues that the integrity of musical education depends on the quality of what children sing, listen to, and play. This is a view consistent with Zoltan Kodály's pedagogical approach, which places beauty at the forefront of requirements for repertoire (Choksy, 1974). Aesthetic value in music education has also been associated with teaching in a way that is true to music's artistic nature and nurtures creativity (Reimer, 1989).

For social and cultural enrichment to occur, activities and repertoire must be chosen with care. Susan O'Neill (2015) discusses that for children of all school ages to be engaged in music, their mind must be 'always attending to something' (p. 609), and that this can be cultural, social, or personal. O'Neill (2015) also emphasises how children's musical engagement tends to be 'interwoven' (p. 611) with non-musical engagement, and that these boundaries are not necessarily considered.³ A message that runs clearly through O'Neill's (2015) work on engagement is that for enrichment to occur, children must perceive the musical activities they take part in to have relevance that goes beyond music-making itself.

Emotional development can also be encouraged, through the consideration of the lyrical and musical meaning present in learning activities (Edgar, 2017). Scott Edgar (2017) has raised awareness through his work of the potential abilities of music to 'portray clear emotion' (p. 166) and address societal issues, through musical attributed as well as lyrics. Edgar (2017) asserts that one of the

³ Non-musical engagement can include social engagement with peers in the classroom.

ways emotional (and socio-emotional) development can be promoted throughout music education is via the prompting of discussions through well-considered musical examples.

Intellectual benefits of musical learning also contribute to its importance. Whilst it has been stressed that the value of music does not depend upon its ability to boost achievement in other subjects (Westerlund, 2008), its ability to do so has been demonstrated nonetheless (Cabanac *et al.*, 2013). Musical engagement has been associated with higher academic achievement (Cabanac *et al.*, 2013; Hodges and O'Connell, 2005; Holochwost *et al.*, 2017), due in part to an evidenced positive impact on verbal intelligence planning (Jaschke, Honing, and Scherder, 2018). Musical interventions have also been connected with improved exam results (Halliday, 2017).

Studies relating to these benefits and more have been detailed by Susan Hallam (2015) in *The Power of Music*. Through a comprehensive literature review, Hallam (2015) evidences how 'actively making music can contribute to the enhancement of a range of non-musical skills and lead to other beneficial outcomes' (p. 18). However, for this to become a reality, children – of all school ages - must be engaged in their lessons, this engagement must be sustained, and it must start early (Hallam, 2015). One of the ways this can be encouraged is through considered choices of repertoire, with musical, lyrical, and extra-musical meaning potentials that are accessible to learners, and particularly for disaffected and at-risk children, this must be 'in a genre with which they can relate' (Hallam, 2015, p. 19).

By investigating the attributes which upper primary school teachers have identified as engaging, this thesis will equip teachers with knowledge of how they can utilise repertoire effectively within their lessons. By providing new and specific knowledge about how musical attributes can facilitate different modes of musical engagement, the current lack of clarity about what to teach (Philpott,

2022) can be demystified. This will enable specialist teachers, non-specialists, and their students to engage with music lessons and music-making in a way that is fulfilling and balanced.

1.3 The Role of Musical Attributes in Pupil Engagement

To cater for each of the potential benefits discussed in the previous section, a consideration of how 7- to 11-year-old children engage with music must occur. Whilst the bulk of current music education research considers the pedagogical approaches through which music is taught (Abril and Gault, 2016), it is evident that there are attributes of repertoire and music-making activities within these approaches that contribute towards their ability to engage pupils. Attribute is defined in the Cambridge Dictionary (2021) as ‘a quality or feature of a person or thing, esp. one that is an important part of its nature.’ This word was chosen, rather than ‘parameter’ or ‘element’, due to its implicit suggestion of importance, which helps to clarify both transferability and the potential for influence within musical elements included in this study.

Engagement is understood to take three forms: active, emotional, and cognitive (Fredricks, Blumenfeld and Paris, 2004; Johnston, 2018), whilst musical engagement is believed to have five main modes: appreciative, evaluative, directive, explorative, and embodied (Brown, 2015). Each of these are discussed in further detail in chapter two. Andrew Brown (2015) has also identified how different musical activities can facilitate modes of musical engagement – each of which can also be related to general engagement types – but the musical attributes present within such activities have not been explored.

Hallam (2015) has identified the crucial role of genre in fostering engagement through relevance.

However, indicators of genre (Tagg, 2013) with which 7- to 11-year-olds relate are yet to be pinpointed.

Furthermore, there are melodic, rhythmic, and harmonic qualities associated with specific pedagogical approaches – detailed in Chapter Two – that demand exploration to establish their role in pupil engagement. Whilst engagement is reliant on multiple factors, including teacher delivery, the school culture and individual family backgrounds (O’Neill, 2015), an increasing body of knowledge argues for the affordances⁴ of musical parameters.

It is understood that there are elements of music which can afford both physical and emotional movement (Cox, 2016; Krueger, 2011; Leman, 2019), different types of which can align with different modes of musical engagement (Brown, 2015). Knowledge also exists regarding how musical attributes can influence entrainment (Clayton *et al.*, 2020), and social behaviour (Krueger, 2011). In this thesis, an examination of the attributes that are identified by primary school music teachers as engaging is undertaken. This enables an emerging theory regarding how elements within repertoire and musical activities can encourage engagement in its multiple forms. It will equip music teachers with an evidence-based method for choosing repertoire and associated activities that will facilitate musical engagement in the classroom.

The tools that this thesis provides will enable both specialist and non-specialist teachers of upper primary school music to cultivate a well-rounded music education (Brown, 2015) which is experienced as meaningful by the pupils (Dillon, 2006, 2009) and therefore conducive to continued

⁴ Musical affordance: a feature of music that inspires or allows the listener to perform an action (Menin and Schiavio, 2012)

musical learning as well as the additional benefits music education facilitated (Cabanac *et al.*, 2013; Hallam, 2010). Furthermore, this research is not genre- or style-specific, making it accessible to teachers of all kinds of musical backgrounds and facilitating the ability for them to choose repertoire which contains attributes that can engage 7- to 11-year-old pupils, whilst maintaining their authenticity as a music teacher (or a generalist, teaching music).

1.4 Research Aims and Approach

This is a qualitative, constructivist grounded theory research project, which explores what the musical attributes are that can contribute to 7- to 11-year-olds' musical engagement. In doing so, this thesis fills a gap in existing literature surrounding upper-primary school children's engagement with musical attributes. The main research question is:

What are the musical attributes, of repertoire and music-making activities, that upper primary school music teachers have identified as engaging?

To answer this, the following sub-questions are explored:

- 1) How can we distinguish between music-related and social or cultural criteria, as factors in this repertoire?
- 2) What are the features of musical learning activities that are identified as engaging?

These questions are answered through the triangulation of established qualitative codes with Brown's (2015) modes of engagement and an investigation into the role of embodied music cognition (Cox, 2016; Leman, 2019). The exploration of embodied music cognition is of interest both in and outside of the context of music education. The research is approached using the following methods:

1) In-Depth Interviews

In-depth interviews are conducted with teachers using a purposeful sampling system (Emmel, 2013).

These investigated primary school music teachers' perspectives of repertoire and activities that are engaging in the classroom. A combination of the following were sought to share their insight:

- 1) Generalist primary teachers who identify as musicians, and
- 2) Visiting music specialists.

In line with the University of West London's ethical requirements, participants remain anonymous in this study. Therefore, those who partook in the pilot study are named Teachers 1, 2, 3, and 4, whilst those who participated in the main study are named Teachers A – P. Further detail on the specialism of each teacher, and the selection process of these participants is provided in chapter three.

2) Musicological Inquiry

Following the coding and categorisation of qualitative data collected in interviews, recorded examples of repertoire were chosen for analysis after either:

- a) having been described as engaging by multiple teachers, or
- b) having been discussed or demonstrated in significant musical detail.

This analysis involves the consideration of 1) pitch, 2) timbre, 3) rhythm, 4) loudness, 5) lyrics, and 6) persona. The choice of musical elements to analyse was informed by the work of Richard Middleton (1990, 1993), Philip Tagg (2013), Allan Moore (2016), and Simon Zagorski-Thomas (2018).

Attributes of pitch, timbre, rhythm, growth, and loudness within repertoire are analysed in relation to responses described by participants and then mapped with Brown's (2015) modes of engagement. As well as analysing examples of repertoire, the attributes present within music-making activities that are identified as engaging are explored. As the word 'activity' implies action, analyses in this area are heavily rooted in embodied music cognition (Cox, 2016; Leman, 2007). Body percussion and the attributes which facilitate it are explored and Cox's (2016) mimesis hypothesis is considered alongside embodied attuning (Leman, 2019) and rhythmic entrainment (Krueger, 2012).

1.5 Structure of the Thesis

Following this introduction, this thesis consists of a further eight chapters. Chapter two draws attention to the gap in literature regarding musical engagement at Key Stage 2 and the lack of knowledge about how musical attributes can contribute to experiences of engagement. Whilst studies of musical engagement are yet to explore the potential influence of musical attributes, relevant literature on musical engagement, music-making activities and the attributes within them, and upper-primary school children's musical preferences are considered. This highlights the originality of the research and the importance of investigation in this area.

In chapter three, the methodological choices made for this research are discussed. This includes the research paradigm in which it exists, the approach to the research, and details of the data collection and analysis techniques. To develop a novel theory that was grounded in new data, whilst informed by existing knowledge, a qualitative, constructivist grounded theory approach was chosen. This involved the use of in-depth interviews with primary school music teachers, followed by musicological analyses of patterns within and specific examples of repertoire. Ethical requirements are also considered in this chapter, as well as the validity of data.

Chapters four to eight present the findings of the research, divided as follows:

- 1) Rhythm,
- 2) Timbre and loudness,
- 3) Pitch and tonality,
- 4) Lyrical content,
- 5) Music-Making Activities

In chapter nine, these findings are discussed and a constructivist grounded theory of how 7- to 11-year olds' musical engagement can be encouraged through repertoire and activities is developed.

This chapter concludes the research, spotlighting its importance and acknowledging its implications, strengths, and limitations. This concluding chapter demonstrates how both the main and sub-questions have been answered and suggests direction for further work in the novel area.

CHAPTER TWO - LITERATURE REVIEW

2.1. Chapter Introduction

This chapter begins with a consideration of the role of the literature review in this research, before outlining and analysing existing literature available on defining engagement and musical engagement, how musical attributes can influence types of engagement, the ways teachers choose repertoire, and common music-making activities. Gaps in knowledge are identified and this thesis is contextually positioned within the field of music education.

2.2. The Role of the Literature Review in Constructivist Grounded Theory Research

If and how to use a literature review in grounded theory research is a long-debated issue (El Hussein *et al.*, 2017). Originally, grounded theorists Barney Glaser and Anselm Strauss (1968) believed that literature reviews should not be conducted until after data analysis, and that to do so beforehand would be both constraining and contaminating (Ramalho *et al.*, 2015). Barney Glaser and Anselm Strauss (1968) believed that existing literature could limit analysis and guide theory in a way that prevented the discovery of new knowledge. They argued that the emergence of categories should be solely guided by data, and that to engage with literature before data analysis would interfere with new theoretical developments. However, Juliet Corbin and Strauss (1990) later argued that sceptical engagement with literature could aid the analytical process, by allowing the researcher to identify important components within theoretical development (Hickey, 1997). Since then, Robert Thornberg's (2011) call for an 'informed grounded theory', followed by Kathy Charmaz's (2014) formation of constructivist grounded theory have led to further reconsideration of the place of the

literature review in grounded theory research studies.

Thornberg (2011) argues that the analysis of literature before collecting and analysing data in a grounded theory study is an essential part of both enhancing the researcher's theoretical sensitivity and acknowledging what has been done before them. Furthermore, he states that it is through the reading of existing literature that we are able to see beyond what has already been done, learning from both the successes and mistakes of those before us. In agreement, Charmaz (2014) highlights how waiting until after data analysis to conduct a literature review can result in the dismissal of the literature, as well as the 'rehashing' (p. 306) of old empirical problems. Ciarán Dunne (2011) also agrees that abstaining from literature before data collection can reduce the quality of research. Thornberg (2011), Charmaz (2014), and Dunne (2011) each acknowledge the impossibility of pure induction and the importance of recognising and celebrating the researcher's prior knowledge and experience, including their engagement with literature.

Thornberg (2011), Charmaz (2014) and Dunne (2011) argue that by placing weight on the risk of contamination, traditional grounded theorists undermine the researcher's ability to be critical. Furthermore, they state that to sacrifice the advantages of conducting an early literature review would reduce the quality of the research (Charmaz, 2014; Thornberg, 2011; Dunne, 2011). Additionally, they identify practical issues including universities' demand for preliminary literature reviews to be conducted prior to research. Such practicalities, combined with university expectations, the different stages at which professionals embark upon research, and the aforementioned quality control issues which arise from a lack of prior reading, make it possible to conclude that the place for reading literature exists both prior to, and throughout, the research process.

For the reasons highlighted above and informed by Charmaz (2014), Dunne (2011) and Thornberg (2011), a preliminary literature review was conducted prior to the research undertaken in this study. The review remained continuous throughout the research process, both during and following data collection and analysis. The sources detailed in the sections to follow informed the coding of the data, as previous work on engagement in music education has defined categories into which responses to musical attributes can be sorted. This categorisation allows for further analysis into how and why different musical attributes can influence different types of engagement, in the age group of interest, and facilitates a consideration into the relationships between each of these features.

2.3. Defining Pupil Engagement

The challenge of defining pupil engagement has been tackled by both etymological consideration (Axelson and Flick, 2010) and the categorisation of types of engagement (Ali and Hassan, 2018; Axelson and Flick, 2010; Balwant, 2017; Fredricks, Blumenfeld and Paris, 2004; Johnston, 2018; Li and Lerner, 2013; Pagán, 2018).

Linguistically, Rick Axelson and Arend Flick (2010) have identified how the verb to engage, for many years, meant to formally agree to an act. They highlight how 'gage' has a Norman root that means to pledge, indicating how the former nature of the word was serious and binding. However, Axelson and Flick (2010) go on to explain how the word has, in recent years, taken on a less permanent meaning. They state that in today's language, to be engaged means to be present in the moment and to have one's attention occupied. They also emphasise how this occupation can take on different forms: emotional, behavioural, and cognitive. That there are emotional, behavioural, and cognitive forms of engagement is something that has widespread agreement (Ali and Hassan,

2018; Axelson and Flick, 2010; Balwant, 2017; Fredricks, Blumenfeld and Paris, 2004; Johnston, 2018; Li and Lerner, 2013; Pagán, 2018). Each of the terms are defined more fully below, before a clarification of what 'engagement' means for the purpose of this study is chosen.

Emotional engagement (also known as affective engagement) (Ben-Eliyahu *et al.*, 2018) has been defined as the positive and negative responses which influence students' willingness to do work (Fredricks, Blumenfeld and Paris, 2004). Kim Johnston (2018) offers examples of positive and negative responses, including enjoyment, fear, belonging, and anger, arguing that these responses are reflective of a student's attraction or repulsion, and that the former can pave the way for interest and motivation. Johnson (2018) also argues that emotional responses can strengthen behavioural and cognitive types of engagement, including involvement and attention.

Behavioural engagement is described as the participation and involvement that is crucial for achieving academic success (Fredricks, Blumenfeld and Paris, 2004). Johnston (2018) includes the following four behaviours in her definition of behavioural engagement: 1) interaction, 2) collaboration, 3) action, and 4) participation. She states that behavioural forms of engagement can occur as a result of emotional or cognitive engagement. However, the ways in which the three forms of engagement interact calls for further research (Li and Lerner, 2013). This is beyond the confines of this particular research study.

Cognitive engagement is considered to involve the investment, thoughtfulness and willingness to exert the effort that is necessary to both comprehend complex ideas and master difficult skills (Fredricks, Blumenfeld and Paris, 2004). In a musical context, this could mean the comprehension of music theory and the mastery of an instrument. Johnston (2018) defines cognitive engagement as an investment in attention and processing with the aim of developing knowledge or understanding of a

concept. This could relate to many areas of musical understanding, from the identification of sound sources to the understanding of harmony.

It is understood that these three areas of engagement interrelate (Fredricks, Blumenfeld and Paris, 2004), and research by Li and Lerner (2013) suggests that the trio of forms can even influence each other. Specifically, behavioural and emotional forms of engagement have been found to encourage one another, whilst cognitive engagement has been shown to be influenced by – but is not an influencer of – behavioural engagement. Whilst knowledge in this area remains limited, this study will offer new insight into how emotional, behavioural, and cognitive forms of engagement can interrelate with one another, as children’s responses to musical attributes are analysed: first in terms of which engagement type(s) they fit in with, before they are examined in relation to the cognitive, emotional, and behavioural potentials that exist within the music itself. These are often referred to as *affordances* (Cano, 2006; Clarke, 2005; Gibson, 1966; Krueger, 2014), a concept defined and explored later in this chapter.

Despite the evident compartmentalised considerations into the above forms of engagement, and the aforementioned agreement amongst scholars that they interrelate, definitions of engagement which encompass all three types are limited. Manisah Ali and Noorfaziha Hassan (2018) compiled a useful list of existing attempts to define engagement generally, school engagement, and student engagement. These definitions are concerned with general education in schools and are not age-specific. Whilst the majority of the fourteen definitions focused exclusively on behavioural or emotional elements, there were three references under school engagement, and two fitting into student engagement, which encompassed all three areas. After examining these five references, the following definition was chosen, due to its clarity and inclusion of the three forms of engagement:

“The attention, interest, investment, and effort students expend in the work of learning”
(Marks, 2000).

The other four definitions to choose from were as follows:

“Affective, behavioral and cognitive engagement among students with peer groups, in the classroom and at school.” (Klem and Connell, 2004)

“Continuous engagement (including behavioral, emotional and cognitive components) and responses to challenges.” (Jimerson *et al.*, 2003)

“Types of affective engagement (feelings about school, teacher and peers), behaviors (observable actions) and cognitive (perceptions and beliefs).” (Chapman, 2003)

“Cognitive/intellectual/academic, social/behavior/participation and emotion (relationship between feeling with school includes achievement, school climate, relationship with teachers and peers).” (Azman *et al.*, 2005)

Whilst each of the definitions shown do encompass the three areas of engagement, the chosen definition, from Helen Marks (2000), implies emotional or affective, cognitive, and behavioural engagement in one short sentence. This makes it suitable for this research, which is concerned with multiple modes of engagement.

The use of a definition which encompasses the three forms of engagement is in keeping with many studies into engagement in education, which consider the different kinds of responses (Kelly *et al.*, 2023). However, the consideration of these three types is rare when focusing on the subject of

engagement in *music* education (Pagán, 2018). Addressing a gap in literature on how cognitive, behavioural, and emotional engagement works in the music classroom, Joel Pagán (2018) has explored how the different forms can contribute to academic and ensemble success in the high school music classroom. Pagán (2018) found that students who self-reported high levels of all three forms of engagement also produced ensemble performances that were deemed to be of a higher standard than those who reported lower levels of engagement. Pagán's (2018) research also suggested that emotional – or affective – engagement was the greatest predictor of high-level musical performances amongst the three forms.

Although Pagán (2018) has gained insight into how engagement can contribute to musical outcomes, his research did not explore how music itself can influence types of engagement, or the primary school music classroom. In this research, the musical attributes that are identified by teachers as influencers of engagement in the classroom are explored. This enables a music-specific insight into engagement that considers how emotional, cognitive, and behavioural forms of engagement can be achieved in the classroom, through the use of musical elements.

2.4. Brown's Compartmentalisation of Musical Engagement

Although, as highlighted by Pagán (2018), there have been limited studies on engagement which are music-specific, a handful of scholars have considered what it means to be engaged in the music classroom, and how this can be achieved.

Andrew Brown (2015) defines engagement in music education as an immersion in a process of interpretation and action. Considered in line with the engagement literature, this definition suggests that musical engagement must include *behavioural* (immersion and action) and *emotional* or *cognitive* (interpretation) elements. He goes on to separate musical engagement into five modes,

whilst stating that a 'well-rounded' (p. 5) musical life includes all of them. This statement about well-roundedness suggests that a variety of engaging experiences are crucial to a successful music education. Brown's (2015) five modes of musical engagement are as follows:

- 1) Attending/Appreciating
- 2) Evaluating
- 3) Directing
- 4) Exploring
- 5) Embodying

The first mode, *attending* (Brown, 2001, 2003), later referred to as *appreciating* (Brown, 2015) involves paying careful attention to a piece of music and considering its representations. Whilst *attending*, the music student acts as an audience to a piece as they allow themselves to experience significations or have connections triggered to extra-musical experiences (Brown, 2012).

Evaluating is described by Brown (2015) as something which involves judgement. This can be of aesthetic value or cultural appropriateness. Brown (2012) highlights that when a listener is engaged in evaluation, they are also *attending* or *appreciating*. Indeed, Brown (2015) emphasises how individuals can shift between modes during an activity and that multiple modes can be activated simultaneously.

Directing is defined by Brown (2015) as the act of 'crafting creative outcomes and leading creative activities' (p. 210). He highlights how this mode of engagement requires the participant to control, mould, and manipulate musical materials, in order to communicate their musical ideas (Brown,

2012). In the music classroom, this could include activities such as composing or producing, conducting or leading, or even promoting/managing a musical group (Brown, 2015).

Exploring involves searching through and experimenting with artistic possibilities (Brown, 2012, 2016). In this mode of engagement, a student may be improvising or jamming, either with instruments or software as they clarify, construct, and discover musical sounds (Brown, 2012, 2016).

Embodying is defined as an engrossment in creative expression and can include singing, dancing, or playing along with music (Brown, 2015). In the classroom, embodiment-orientated activities can include practising, playing, rehearsing, recording, or performing. Brown (2012) argues that embodied engagement is characterised by a depth of involvement due to its similarity to children's play.

Brown (2015) also offers examples of how musical activities can encourage each of these modes of Engagement, such as listening for appreciation, or playing for embodiment. He also considers how musical meaning-making can play a role in pupils' experiences of engagement (Brown, 2015).⁵ However, Brown (2012, 2015) does not explore the ways in which the musical attributes present within repertoire can enable types of engagement to occur. This thesis aims to fill that gap in literature by analysing the musical attributes that are identified as engaging by primary school music teachers.

Brown's (2015) considerations of the role of meaning-making in experiences of musical engagement stem from Steve Dillon's (2006) work. Dillon (2006) considers meaning-making to be a crucial

⁵ This is to be discussed in more detail shortly.

component of engagement in the music classroom. Before collaborating with Brown (Brown and Dillon, 2016), Dillon (2006) states that Brown's (2000, 2003) modes of engagement are promoted by meaningful interactions with music. He argues that there are three types of meaningful interaction:

- 1) Personal,
- 2) Social, and
- 3) Cultural.

Personal meaning is defined by Dillon (2006) as something that is established when an activity achieves intrinsic enjoyment. This type of meaning is formed when an individual is involved and engaged with an element of the music that they can relate to, such as its lyrical narrative or timbral qualities.⁶ It can involve the personal enjoyment of listening to or playing music. This type of meaning is related to the construction of identity and Dillon (2006) associates it with the notion of 'flow', which is defined and explored in relation to this research later in this chapter.

Social meaning is established when a musical activity connects the student with others and the relationships between them are valued (Dillon, 2006). Dillon (2006) uses the examples of *wordless understandings* which can be achieved through rhythm and synchronised playing, as well as the non-verbal experiences that are felt through varying musical intensities. Dillon (2006) argues that musical communications amongst learners can encourage continued engagement with activities, as participants place varying amounts of value on the activity, the other members of the group or ensemble, and the community that enables the experiences.

⁶ This is discussed further in chapter 5.

Cultural meaning is constructed when an activity is considered to be valuable by the community the pupil exists within, providing them with a sense of importance by taking part in it (Dillon, 2006).

Dillon (2006) highlights how music can provide instant recognition of cultural identities as familiar sounds or passages – such as the sound of a sitar, or the opening riff to ‘Smoke on The Water’ – all identify their communities and have the potential to inspire thoughts regarding the values they represent. For cultural meaning to be established in a music-making activity, cultural associations must be relevant to and recognisable by the pupil (Dillon, 2006).

This is a phenomenon that has been explored further by Susan O’Neill (2015), who writes that for meaning to be established in the music classroom, cultural and political contexts must be attended to. She states that students’ minds are always *attending* to something, and that by learning what that is, a teacher can understand how to foster meaningful connections. She also highlights how engagement in music-making can refer to multiple realities: from children banging drums for the pleasure of making noise, to them showing up to spend time with their friends. She argues that musical engagement could exist upon a continuum or be cyclic over time, stating that multiple opportunities for engagement and learning can occur at any given time. O’Neill (2015) places the responsibility on the teacher to foster social and cultural meaning-making, through well-considered materials, activities, and classroom relationships which have relevance for pupils.

Whilst O’Neill’s (2015) work has established the importance of engaging pupils through personal, social and cultural relevance, the ways in which musical attributes can contribute to the construction of this have not yet been explored. In this thesis, the musical attributes which influence meaning-making and modes of engagement are investigated.

The work highlighted above has informed this study by creating a route through which the

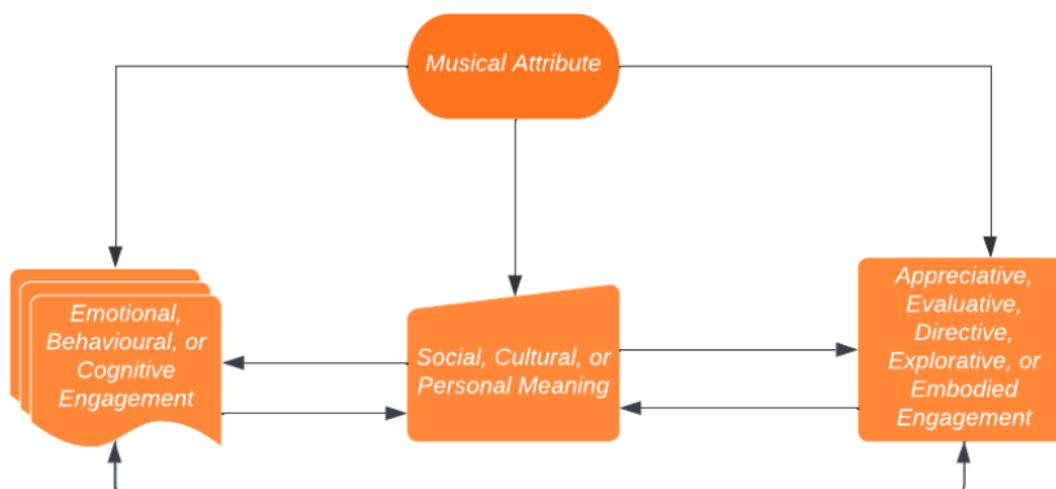
connections between musical attributes and engagement can be identified and helping to build the theoretical framework for the research. Whilst the existing literature on engagement establishes that there are three broad types of engagement (emotional, cognitive, and behavioural), Brown's work (2000, 2003, 2012, 2015) has facilitated the coordination of the musical modes of engagement with those three types. It is the work of Dillon (2006), Dillon and Brown (2015), and O'Neill (2015) that highlights the role of meaningful musical experiences in fostering engagement. O'Neill (2015) has also highlighted how experiences can be influenced by social situations such as being in the presence of friends, or by personal commitment to mastering a musical skill at the right level of difficulty.

In this research, the musical attributes which have been identified by primary school music teachers as engaging are explored. It is through this analysis that a fuller pathway to engagement will be established, as the meaning potentials (Dillon, 2006; O'Neill, 2015) of musical attributes are analysed in line with Brown's (2015) modes of engagement and the widely referenced three types of pupil engagement (Ali and Hassan, 2018; Axelson and Flick, 2010; Balwant, 2017; Fredricks, Blumenfeld and Paris, 2004; Johnston, 2018; Li and Lerner, 2013; Pagán, 2018). This will enable music teachers to make choices regarding repertoire and associated activities with an informed knowledge of how they can influence engagement in what Brown (2015) describes as a 'sound musicianship' (p. 208) that is inclusive and well-rounded.

2.5 Potential Pathways from Musical Attributes to Engagement

Figure 1 below shows the construction, inspired by the examination of existing literature, of potential pathways from musical attributes to engagement, by connecting the five modes of engagement proposed by Brown (2015) with the three main types of engagement discussed by Fredricks and Bluenfield (2002), Johnson (2018) and Li and Lerner (2013):

Figure 1



The following paragraphs offer an explanation of how the individual modes of musical engagement (Brown, 2015) can be connected.

2.5.1 Attending/Appreciating

Brown's (2015) *attending/appreciating* mode of engagement is shown in Figure 1 as connected to the broader *emotional/affective* engagement type (Fredricks and Blumenfield, 2004; Johnston, 2018; Liand Lerner, 2013). Definitions of *emotional* engagement as involving positive and negative reactions (Fredricks and Blumenfield, 2004; Johnston, 2018) can also be aligned with Brown's (2012) definition of *appreciative* engagement, as experiencing significations or connections whilst listening to music as an audience member. It relates to Richard Middleton's (1990) musicological argument that musical appreciation can form from the recognition of signification, which could also develop the experience from being emotionally engaging to being emotionally and cognitively engaging.

2.5.2 Evaluating

The 'evaluating' form of engagement is described by Brown (2015) as involving judgement: of aesthetic value or cultural appropriateness. To judge is an undeniably cognitive process. However, it can also include and be influenced by emotional reasoning such as 'I like this', or 'I don't like this'. For this reason, engagements related to Brown's (2015) evaluating mode are shown as emotional and cognitive on Figure 1.

2.5.3 Directing

Directing, as an action-based verb is categorised in line with behavioural and cognitive engagement. Brown (2015) describes directing-based activities as 'crafting creative outcomes and leading creative activities' (p. 210). In this context, 'creative' activities can include leading and playing existing music, as the creativity lies in producing the output. This aligns with Johnston's (2018) definition of behavioural engagement as interaction, collaboration, action, and participation, as well as her description of cognitive engagement as interest, immersion, and willingness to exert effort.

2.5.4 Exploring

Exploring, like directing, fits into behavioural and cognitive forms of engagement for the same reasons as those described above. Described by Brown (2015) as 'searching through artistic possibilities' (p. 210) the verb to 'search' is behavioural as well as cognitive as it refers to an intellectual process that is involved, characterised by participation, and demonstrates willingness.

2.5.5 *Embodying*

Embodying is the one mode of Brown's (2015) that is shown in figure one to be mostly indicative of behavioural engagement. Described as the engrossment in fluent, creative expression (Brown, 2015), embodied engagement is characterised by the action and participation defined by Johnston (2018) as implicit in behavioural engagement.

It is this clarification of how Brown's (2015) musical modes of engagement, which are facilitated by pupils' musical meaning-making (Dillon, 2006; O'Neill, 2015), relate to the broader forms of engagement that has enabled the new insight offered by this research. This research explores how the musical attributes of repertoire and associated musical activities can influence meaningful engagement (Brown, 2016; Dillon, 2006; O'Neill, 2015) that is cognitive, emotional, and/or behavioural (Johnston, 2018) in 7- to 11-year-old pupils.

2.6. Engagement in the Primary School Music Classroom

The above section highlighted literature which addressed musical engagement as a general concept, in classrooms of all stages. This section of the literature review establishes what is known regarding musical engagement in the age-group of interest: 7- to 11-year-olds.

Existing studies which relate to how engagement works and can be encouraged in the primary school music classroom are also limited. However, a small amount of literature has explored children's own experiences of being engaged in primary school music (Fredricks and McColskey, 2012; Southcott and Cosaitis, 2015) as well as how engagement can be identified in the primary school music classroom (Barghaus *et al.*, 2017; Custodero, 2005). Research has also been undertaken into upper-primary school children's musical preferences, the presence of which tacitly implies

children's engagement on an emotional or affective level (Johnston, 2018) which could be related to personal, social or cultural meaning-making (O'Neill, 2015).

A 2015 study by Jane Southcott and Wei Cosaitis (2015) used drawings to analyse how 9-10-year-old pupils viewed their own musical engagement. They discovered through the children's images that the majority of participants enjoyed music, indicating that they were emotionally engaged.

Southcott and Cosaitis (2015) also found that the 9-10-year-old children's drawings showed themselves immersed in music, indicating their own views of engagement as behavioural. A further discovery from Southcott and Cosaitis (2015) was that 9-10-year-olds' views of musical engagement stretched beyond the classroom and they emphasise how children are active in the construction of their understandings of and relationships with music. This emphasis strengthens the theories of Dillon (2006) and O'Neill (2015), who argue that cultural meaning can influence engagement in the classroom.

Whilst the work by Southcott and Cosaitis (2015) has informed this study by establishing the importance of cultural and social meaning as influencers of emotional and behavioural engagement, it does not refer to specific musical elements that are present during these engagements, nor does it consider Brown's (2015) modes of musical engagement as aspects of engagement more broadly. In this thesis, the musical attributes that can contribute to upper-primary-school children's musical engagement are explored in order to amplify educators' ability to encourage wide-ranging engagement in the classroom.

One study which has considered the role of musical attributes in fostering primary school pupils' engagement has been conducted by James Richmond *et al.* (2016), who tested an innovative classroom programme named 'HARMONIX' amongst 7-9-year-olds in a primary school in

Australia. The programme was designed using harmonically tuned percussion instruments, cyclical rhythms, and simultaneous layers of varying musical difficulty. The utilisation of tuned percussion instruments was to enable ‘assured pitch outcomes’ (2016, p. 146) and was inspired by the Orff Approach⁷. Cyclic, self-cueing rhythms were used through African and Indonesian structures, in order to reduce the cognitive load required for synchronised playing. This reduction in cognitive load was also fostered by the use of graphic scores (Richmond *et al.*, 2016).

Richmond *et al.* (2016) also used music which had layers of hierarchical rhythmic structures, so that pupils were able to match complexity with ability. They found that high levels of engagement were maintained throughout six sessions over six weeks and that engagement increased each week.

Results were collected via self-report questionnaires which measured mood, enjoyment, self-efficacy and motivation: each of which have been related to engagement (Richmond *et al.*, 2016).

Richmond’s (2016) study has informed this thesis as it has offered some evidence into the effectiveness of musical attributes including cyclical rhythms, the use of tuned percussion, and repertoire which is layered with rhythmic parts of hierarchical difficulty (Richmond *et al.*, 2016).

However, this study did not explore the types of engagement – musical or more broadly – that can be activated by these musical attributes. The above study is also limited to a single case study, examining children’s self-reported perspectives of engagement over a period of six weeks.

This thesis explores the views of a wide range of primary school music teachers, from varied backgrounds and with varying approaches. It is the data gathered from these that enables an in-depth and open-minded study into how musical attributes can present meanings to pupils which

⁷ The Orff approach is an approach to music pedagogy created by Carl Orff in Germany in the 1920s. It is characterised by improvisation, play, and tuned percussion instruments. It was developed based on the belief that musical imagination and creativity exist in every person and can be developed through a unity of music, movement, and speech (Beegle and Bond, 2016).

influence modes of musical engagement (Brown, 2015) and therefore emotional, cognitive, and behavioural forms of engagement (Johnston, 2018) in the Key Stage 2 classroom.

One area that Richmond *et al.* (2016) investigated, also addressed earlier in this chapter with reference to Dillon (2006) and O'Neill (2015), is the notion of 'flow'. Richmond *et al.* (2016) described matching complexity with ability in order to maintain engagement, which aligns with Mihaly Csikszentmihalyi's (1990, 1997) notion of flow. Jeanne Nakamura and Csikszentmihalyi (2002) define flow as a period of optimal experience: a state in which perceived challenges and skills are equal, that enables intensely focused creativity and/or learning. Flow has been described by Brown (2015) as a deep, active involvement in an activity as well as a 'high bar' and 'desirable target' (p. 211) for a child engaged in music-making. According to the types of musical (Brown, 2015) and general (Johnston, 2018) engagement, to be in a flow state would mean to experience embodied and behavioural engagement. Brown (2015) points out that embodied engagement can come as a result of *attending* and *evaluating*, which suggests that emotional and cognitive forms of engagement can lead to behavioural engagement. Each of these forms of engagement can both influence, and be influenced by, personal, social, and cultural meaning (Brown, 2015). It is the musical attributes that contribute to these meanings that are sought to be understood in this thesis.

Lori Custodero (2005) has developed considerations of flow in the context of music education by highlighting how well-suited the music classroom is for its requirements. She argues that the transparency of rhythmic and melodic goals, immediacy of musical feedback, and sense of control over musical opportunities are conducive to indicators of flow experience. Custodero (2005) has explored how children from pre-school age to 8-years who partake in musical activities can demonstrate three types of flow indicators. These are as follows:

- 1) challenge seeking indicators, including self-directed learning activities such as self-assignment, self-correction, and focused gestures
- 2) challenge monitoring indicators, including anticipation, expansion, and extension,
and
- 3) social context indicators, or observable interactions that demonstrate an awareness of adults and peers.

Custodero (2005) discovered, through observational research, that musical structures acted as *affordances* for infants and toddlers, who appeared to be compelled whilst anticipating musical cues. She also argued that deliberate gestures – such as playing musical instruments or interpreting sound through movement – were the ‘most universally observable’ (p. 203) indicators of flow.

Study has also been undertaken into how *flow* can be achieved in a group setting. Keith Sawyer (2015) established ten ideal conditions for group flow, which can be transferred to the music classroom. Sawyer (2015) argues that, to achieve the *flow* level of engagement when working with other musicians, the group must have a shared goal, be listening closely, and complete concentration. Musicians, Sawyer (2015) emphasises, must also feel in control, blend their egos and have an equal level of participation. They must be familiar with one another, communicate well together, able to improvise, and there must be a potential for failure/element of risk (Sawyer, 2015).

Custodero’s (2005) work has highlighted how self-directed musical activities and the repertoire that lends itself to them can be conducive to flow. It also strengthens the aforementioned suggestion (Richmond *et al.*, 2016) that cues which can be anticipated can be compelling in the classroom. Sawyer (2015) has considered how groups of musicians (and other creative ensembles) can enable flow, using an exploration of what inhibits high-level creative engagement, as well as how it can be

boosted. However, these researchers have not conducted an in-depth exploration into how musical attributes can contribute to flow experiences or other forms of engagement in the classroom. This thesis addresses this gap in knowledge.

2.7. How Musical Attributes Influence Engagement

Musical attributes are defined in the paragraphs to follow and existing literature regarding the musical attributes that upper-primary-school children are believed to engage with is detailed. This part of the literature review draws attention to the gap in literature (and knowledge) that this research is undertaken in order to address.

2.7.1. Choosing and Defining Musical Attributes

Literature concerned with the musical lives of upper-primary-school children has explored how attributes of pitch, rhythm, harmony and timbre can contribute to inclusive, engaging, and organic learning experiences (Campbell, 2010; Hallam, 2010; Juntunen, 2016; Vasil, 2019).

Pitch, rhythm, growth, harmony, and timbre are all widely considered to be key musical elements (Larue, 2011; Machin, 2010; Middleton, 1990, 1993; Moore, 2016; Tagg, 2000, 2013; Zagorski-Thomas, 2018). For a complete musical analysis, these exist alongside lyrics (Middleton, 1990) as well as dynamics, texture, and spatial location (Burton, 2015; Moore, 2016). Allan Moore (2016) has also argued that persona is crucial to musicological analysis – particularly when considering the popular song.

In the sections to follow, literature which address how musical attributes can be associated with

engagement in the music classroom is detailed. Below is a comprehensive consideration of knowledge that already exists relating research in this area, whilst also highlighting the gap in literature that this thesis seeks to fill.

2.7.2. Musical Attributes as Sources of Engagement

Engagement is rarely cited as an explicit aim in music education literature which addresses how attributes are utilised in the classroom (Pagán, 2018). However, there are several cases in the literature below where engagement is implicit to proposed targets. There is also limited literature wherein engagement and musical attributes are openly aligned.

Of the latter category is the previously mentioned study by Richmond *et al.* (2016), in which engagement levels in 8-10-year-olds were explored explicitly in relation to a programme which used tuned percussion, graphic scores, and cyclical and hierarchical rhythms to enable engagement through a reduced cognitive load and cooperative activities. A further study which considered how musical attributes influence engagement levels in pupils has been conducted by Dillon (2009). Dillon identified the use of looping software as a source of engagement, due to the ability it gives to pupils to analyse and discuss isolated elements of music whilst they hear them. Dillon (2009) highlights how music is a temporal art form, which prior to looping software could only be discussed after the fact. When playing in a loop, music can become present in a conversation. This enhances opportunities for Brown's (2015) *appreciation* and *evaluation* as modes of engagement.

The studies by Dillon (2006) and Richmond *et al.* (2016) identify through single case studies and action research how a small number of musical attributes can contribute to types of engagement in the music classroom. This study seeks to utilise the experiences of a wide range of primary school

music teachers to construct a grounded theory which connects the musical attributes they have identified as engaging with meaning potentials and modes of engagement. This new knowledge will enable what Brown (2015) describes as a well-rounded, 'sound musicianship' (p. 208) and will also establish new ground as it covers how emotional, cognitive, and behavioural types of engagement can be influenced by the musical attributes within repertoire and associated activities.

Less explicitly, one area that has been studied is upper-primary-school children's musical preferences: the presence of which implies personal, social, or cultural meaning (Dillon, 2006; O'Neill, 2015). Meaning-making in turn suggests *appreciative* (Brown, 2015) and *emotional* engagement (Johnston, 2018). What is known about 7- to 11-year-olds' musical preferences, and what that suggests about engagement, is detailed in the section below.

2.7.2.1. Considerations of Genre and the Popular Music Preference

Much of the literature addressing children's musical preferences does so in terms of genre. Psychological research has shown that between the ages 7 and 11, a period sometimes referred to as 'middle childhood' (Rimmer, 2017), children's musical preferences lean towards popular music (Hargreaves and Roussy, 2018). This has been explored through the theory of 'open-earedness' (Hargreaves, 1982; LeBlanc, 1991). David Hargreaves (year) suggests that, until they are 5-years-old, children's responses to music may be less acculturated, leading them to respond more openly to the unfamiliar or unconventional. The term *open-earedness* was then further defined by Albert LeBlanc (1991) as a tolerance for different musical styles. LeBlanc (1991) hypothesised that children experience a significant decline in 'open-earedness' as they approach adolescence and undertook empirical research (1996) which investigated and confirmed this.

More recently, Beatriz Ilari *et al.* (2020) undertook a study which included interviews with five children in Los Angeles over five years, between the ages of 5-7 and 9-11. The children's preference for pop music was evident, with subgenres hip-hop and reggaeton appearing to grip children's attention in later years. These findings echo those of Heiner Gembris and Gabriele Schellberg (2003), who found that pop music received more positive ratings than other genres across 5-13-year-olds in a like/dislike evaluation of short musical excerpts. Chee Hoo Lum (2008) also identified a popular music preference, in an ethnographic study of twenty eight 6-7-year-old children in Singapore.

A further cross-sectional study across four Canadian schools, with 168 participants aged between 6 and 13 found that across ages and socioeconomic status, children self-reported a preference for pop and rock music (Bosacki *et al.*, 2006). Similarly to Ilari *et al.* (2020), Sandra Bosacki *et al.* (2006) found that children's preferences for hip-hop and rap increased as they became older.

In 2015, an investigation into musical preferences of Brazilian children living in Brazil, and Latinos in the United States showed that popular songs were the favourite music of the majority of 48 7-year-old children (Ilari and Habibi, 2015). This is considered an age before the rejection of 'other' forms of music, including classical, which has been shown to happen around the age of 9-10 (Gembris and Shellberg, 2003; Persellin, 2016). Gembris and Shellberg's (2003) study across 591 children aged 5-13 showed that younger children had broader taste and more positive reactions to music than older children. At the age of 9-10, children's musical tastes narrowed to a focus on popular music, with positive ratings in general decreasing in children aged between 9 and 13.

This emphasis on genre suggests that children are responding to cultural or social meaning in their initial engagements with repertoire (Dillon, 2006; O'Neill, 2015), as genres are often associated with social or cultural movements (Born, 2011). These vary according to children's individual cultures,

with some differences appearing between children of Latino and White ethnicity. Giulia Ripani (2022) found that middle-school children with Latino ethnicity were more likely to refer to the emotional qualities of music and saw it as a source of ‘togetherness’, whilst those with White ethnicity were more inclined to discuss instrumentation and make value judgements such as ‘amazing’ when referring to musical examples. Ripani (2022) also found that the emphasis on genre becomes more prevalent as children get closer to the age of 11, whilst those closer to 7-years-old consider music in terms of instrumentation. She also highlighted the influence of extra-curricular musical experiences on children’s in-class responses to music (Ripani, 2022).

Whilst highlighting many interesting points, the research detailed above does not provide an analysis into the musical attributes that are present in children’s musical choices, which could indicate a perceived lack of importance to these elements. However, there is a limited amount of research which *does* explore how the musical attributes present in popular music can influence upper-primary-school children’s musical engagement.

Previous research has shown that the use of the pentatonic scale, which is commonly aligned to the popular music genre, has been associated with personal and social meaning as well as embodied, behavioural engagement is the pentatonic scale (DeVries, 2001; Evans, 2014; Vasil, 2019). As well as being present in many popular songs, scholars have highlighted how pentatonic pitches are prevalent in playground melodies (Campbell, 2010) and some folk music; particularly the Hungarian folk music associated with Kodaly’s pedagogy⁸ (Houlahan and Tacka, 2015). It has also been suggested that it is due to the pentatonic scale’s presence in playground melodies that children are able to sing

⁸ The Kodaly method was founded by Hungarian composer Zoltan Kodaly (DeVries, 2001; Dobszay, 1972), and is a method frequently associated with relative solmisation: a system of teaching solfege wherein ‘do, re, mi’ and so on are movable, with the relationships between them pedagogically prioritised (Dobszay, 1972). The Kodaly method also integrates the use of hand signals to support the teaching of solfege.

pentatonic melodies in tune, with minimal effort (Houlahan and Tacka, 2015). The minor third melody, the first two notes of the minor pentatonic scale commonly used in popular riffs and melodies (Evans, 2014), is prevalent in early classroom repertoire both in and outside of popular music (Evans, 2014; Choksy, 1974; Spitz, 2019). This is due to its widely acknowledged presence in children's musical repertoire, such as playground interactions (Campbell, 2010). That upper-primary-school children are familiar with pentatonic melodies including those which use minor third intervals suggests that their use in the classroom can influence social, personal, and cultural meaning-making (Dillon, 2006) as well as a minimum of appreciative and embodied, emotional and behavioural engagement (Brown, 2016; Johnston, 2018).

Another attribute that is common to popular music and has been identified in literature as conducive to behavioural engagement in the music classroom is repetition (Saville, 2011). Repetition was addressed in the previous section by Richmond *et al.* (2016) and Dillon (2009) and further literature suggests that the short, repetitive rhythms and melodies, near ubiquitous in popular music (Julien and Levaux, 2018), can foster aural learning (Vasil, 2019). The aural learning of popular melodies and cyclical drum patterns has been described by Lucy Green (2017b) as a social music-making activity that is grounded in the practice of popular musicians. Green's (2017a, 2017b) work considers what Dillon (2006) would call social and cultural meaning-making that leads to and stems from what Brown (2015) would categorise as appreciative and embodied musical engagement. Green (2017b) also considers children's responses to music that they have chosen themselves. This thesis explores both whether there are attributes of repertoire that can engage upper-primary-school upper-primary-school regardless of social and/or cultural meanings, and also whether the social and cultural meanings conducive to engagement can be identified within attributes of repertoire.

The work detailed above demonstrates that there are potential reasons for meaning-making and

engagement in popular music that exist beyond genre and its cultural associations, such as reduced cognitive load due to repetition, tuned percussion instruments, or graphic scores (Richmond, McLachan and Ainley, 2016) as well as easy-to-sing (and thus conducive to embodied engagement) melodies, which occur due to relatively small intervals and the use of the pentatonic scale (Campbell, 2010). Whilst previous research addressing children's musical preferences considers genre and engagements which stem from cultural meaning-making, this thesis explores whether there are purely musical attributes which act as factors for engagement in the upper primary school classroom, independently of genre.

2.8. How Repertoire is Chosen for the Primary School Music

Classroom

Knowledge of how repertoire is chosen by primary school music teachers for use in the classroom informs this study by a) highlighting if and how musical attributes are already considered for reasons relating to children's musical engagement, and b) stressing the current gap in knowledge that is sought to be filled by the present research.

Repertoire is understood to be a crucial part of designing a music curriculum (Reynolds, 2000; Vaillancourt, 2013). The aforementioned MMC (DfE, 2021) is almost exclusively made up of suggestions for repertoire, which is presented as something which can align with musical learning aims. Josée Vaillancourt (2013) identified, through interviews with teachers and the examination of literature, that there are five factors music practitioners consider when choosing classroom repertoire. These are musical quality, literary quality, the text/music match, the accompaniment quality, and the audio quality (Vaillancourt, 2013). The concept of 'quality' appears in four out of five

criteria, but definitions for what constitutes quality varies across areas. Whilst the concept of musical quality is characterised by 'blurred discourse' (p. 133), Vaillancourt (2013) does identify through literature that objective definitions can involve the presence of tension and release in melodies (Atterbury and Richardson, 1995; Leonhard and House, 1972), rhythms which evoke anticipation and surprise (Leonhard and House, 1972), the ability of a song to impact upon the listener's mood (Beatty, 2013), appropriateness within socio-cultural context (Radocy and Boyle, 2003), as well as, according to interviewed participants (Vaillancourt, 2013), the appeal of a song to the students.

This consideration of inherent quality in musical materials chosen for the classroom has clear links with both meaning-making and engagement, as emotion has been explicitly mentioned and physical movement hinted at. Whilst aesthetic musical appreciation is a form of engagement (Brown, 2015), the above literature suggests that it can be evoked through music that facilitates changes in mood, experiences – perhaps physical – of tension and release, as well as social and cultural meaning. Whilst Vaillancourt's (2013) work reveals music practitioners' prioritisation of the difficult to pinpoint 'musical quality' in general music lessons, this research explores how specific attributes – which may or may not contribute to a perception of 'quality' – can influence meaning-making (Dillon, 2006) and modes of musical engagement (Brown, 2015), including aesthetic appreciation and evaluation.

Literary quality was defined as lyrics containing poetic mechanisms such as imagery that act to capture pupils' attention and lyrics that are, in some way, meaningful to students. This meaning can stem from lyrics in their original state, following adaptation, or through accompanying discussion (Vaillancourt, 2013). Concerns about the (in)appropriateness of many popular lyrics was also documented in Vaillancourt's (2013) work, although it was suggested that lyrics which are questionable can either be modified or followed by conversations which create links to children's culture and thus increase the effectiveness of their use in the classroom.

Combined with the discussed perceived importance of pupils' experiences of being attracted to music, the requirement for literary text which can capture the imagination and that is meaningful to students in some way establishes the importance of lyrical analysis within this study. Whilst current literature highlights how teachers consider literary quality to be important within repertoire, this study explores what the attributes are, of lyrics and purely musical attributes, that influence musical engagement within the primary school classroom.

Vaillancourt's (2013) text/music match requirement involved the presence of *prosody*: both in terms of a united musical and textual intention and the use of accents which align with language. The avoidance of syllables which span across multiple notes was also noted by teacher participants. This aligns with literature relating to the Kodály method (Houlahan and Tacka, 2015), in which it is emphasised that accents should match up with language in order to maximise relevance and minimise confusion amongst upper-primary-school children.

Opinions regarding the quality of instrumental accompaniment varied throughout the literature examined by Vaillancourt (2013), including Patricia Campbell (1995) and Joanna Glover and Susan Young (1998), as well as across teachers' comments. Whilst some authors and participants believed that a guitar was appropriate for use in the classroom due to its low level of sound that enabled children to hear their own singing, some preferred to teach singing with no accompaniment. Another preference amongst some was to use the piano, though Vaillancourt (2013) emphasises how authors and teachers appear to be divided when choosing which instrument to use. Engagement was not directly addressed, although the point that children and teachers need to hear pupils singing does raise questions directly related to dynamic-related attributes, which was

recognised as a potential area of exploration in this thesis.

Regarding the quality of the audio, it was widely agreed that recordings should model good technique, in order to act as a pedagogical tool. It was not clear from Vaillancourt's (2013) work whether teachers had considered how the quality of audio can contribute to meaning making and/or engagement. In this thesis, qualities of the recorded song are explored in order to establish how 7-11-year-olds could make meaning during a listening experience that would influence emotional, behavioural, or cognitive engagement.

Vaillancourt's (2013) work echoes the views of Hilary Apfelstadt (2000), who also argued for the importance of musical quality. Apfelstadt (2000) and Vaillancourt (2013) both cited Charles Leonard and Robert House's (1972) definition; that musical quality can be characterised by a balance of tension and release, structural symmetry and asymmetry, and the presence of anticipation and surprise. Apfelstadt (2000) argues that for something to be high enough in quality to consider for use in the classroom, it must also have artistic depth that will draw a listener into a human experience. Apfelstadt (2000) also argues that repertoire must be teachable, and that using music with substance can naturally achieve this as it contains content that facilitates in-depth study.

Vaillancourt's (2013) study was exclusively concerned with teachers' choices of repertoire for the sake of quality and playability, which, in relation to Brown's (2015) modes of engagement, can contribute to *appreciation*, *evaluation*, and *embodiment*. However, Apfelstadt (2000) also considered improvisation and composition: *exploratory* and *directive* forms of engagement (Brown, 2015). Apfelstadt (2000) argues that improvisation can be encouraged through the consideration of melodic and harmonic features of warm-up patterns and the analysis of the roles of various voices

and timbral qualities within a piece. Apfelstadt (2000) also argues that composition and arrangement can be encouraged through the examination of existing works, in order to gain understanding and build confidence.

Whilst the work by Vaillancourt (2013) and Apfelstadt (2000) has identified criteria for selecting repertoire and offered guidance on improvising and composing in the classroom, the consideration of how attributes within the music can influence different forms of meaning-making and thus forms of engagement is very limited in this literature. This thesis seeks to fill the evident gap in literature, by identifying through data collected via teacher interviews how musical attributes within repertoire can be linked to children's experiences of meaning-making and engagement.

2.9. Music-Making Activities that are Common in the Primary School Music Classroom

Knowledge of the music-making activities that are common in the KS2 classroom informs interview schedules and enables a thorough analysis that spans areas of interest for music educators and that offers an insight into a synergistic selection of activities throughout the children's upper-primary school experience.

Research into music-making activities in the primary classroom is limited. Addressing the gap, Fiona King (2018) conducted a case study within three primary schools in Victoria, Australia. She discovered that that the teachers delivered short (several minute) musical activities, which usually involved singing, listening, or combining music with dance or drama (King, 2018). Whilst the use of musical instruments was minimal in King's (2018) case study, activities which teachers described as

popular with students included singalongs with pupil-created lyrics, songs relating to other subjects, and listening to and comparing popular songs (King, 2018). These popular activities can be coded to all five of Brown's (2015) modes of engagement. However, it is not clear from King's (2018) study which musical attributes are present in these activities.

Another music-making activity that has been highlighted as popular and effective in the primary school classroom is group music-making (Hallam, 2010). Susan Hallam (2010) argues that making music together as a group can deepen musical knowledge, act as a form of communication amongst pupils, and result in personal as well as social satisfaction. In the same work, she also argues that children's emotional engagement with music is crucial to a successful music education and that music teachers would benefit from a greater focus on affective outcomes (Hallam, 2010). Whilst Hallam's (2010) theoretical argument makes the importance of emotional engagement clear, and highlights how group music-making can facilitate it, this thesis explores how emotional and other forms of engagement can be influenced by the musical attributes present within activities.

Group music-making has also been flagged as an activity with the potential to engage students culturally and socially, within what Lucy Green (2017b) defines as an *informal learning* context. Lessons which adhere to informal learning pedagogy (Green, 2017b) involve a combination of self-directed, peer-directed and group learning, wherein riffs, rhythms and sung lyrics are copied by ear, and pupils' own choices of music can be used (Green, 2017b; Mak, 2006). Creativity plays a key part in informal learning, mostly explored with children of secondary school age, with improvisation and composition having a place alongside listening and performance. To facilitate improvisation, popular songs with cyclical harmonies are used and children are taught pentatonic scales with which they can make their own melodic solos (Elfrank, 2008; Green, 2017b). Whilst much of the existing literature into how informal learning can encourage pupil engagement focuses on the social and cultural

benefits of using popular music (Green, 2017b; Hallam, Creech, and McQueen, 2017), there has been minimal consideration into how the musical attributes present within popular musical examples can influence engagement responses.

Whilst the literature above has enabled speculative considerations to arise, concerning the potential musical attributes which contribute to engagement, unlike the present study, they do not explore how the musical attributes present in activities identified as engaging can contribute to emotional responses, participation, or cognitive involvement.

Further exploration into improvisation in a primary school music classroom setting has been conducted by Theano Koutsoupidou (2005), who found that 81% of participating primary school music teachers across England use improvisation in their classrooms, due to a belief that it has a positive impact on children's musical and creative development. Koutsoupidou (2005) discovered through questionnaires that improvisation is usually encouraged as a response to a stimulus or as a means of expressing emotions or ideas through music. Koutsoupidou's (2005) research also showed that teachers use the pentatonic scale when encouraging improvisation on musical instruments, but highlighted that improvisation can also be vocal or movement-based.

Whilst vocal, movement-based, and instrumental improvisation using the pentatonic scale are common in the Orff Schulwerk (Frazee, 1987) inspired classroom, *behavioural* engagement in the form of movement-based improvising amongst pupils is more often associated with the Dalcroze-inspired classrooms (Juntunen, 2016). This is despite its use in Kodaly, Orff, and Dalcroze-inspired classrooms (Fillips, 2005). In primary school music classrooms wherein teachers are inspired by Jaques Dalcroze (Juntunen, 2016), movement is used as a tool for *embodied* and *directive* engagement, described as embedded musical learning (Thomsen, 2011).

Musical attributes which are employed to encourage *behavioural* engagement via movement-based responses in the Dalcroze-inspired classroom are reported to be extremely varied (Juntunen, 2002), meaning that little knowledge exists regarding how features of the music chosen by teachers to encourage movement do so. What is known is that pulse-based movements are reliant on a piece having a tempo that primary school aged children can comfortably move their whole body in time with, and that rhythm-synchronised movements should be achievable using the limbs (Abril, 2011).

In this thesis, movement-based responses such as those described above are explored from the perspective of movement as *embodied* and *directive* engagement, leading in turn to *appreciative* engagement due to the pleasure of participation (Witek, 2017) . The musical attributes which inspire movements are analysed in order to establish how repertoire and music-making activities can be selected to increase the chances of engaging with music through movement.

Another activity which is considered to be of paramount importance in the primary school music classroom is listening. Questionnaires with primary music teachers have shown that they consider listening-based activities to be highly important for fostering a love of music, but that such activities can lack attractiveness to students (Svalina and Sukop, 2021). Vesna Svalina and Ivona Sukop (2021) have highlighted the importance of defining activities before presenting music for pupils to listen to and of keeping the music accessible in terms of content and complexity, in order to encourage engagement with listening. This emphasises the aforementioned role of meaning-making (O'Neill, 2015) and external association (Apfelstadt, 2005) in order to encourage affective, behavioural, and cognitive forms of engagement. However, the musical attributes which can encourage attentive listening are not considered. In this thesis, the ways in which purely musical attributes are linked with engagement are established and an exploration of if and how extramusical attributes can be

separated from them is undertaken.

The literature above details which music-making activities are used in the primary school classroom and also offers some speculative insight into how attributes common to them could influence meaning-making and engagement. Whilst the knowledge gained from the literature remains characterised by speculation, when combined with data collected throughout this study it helps to inform a grounded theory into what the musical attributes are – in both repertoire and associated music-making activities – that primary school music teachers have identified as engaging.

2.10. Chapter Summary

This chapter has provided an overview of key figures and existing research into engagement, musical engagement, and the role of musical attributes in constructing types of engagement. It has also contained an outline of existing knowledge regarding upper-primary school children's musical preferences and how repertoire and activities are chosen for use in the classroom.

The literature review shows that although there is a breadth of work concerning the theory of engagement and some knowledge regarding musical engagement, there is considerably less knowledge which relates to the musical attributes that are present within the repertoire and activities that influence it. A musicological investigation into this is important, to enable an informed approach to Key Stage 2 music education, for which primary school teachers currently lack confidence (De Vries, 2013) and music specialists lack consistency (Daubney *et al.*, 2019).

This thesis provides new knowledge by offering a constructivist grounded theory study, which uses data collected from music teacher interviews to explore the attributes of repertoire and activities that teachers identify as engaging for 7- to 11-year-olds. The existing knowledge highlighted in this chapter positions the study and informs data analysis, including the construction of themes to be explored. Details of how the musical attributes are investigated are discussed in Chapter 3.

CHAPTER THREE - METHODOLOGY

3.1. Introduction

This chapter details the methodological choices which were made in order to most effectively address the research questions. It describes the philosophical paradigm and approach to research, as well as the chosen research methodology, data collection and analysis procedures, and ethical considerations.

3.2. Constructivist Research Paradigm

Research has been described as a philosophical pursuit, driven by the love of knowledge (Lukenchuk, 2017). When embarking upon this pursuit, it is necessary to consider one's own philosophical worldviews, as well as how they fit into existing research paradigms. It is through this consideration that methods can be identified as well-suited to answering the research questions (Lukenchuk, 2017). Research paradigms are metaphysical, dealing with principles and worldviews that are understood through experiences. They determine, for the holder, the nature of the world, as well as relationships to and within it (Guba and Lincoln, 1994).

To gain an in-depth insight into the research problem, whilst aligning the study with the researcher's own worldview, this research is conducted through a constructivist lens. Constructivism is based on the understanding that human beings are subjects, with minds that construct knowledge and meaning through both their experiences and constructions of relationships between things, people, and events (Wisker, 2008). Research conducted within a constructivist paradigm acknowledges the flux of social reality, the researcher's own positionality, and each participant's uniqueness (Saunders,

Lewis and Thornhill, 2019). To the constructivist researcher, knowledge can only be achieved through active and reflective experience (Kalender, 2007).

Constructivism has strong similarities with interpretivism, whilst it lies in contrast with positivism. Constructivism shares with interpretivism the view that human behaviour is affected by knowledge of the social world, whilst knowledge is a product of experiences and events (Wisker, 2008). Separating it from interpretivism, constructivism holds the additional belief that human knowledge and meaning is *constructed* (as opposed to interpreted), using the relationships we make between things, people, and events (Wisker, 2008). This puts both participants and the researcher in an active role when exploring a phenomenon, as both create data that is built upon their existing professional and life experiences. Constructivists also argue that all reality is a social construct (Geertz, 1973), whilst interpretivists consider this to be true only for language-based reality (Rorty, 1979). Due to the non-linguistic (musical) interest throughout this study, therein lies a crucial distinction.

In positivist research, knowledge is sought via the testing or verification of theories or explanations. Participants are chosen to be representative of a larger population, bias is avoided, and analysis occurs numerically (Creswell and Creswell, 2018; Thomas, 2010). Positivism was deemed inappropriate for this study, due to the inductive nature of the enquiry into teachers' perceptions, and the associated necessity of hearing participants' individual voices.

As well as choosing between constructivist, interpretivist, and positivist paradigms, some research studies follow pragmatic – or mixed methods – approaches. Combining constructivism or interpretivism with positivism allows the researcher to draw upon the strengths of each, which can be useful when answering questions which require an in-depth analysis of tested variables, or when an in-depth exploration leads to data which can be applied to a population (Molina-Azorin, 2016). This study began with no pre-existing variables or hypotheses, therefore a purely constructivist approach was deemed most appropriate.

To answer the research question of what the musical attributes are that primary music teachers have identified as engaging, and due to the lack of existing theory in this area, constructivism has been employed due to: a) its collection of participant-generated meanings, b) the use of open-ended questions, and c) the inclusion of the researcher’s position within the context of the study. Whilst interpretivism was initially considered to be equally appropriate, the decision to choose constructivism was based on sociological views on how music is experienced according to life experiences, in educational contexts and beyond (DeNora, 2000; Martin, 2006).

Figure 2 below details constructivist, interpretivist, positivist and pragmatist paradigms and compares them in terms of data collection methods and metaphysical worldviews.

Figure 2

Constructivism	Interpretivism	Positivism	Pragmatism
Qualitative	Qualitative	Quantitative	Mixed
Uses open-ended questions	Uses open-ended questions	Uses closed-ended questions	Uses both open and closed-ended questions
Collects participant-generated meanings	Collects participant-generated meanings	Identifies variables of interest	Develops a rationale for mixing methods
Positions the researcher within the context	Positions the researcher within the context	Uses unbiased approaches	Combines contextual thinking with statistics
Argues that all reality is	Argues that social reality	Observes and measures	Mixes socially

socially constructed	is constructed	information numerically	reliant information with numerical statistics
----------------------	----------------	----------------------------	---

(Fig. 2 - Adapted from Pederson and McEvoy, 2011; Kivunja and Kuyini, 2017)

As Figure 2 demonstrates, constructivism is best suited to a study detailing participants' identifications. Teachers' experiences of delivering music lessons, pupils' experiences of music in and outside of the lessons, and teachers' memories of pupil responses are in a state of constant movement and development, inseparable from context (Bowman, 2004). The consideration of this fluidity works to position data, whilst facilitating an accurate and insightful analysis of participants' comments and the musical attributes they address. Through a constructivist lens, musical attributes which are analysed are viewed as 'participatory aspects of a lived-in world' (Sansom, 2005), with musical meaning established through musical experience and its contexts (Kramer, 2001).

Due to the researcher's place in co-constructing data and resulting knowledge, the next logical methodological step is to consider researcher positionality and any potential impact upon the research.

3.2.1. Researcher Positionality

Within constructivism, knowledge is considered to be situated between people (Wisker, 2008). The researcher's task is to co-create this knowledge, and in doing so, must acknowledge their own situatedness, or positionality. This acknowledgement facilitates insight into potential biases, suitable approaches, and ways of engaging with participants (Bourke, 2014).

This research adopts a hermeneutic phenomenological approach to positionality. Hermeneutic phenomenology, originating from the philosophical works of Martin Heidegger (1927), seeks to explore phenomena as they exist within the 'lifeworlds' of individuals, or *Dasien*, beings in the world (Heidegger, 1927). As well as observing the value in the backgrounds of participants, in keeping with the constructivist approach, hermeneutic phenomenology values the researcher's experience and knowledge as part of an inquiry. This approach (also called interpretive phenomenology or existential phenomenology) contrasts with (but is influenced by) Edmund Husserl's transcendental phenomenology. Transcendental phenomenology is concerned with how interpretations can transcend, through a reduction process which 'brackets off' (Smith *et al.*, 2009) influential contexts, to access the essence of the object itself (Neubauer *et al.*, 2019; Sloan and Bowe, 2014). The hermeneutic approach to this research considers the knowledge and experience of the researcher to act as valuable guides to the inquiry. Indeed, it is the knowledge and experience of the researcher that provoked the consideration of the phenomenon as worthy of investigation (Neubauer *et al.*, 2019).

An established portfolio career has both inspired and contributed to this research. This consists of twelve years of teaching, performing and writing music, predominantly through private and peripatetic guitar lessons within music schools, primary schools, and secondary schools. These lessons have been delivered through a combination of independent, self-employed work, work through various agencies, and work with Nottingham Music Education Hub. As well as this, whole class teaching experience in primary schools – both as a regular cover teacher during generalist teachers' preparation and planning, and as a self-employed visiting music teacher – have raised personal awareness of some of the issues relating to quality and consistency in upper primary music education.

Outside of education, prior to this project, professional musical activity has included the writing and recording of multiple pop/rock albums and accompanying live performances. Compositions and performances have informed personal views on music: how it works, how it can be valued, and how it can be learned. The majority of these prior experiences have involved popular music, rather than classical or jazz music, which has influenced learning and teaching approaches as a tendency to teach or facilitate learning in a way that popular musicians learn (Green, 2017a, 2017b) has developed. Furthermore, the musical experiences detailed above have developed an advanced understanding of musical attributes, stylistic conventions, and creative processes, facilitating the analysis of the musical attributes explored in this research.

As well as informing the research, the musical experiences of creating, performing, and listening may have cultivated 'sensitivities', that are 'essential to the conduct of educational research' (Bresler, 2007, p. 35). Whilst such sensitivities do need to be actively transferred to research in order to be effective (Bresler, 2008), their cultivation through musical experiences can set a foundation for progression. Liora Bresler (2008) describes a research experience as having three stages: *noise*, followed by *making sense*, and *communication*. She highlights the correspondence to musical experiences, sharing how it was her own musical understanding which assisted her comprehension of research in her early career.

3.2.2. Emic Approach

Another area of consideration that is crucial to research design is how to approach data collection and analysis in terms of meanings, categorisations, and categories to be explored (Patton, 2002). Two conflicting approaches are *emic*, wherein terms and areas of investigation are provided naturally by participants, and *etic*, where these areas are pre-decided and researcher-led (Patton, 2002).

Emic and *etic* can also be synonymous with *insider* and *outsider* (Beals, Kidman, and Funaki, 2020). Whilst as a researcher I am distanced from the insiders (i.e., an ‘outsider’, with some inside knowledge), this research uses an *emic* approach to gain an insider perspective from participants (Roulston, 2007), in order to comprehend the musical attributes identified, in their experiences, as engaging. The *emic* approach to qualitative data collection and analysis involves the preservation of the participant’s voice and the discovery of patterns, themes and categories which arise through data (Patton, 2002). This contrasts with an *etic* approach, which is characterised by researcher-led frameworks and deductive analysis (Patton, 2002). Data collection and analysis procedures are explained more thoroughly in the following sections of this chapter.

3.3. Qualitative Approach

Research that is grounded in the experiences of participants and situated within the constructivist paradigm is inherently qualitative (Bresler and Stake, 2012). Whilst the constructivist paradigm establishes the necessity of experience and perception in the creation of knowledge (Bhattacharaya, 2017), the use of qualitative research seeks to gain in-depth understandings of these perceptions and experiences (Bhattacharaya, 2017). Qualitative research is that which aims to explore, investigate, and build knowledge of a social phenomenon (Leavy, 2017). In the case of this thesis, the insight of individual teachers is precisely what is explored. Examples of musical content identified by teachers are investigated, and knowledge is built regarding the attributes of music which motivate upper-primary school children according to varying modes of engagement (Brown, 2014). How these engagements can encourage the development of musical (and extra-musical) skills is also explored.

Examples of research which uses qualitative data are ubiquitous in music and music education studies (Conway, 2014; Miksza *et al.*, 2023), as is shown in Chapter two. This varies from the case study (Barrett, 2014) to ethnography (Bresler and Stake, 2017) and grounded theory (Callaghan,

2002). This is partly due to the richness of qualitative data, which works to inform practice (Thomas, 2010), and also, in part, due to musicians' leaning towards qualitative data collection and analysis, as an artistic method of research (Bresler, 2007, 2008; Leavy, 2020). Bresler (2007) argues that qualitative research can be viewed through a 'musical lens' (p. 36), with data absorbed and analysed in terms of 'dynamics, texture and rhythm' (p. 36). Bresler (2007) also calls attention to how musical experiences can lead to a 'music-informed' (p. 37) approach to qualitative research, with an 'enlightened ear' (p. 37) that is able to recognise form, rhythm, dynamics, timbre, and other qualities, immediately associated with music, in education research settings. This musical approach to data analysis facilitates depth, as it provides a 'backbone to perception' (Bresler, 2007, p. 41). A music-informed approach to research can also contribute towards expressivity and impact during the stage of writing up, as form, rhythm, and texture are considered as key parts of the communicative message of the thesis and accompanying papers (Bresler, 2007).

The phenomenon of qualitative research in music education studies has also been deconstructed in terms of purpose. Kathryn Roulston (2007) defines four purposes of research of this kind: 1) prediction, 2) understanding, 3) emancipation, and 4) deconstruction. *Prediction*, Roulston (2007) notes, is common in work regarding treatments and their outcomes, whilst *understanding* is the predominant purpose of music education studies, which provide detailed descriptions of participants' experiences. *Emancipation*: research for political change, is less common, but feminist music education research such as the work of Lucy Green (1997) is a flourishing field (Lamb *et al.*, 2002). *Deconstruction* research projects involve the critical analysis of texts, in an attempt to bring to light what is hidden (Roulston, 2007).

This research falls, alongside the majority of music education research (Roulston, 2007), into the *understanding* category. Research for understanding is that which seeks to explore an emic perspective (see section **3.2.2**) and is characterised by interpretative, constructivist, hermeneutic and

phenomenological work (Roulston, 2007). What is sought to be understood, in this thesis, are the musical attributes that are conducive to types of engagement in 7- to 11-year-old pupils, from the emic perspectives of participating primary school music teachers.

3.4. Constructivist Grounded Theory Methodology

As well as identifying which paradigm the research fitted into, and the type of data that would be collected and analysed, it was essential to decide upon a research methodology for the project.

Whilst the term methodology can be used to cover all aspects of research design (Howell, 2012), in this context it describes the approach to data collection, interpretation, and analysis considered most appropriate to address the research questions within the allocated paradigm. In recent years, it has been acknowledged that the methodological approach most suited to qualitative, inductive research, set within a constructivist paradigm, is constructivist grounded theory (Charmaz, 2014).

Constructivist Grounded Theory (CGT) is a development of traditional grounded theory. Traditional grounded theory, designed by Barney Glaser and Anselm Strauss (1967), was introduced as a research method which would reduce the risk of finding ideas which are based on pre-existing theories, rather than rooted in evidence. Glaser and Strauss (1967) considered the route to non-contaminated knowledge to be through isolated data collection and analysis which preceded a literature review (Glaser and Strauss, 1967). Following *The Discovery of Grounded Theory* (Glaser and Strauss, 1967), Glaser and Strauss each evolved the research method in different ways (Glaser, 1978, 1992, 1998, 1999; Strauss and Corbin, 1990, 1994, 1998). Whilst Strauss' developments were in line with the philosophies of pragmatism and symbolic interactionism (Charmaz, 2014; Corbin and Strauss, 2015), Glaser's developments were more in keeping with positivist epistemology (Charmaz, 2014). These differences in approach resulted in two differing schools of grounded theory: *Straussian* and *Glaserian* (Stern, 1994). Whilst they adopt differing paradigms, what both schools have in

common is that they neglect (and even reject) the positionality of the researcher as a contributor to data collected.

More recently, CGT has been established as a school/genre. The approach can be traced back to Strauss' pragmatic-based work, with the addition of constructivist developments (Chun Tie *et al.*, 2019; Mills, Bonner and Francis, 2006; Strauss, 1987). CGT was first developed by Kathy Charmaz (2000, 2014) and has since been adopted in education research (Mills *et al.*, 2006) as well as in studies which explore musical practice and learning (Dons, 2019; Hart, 2018; Lee, 2009; Salvador, Paetz and Tippetts, 2020).

CGT differs from both Straussian and Glaserian forms of Grounded Theory (GT), through its recognition of the researcher's positionality within data collection and analyses produced (Charmaz, 2014). Charmaz (2014) identifies a crucial difference between CGT and older forms of GT as the *construction* of data, rather than the *discovery* of data. Illustrating this, Charmaz (2014) states that, unlike in traditional GT, CGT studies 'do not provide a window on reality ... reality arises from the interactive process and its temporal, cultural, and structural contexts' (Charmaz, 2000, p. 524).

What CGT and traditional GT have in common is the principle that theory must be grounded in data (Mawby, 2018). However, CGT researchers recognise the advantage of using pre-existing theories and findings to inform studies (Thornberg, 2012). In contrast to Strauss and Glaser's (1967) proposal of the suspension of engaging in literature until after data collection, CGT practitioners insist that research should be influenced and informed by context (Kenny and Fourie, 2015). Charmaz (2006) argues that engaging with literature throughout the research process, before compiling a comprehensive literature review after data analysis, enables the researcher to participate in dialogue within the field. This reinforces credibility, authority, and the strength of arguments made (Charmaz,

2006; Kenny and Fourie, 2015). The point has also been made that postponing engagement with literature until after data analysis is often impractical and at times impossible due to the demands of funding applications and research proposals (Ramalho *et al.*, 2015).

In this research, the engagement with literature is continuous. Whilst the data which arises through participants' rich descriptions leads theoretical explorations, existing theory also encourages thought and strengthens the process(es) of analysis.

3.5. Data Collection Methods

This section details the data collection methods employed to answer the research question(s).

3.5.1. *Teacher Interviews*

Interviews have been chosen as the route of investigation in this study. Interviewing is one of the most common means of data collection in qualitative research (King, Horrocks, and Brooks, 2019). This method exists alongside observation, textual analysis, and focus groups (Gill *et al.*, 2008). Observation is well-suited to research projects which contain topics which may be difficult for participants to discuss, whilst textual analysis is suited to those who require an unobtrusive method of data collection (Creswell and Creswell, 2018). Focus groups are a group method of interviewing, which can be appropriate for studies with child participants who might feel more comfortable alongside peers (Horner, 2000). For this study, a one-to-one interview method was chosen, to provide 'indirect information, filtered through the views of interviewees' (Creswell and Creswell, 2018, p. 188).

An intensive, semi-structured interview design has been chosen for this study, to facilitate the open-ended, detailed exploration of an area in which the interviewees have substantial involvement (Corbin and Morse, 2003; Charmaz, 2014). Intensive interviews (also known as in-depth interviews) are typically gently guided and largely one-sided as they focus on the participants' perspectives of the research topic (Charmaz, 2014). They rely heavily on open-ended questions, emphasise the understanding of participants' experiences, and have the objective of obtaining detailed responses (Boyce and Neale, 2006; Charmaz, 2014).

Qualitative research can use informational, intensive, or investigative interview strategies, as well as combinations of these (Charmaz, 2014). Whilst informational interviewing aims to gather accurate facts, and investigative interviewing seeks for accurate details which uncover something hidden, intensive interviews are what are typically adopted by grounded theorists. This is due to their focus on participants' experiences and portrayal of experiences, as well as meanings indicated through language, actions, emotions, and body language (Charmaz, 2014). From a constructivist standpoint, the researcher considers the situation and construction of the interview, the participant's story and silences, and the relationship between the interviewer and interviewee (Charmaz, 2014).

Figure 3 below further details the differences in type of qualitative research interview, illuminating the requirement for an intensive approach to be employed in this instance.

Figure 3

Informational	Investigative	Intensive
Gathers accurate responses for demographic questions	Aims for accuracy in order to uncover hidden actions and intentions	Results from the interviewer and interviewee's co-construction of the interview

		conversation
Describes events with clarifications about chronology, places, and people involved	Intends to expose policies or practices	Seeks each participants' interpretation of his/her experience of the topic

(Fig. 3 - Adapted from Charmaz, 2014)

In constructivist grounded theory research, the interview process is viewed as a 'narrative interaction' to be analysed (Mills, Bonner and Francis, 2006, p. 9). This interaction involves researcher and participant working together to construct knowledge, in a space and time that facilitates the emergence of participant insight and views (Charmaz, 2014). It is crucial that these interactions are recorded. Although Glaser (2001) argues that data collection via note-taking enables a grounded theorist to record essentials without getting lost in details, Charmaz (2014) writes that video and audio recordings are an essential part of capturing the construction of the interview. Data captured through recordings includes silences in speech and non-verbal interactions between participant and researcher, which it would be almost impossible to record via note taking.

3.5.1.2. Interview Preparation

Preparing for the interview involved the creation of an interview schedule in order to facilitate a level of researcher control that would ensure the addressal of the research question(s) (Creswell and Creswell, 2018).

It is essential to remain informed about current developments of studied phenomenon (Charmaz, 2014). For this study, that meant engagement in discourse and documents related to music education, as well as keeping reasonably up to date with music that was commercially popular amongst 7- to 11-year-olds in order to prevent potential alienation throughout the interview process

and to foster conversation which had a comfortable flow. Additionally, during initial contact with participants, the researcher was introduced as both a PhD student and a music educator, in order to establish a connection and encourage acceptance. Charmaz (2014) has identified how participants respond positively to researchers with whom they are happy to help (such as students) or have something in common. In this instance, both roles were made use of to ensure that interview processes were as comfortable as possible.

3.5.1.3. Interview Methods

Intensive interviewing involves improvisation (Charmaz, 2014). Whilst the interview schedule was at all times present and evolving, it was important to allow participants to explore questions on their own terms. Charmaz (2014) states that an interviewer should listen, try to understand, aim to be empathetic, ask for elaborations, allow participants to explore, revise questions that do not work, be willing to take time for unanticipated issues, and express appreciation, leaving participants feeling good about themselves following the experience.

These guidelines were considered throughout the interview process(es), inevitably improving as the interviews progressed. It takes practice to hone the skills required for conducting smooth interviews (Charmaz, 2014), however, being equipped with the 'Do's and Don'ts' described by Charmaz (2014) accelerated this learning experience and facilitated reflection which led to improvement following each interview.

3.5.2. Sample Strategy

Sample strategies stem from experimental research, in which relationships among variables are sought (Thomas, 2010). For experimental researchers, samples are expected to be representative of

a larger population, however, in qualitative studies such as this, that is not the expectation (Thomas, 2010).

Sampling techniques can be divided into ‘probability’ and ‘non-probability’ methods, with qualitative and case study research most commonly using the latter (Taherdoost, 2017). Probability sampling includes random sampling techniques (simple random, stratified random, cluster sampling etc.) and aims to avoid the risk of bias. Non-probability methods include quota sampling, snowball sampling, judgement sampling, and convenience sampling (Taherdoost, 2017). All non-probability sampling methods are non-random, details of the differences between each are in Figure 4 below.

Figure 4

Quota Sampling	Snowball Sampling	Judgement Sampling	Convenience Sampling
Participants are chosen on the basis of predetermined characteristics that reflect the wider population.	A small number of participants are used to help encourage more to take part in the study, increasing sample size.	Participants are chosen due to their ability to provide information that is unobtainable through other sources.	Participants are chosen due to their ready availability.

(Fig. 4 - Adapted from Taherdoost, 2017)

For this study, judgement sampling, also known as purposeful (or purposive) sampling (Patton, 2002) was used. This strategy works to identify and select participants who are rich sources of information and enable the most effective use of limited resources (Patton, 2002). To use judgement sampling is to include participants who the researcher believes ‘warrant inclusion’ (Taherdoost, 2017).

Furthermore, this sampling strategy is low-cost, convenient, and efficient.

The criteria which led to the judgement of participants' 'warranting inclusion' (Taherdoost, 2017) were that they must have at least two years of experience teaching music to 7- to 11-year-olds (so as not to be considered 'novice') and be enthusiastic about their profession. Whilst this strategy cannot and does not aim to be representative of all primary music teachers, it enables the pursuit of participants who are able to provide the data of interest to the study (Thomas, 2010).

A total of 20 teachers, from a broad range of musical backgrounds, were chosen for this study, to provide data that is varied as well as rich, and in a quantity large enough to achieve saturation (Francis *et al.*, 2009). Using teachers from varying musical backgrounds presents the opportunity for comparison between teachers who are likely to have been taught music themselves in very different ways (Green, 2017a), thus opening a door for enquiry about engagement within contrasting musical styles.

3.5.3. Participant Selection

Appropriate participants were identified through personal professional contacts, various UK Music Education Hubs, and Facebook groups wherein primary music teachers share their lesson ideas and resources. Personal professional contacts included four who I have taught with in music education settings and maintained professional contact with, as well as one I've worked with in music performances. These acquaintances made up five of the participants in total. Upon initial contact with all teachers, it was established whether they met the criterion (2+ years of appropriate experience and apparent enthusiasm). Those who did were invited to take part in a video call interview.

3.5.3.1. The Teachers

A total of 20 teachers were interviewed for this study, at which point saturation was deemed to have been reached (Saunders *et al*, 2017). The first four teachers: Teachers 1, 2, 3, and 4, took part in what acted as a pilot study, although data was kept from these interviews as insights gathered from these teachers worked towards the construction of knowledge of the broader study. Both the pilot study teachers and teachers A – P in the main study were identified as experts in the phenomena of interest (Bruce Thomas, 2011; Strauss and Corbin, 1998). This helped to ensure a quality of data, as each participant was considered to possess the potential to provide deeper understanding of patterns and categories as they emerged (Bruce Thomas, 2011; Strauss and Corbin, 1998).

In terms of musical orientation, 11 of the 20 teachers have had classical training, whilst 9 have a predominantly popular music background. This balance was deliberate, in order to ensure that the findings of this PhD both straddle and transcend genre categorisation. Details of each individual teacher and why they have been chosen as participants for this study are below:

Teacher 1

The first teacher worked as a secondary school music teacher, before founding a percussion workshop company that delivers a variety of percussion-based workshops, to classes of primary school pupils as well as other age groups. This teacher was chosen to provide insight into what he identified as engaging factors of specifically rhythm-based musical activities and repertoire. Teacher 1 was identified through a Facebook group for primary music teachers, wherein he shared materials and resources that prompted further investigation into his position and experience.

Teacher 2

The second teacher is a very experienced primary music teacher who currently teaches small classes of 7- to 11-year-olds in a prestigious music school, using the Kodaly method. She teaches music through singing and was chosen for the study due to her insight into vocal-based repertoire and exercises. This teacher responded to an advert within a Facebook group for primary music teachers and was chosen due to her expertise and insight into how the Kodaly method could be adopted and adapted in present times.

Teacher 3

Teacher 3 is a generalist primary teacher of twenty years, currently working as a music specialist in her school. She teaches music to each year group in her school, from foundation up to year six. She was found through a Facebook group for music teachers and was chosen to provide insight into music teaching from a generalist teacher's perspective, with the benefit of extensive experience across year groups. Despite her previously generalist teaching position, this teacher does consider herself to be a musician and has a self-described passion for music.

Teacher 4

Teacher 4 is a music engagement officer with a Music Education Hub. He has extensive teaching experience in secondary schools and universities, including leading teacher training courses with a focus on music pedagogy. He currently teaches music classes in multiple primary and secondary schools in the Midlands and composes culturally relevant repertoire for his pupils. This teacher was contacted due to an awareness of his depth of musical and pedagogical insight, and his vast and varied experience.

Teacher A

Teacher A is a vocal specialist with twenty years of experience in music education. He began teaching in secondary schools but has taught mainly in primary schools for twelve years. He also has experience of teaching music in prisons, youth music services, and for multiple charity projects. He currently teaches whole class vocal workshops to primary school children, via two music services in the Midlands. Teacher A was chosen due to his extensive experience and enthusiasm.

Teacher B

Teacher B is a primary music lead who was recommended for this study by another participant. She has eighteen years of experience teaching primary children, which began with Key Stage 1 pupils before she began teaching music to all of the Key Stage 2 classes in her school. She has set up choirs and orchestras in her school and currently teaches Year 6 pupils. Teacher B was chosen due to her experience and enthusiasm.

Teacher C

Teacher C worked professionally in orchestras for 25 years before he began his teaching career as a secondary music teacher in the 1980s. He currently works with a Music Education Hub, delivering strings lessons to whole classes of year 4 pupils and smaller groups of year 5 and 6 pupils, as well as small groups within secondary schools. This teacher was found through his Music Education Hub's website and was chosen due to his experience and enthusiasm.

Teacher D

Teacher D is a guitar, bass, and ukulele teacher, working in a Music Education Hub as well as in colleges and universities. He has taught pupils of all ages for more than 20 years, initially privately before joining the Music Education Hub several years ago. He has also performed internationally and professionally releases transcriptions. Currently, his work with the Music Education Hub

predominantly involves teaching groups of 7- to 11-year-old pupils to play the guitar. This teacher was found through his Music Education Hub's website and was chosen due to his experience and enthusiasm.

Teacher E

Teacher E is a primary school teacher who began her career in music education as a music director in a school after graduating in music six years ago. She has studied music since the age of five, when she began to play the violin before later taking on the piano. She attended a music school in Romania, where music was a huge part of her compulsory education. She currently works as a year 4 classroom teacher as well as a music director across year groups, designing curriculum content for foundation year up to year 6 in her school. This teacher was found through a Facebook group for music teachers, wherein she shared materials with other teachers. The apparent enthusiasm was the initial reason for contacting this teacher.

Teacher F

Teacher F is a trained secondary school music teacher, who obtained eleven years of experience teaching 11-16-year-olds before she began work in a primary school two years ago. She works as a part time music teacher in her school and also teaches for her local Music Education Hub. Teacher F is enthusiastic about her craft and was approached through a Facebook page where she shared resources for other teachers. This demonstrated an apparent enthusiasm which highlighted the teacher as a potential participant for the study.

Teacher G

Teacher G has taught for eleven years. The first five involved generalist primary classroom teaching, whilst the last six have been exclusively music focused. He described himself as a popular musician,

having limited knowledge in music pedagogy at the start of his music teaching career before he undertook a lot of continual professional development. This includes 'Musical Futures'⁹, Kodaly, and Dalcroze training (as discussed in the Literature Review chapter). He adopts an informal approach to music teaching and is heavily influenced by the 'Musical Futures' ethos but describes his approach as influenced by a combination of sources. This teacher was found through a 'Musical Futures' Facebook page and was highlighted due to his apparent enthusiasm.

Teacher H

Teacher H trained as a secondary music teacher and began teaching in primary education after supply teaching work in primary schools inspired him to improve what he considered to be both a narrow curriculum and lack of value in primary music education. He has taught in a deprived primary school for several years with an approach inspired by the principles of Kodaly and Dalcroze. Since his musical input to the school, academic results have improved significantly, leading him to become a well-recognised and respected music teacher. This teacher was contacted due to a personal awareness of his expertise.

Teacher I

Teacher I is a brass and guitar teacher who works for a Music Education Hub. She is trained in jazz trumpet and has taught with her current hub for three years, following one year working with another music service. She teaches whole-class primary school music lessons and is also involved in the delivery of extra-curricular school bands and orchestras. This teacher was chosen due to a personal awareness of her skills and expertise.

⁹ 'Musical Futures' is a music education charity and action research project which seeks to provide meaningful, engaging music education to school children through relevant music-making experiences. It is informed by Lucy Green's (2008) research into how popular musicians learn.

Teacher J

Teacher J is a guitar teacher and Team Leader at a Music Education Hub. He worked for Yamaha Music School for 10 years, teaching children in group guitar lessons. He then began work at a Music Education Hub, before teaching in a 16-18 college. He has been at his current Music Education Hub for several years, during which his duties have included teaching whole classes of 7- to 11 year-olds, as well delivering smaller group lessons to this age group and above. This teacher also trains other teachers to teach music to school children. He was contacted due to a personal awareness of his expertise.

Teacher K

Teacher K is a violinist who works as a music teacher in a primary school. She attended both university – studying music theory – and a conservatoire where she focused on instrumental skills, in Greece. She moved to England in 2016 and began volunteering in a school in which, two years ago, she secured her job as a music teacher. She delivers all music classes in the school from years one to six: pupils aged five to eleven. This teacher was found via a LinkedIn search, which led to an initial communication that verified her expertise and appropriateness for the study.

Teacher L

Teacher L is a vocal specialist teacher with a Music Education Hub, who was recommended by another participant due to his expertise in selecting repertoire appropriate for children's singing. He has taught music for twenty-five years, including supply teaching and secondary and primary classroom teaching. He has been at the music service for thirteen years, during which he has taught strings ensembles as well as classroom string and voice lessons. He is responsible for the Music

Education Hub's singing provision and the development of that, including decisions regarding repertoire. This teacher was chosen due to his expertise and enthusiasm.

Teacher M

Teacher M has taught in his current school for seven years, initially as a generalist primary teacher before becoming a part-time music specialist after the first two years. He teaches classroom music lessons across all year groups and adopts a 'Musical Futures' approach to teaching. This includes the use of popular musical instruments and an informal learning strategy (as discussed in the literature review). This teacher was found through a 'Musical Futures' Facebook page and was highlighted due to his enthusiasm and expertise.

Teacher N

Teacher N is a professional strings player and pianist who has worked with his local Music Education Hub in both a teaching and managerial role for several years, involving music provision across primary and secondary schools. Prior to that, he taught music as a secondary school music teacher and acted as a visiting music teacher in primary schools, delivering project-based workshops. He has also written child-orientated books of strings repertoire and was chosen due to a personal knowledge of his experience and expertise.

Teacher O

Teacher O taught violin lessons both privately and in her own music school for many years before training in Dalcroze music education (as discussed in the Literature Review) and starting to work in primary and junior schools, as well as to junior pupils in a prestigious music school and conservatoire. She infuses a Dalcroze-informed approach with other pedagogical methods, in order to fulfil National Curriculum requirements. This teacher was located through a website dedicated to

Dalcroze specialist teachers. This teacher was found through his Music Education Hub's website and was contacted due to her experience and expertise.

Teacher P

Teacher P is a multi-instrumentalist who works for a Music Education Hub. He has a varied musical background including running an orchestra, playing in rock and jazz bands, and owning a music shop that doubled as a music school. He has been with his Music Education Hub for ten years, during which time he has combined teaching and managerial work. His current role involves pedagogical planning, teacher management, and the delivery of music lessons to primary and secondary pupils. This teacher was found through the music hub website and was contacted due to his expertise and experience.

3.6. Data Analysis Methods

Qualitative data analysis is most effective when it begins simultaneously with data collection (Merriam, 2009). Described by Newton Suter (2012) as an 'enlightened' approach (p. 360), this simultaneity involved taking analytical notes from the first point of data collection, to allow connections to be made and categories and themes to surface early (Suter, 2012). This worked to 'stimulate critical thinking' and allowed for an inductive approach to coding, plus the pursuit of specific leads as they occurred (Bogdan and Biklen, 2007, p. 163; Mills, Durepos, and Wiebe, 2010). This pursuit led to the constant development of interview questions (Bilken, 2007), which facilitated the exploration of categories as they emerged.

The conception of categories and the theories which arose occurred through a succession of coding practices. In qualitative analysis, coding is the practice of assigning words or short phrases to capture

or summarise data (Saldana, 2021). Specific to Constructivist Grounded Theory, this process is when analytic questions are asked of the data collected, to develop understanding and direct subsequent data-collection (Charmaz, 2014). In this study, initial, focused, and theoretical coding are used to interpret data and construct a grounded theory (Kenny and Fourie, 2015).

3.6.1. Initial Coding

The first step in the analytical process is initial coding (Charmaz, 2014; Saldana, 2021). This is also known as open coding, due to the requirement for the researcher to remain open to the theoretical possibilities within the data (Charmaz, 2014). During this stage, actions are sought in each line or section of data and labelled accordingly. Coding for actions, rather than themes, in initial coding acts to reduce the risk of reaching premature conclusions, allowing new ideas to emerge (Charmaz, 2014). Whilst other forms of qualitative research use thematic coding, process-based coding uses gerunds, to maintain the fluidity in participants' experiences whilst enabling reflection of the views of an insider (Charmaz, 2014; Glaser, 1978).

To further ensure that reflection is through the views of participants, verbatim codes were used when possible, to 'prioritise and honour the participant's voice' (Saldana, 2021, p. 91). Using terms which directly quote participants ensures that they are in line with language 'that participants use in their everyday lives, rather than in terms derived from the academic disciplines or professional practices' (Stringer, 1999, p. 91). In Vivo codes ensure that the researcher has grasped what is significant to the participant and can help to 'crystallize and condense meanings' (Charmaz, 2006, p. 57).

In this study, a line-by-line strategy was adopted for initial coding, allowing ideas to occur that could be missed through thematic analysis (Charmaz, 2014). This line-by-line method offers the researcher

‘freedom from becoming immersed with their participants’ views’ (Charmaz, 2014, p. 127). It also facilitates the location of leads to pursue and enables the researcher to see situations in a new way (Charmaz, 2014). Initial coding is followed by focused coding: the ‘second major phase’ in analysis (Charmaz, 2014, p. 138), wherein frequent or significant codes are identified.

3.6.2. Focused Coding

Focused coding, also referred to as ‘selective coding’, or ‘intermediate coding’ (Saldana, 2021, p. 302) is used to manage large quantities of data. It involves the analysis of initial codes to determine those which are most frequent or significant. This process sharpens what is found during initial analysis and advances the theoretical direction of the research (Charmaz, 2014). Focused codes are born through the interpretations of meanings within initial codes, and the comparisons made between them (Charmaz, 2014). Consistent with all aspects of Constructivist Grounded Theory, the researcher is a part of the analysis: his/her analytical skills, background, and perspectives contribute to the interpretation of that data (Charmaz, 2014).

Focused coding is considered to be particularly appropriate for grounded theory studies, due to the way it follows the codes produced through line-by-line and process coding closely, forming categories firmly grounded in the views of participants (Saldana, 2021). It follows logically on from initial coding, as it allows the vast number of codes produced to form into clusters, encouraging analytical thinking and acting as a stepping-stone into the following stage: theoretical coding (Charmaz, 2014; Saldana, 2014).

3.6.3. Theoretical Coding

Theoretical coding is a way of theorising data and focused codes (Charmaz, 2014). It has been described as a process which enhances the abstraction of data (Stern, 1980) and as something that adds coherence to an analysis (Charmaz, 2014).

Johnny Saldana (2021) illustrates a theoretical code as like an ‘umbrella’ (p. 369), under which stand all other codes and categories formed before it. Theoretical coding is the process of integrating and examining relationships between categories already established, to form an abstraction. This abstraction can lead to a theory: something which ‘expresses a patterned relationship between two or more concepts’ and involves a statement about ‘what, how, and why something happens’ (Saldana, 2021, p. 348).

It is during this stage of coding that literature is more critically engaged with, as explanations of how/why events occur are influenced by existing knowledge (Saldana, 2021). Existing theories are considered and compared with research findings but are not imposed upon data (Thornberg and Dunne, 2020). The engagement with literature during the theoretical coding stage enables the enhancement of theoretical sensitivity and can encourage creative, insightful and robust theories, which are ‘informed by the interplay between the researcher, the environment, the participants and the literature’ (Thornberg and Dunne, 2020, p. 14).

In this study, a grounded theory regarding the musical attributes which are identified as engaging to primary music teachers is sought. It is through initial, focused, and then theoretical coding of participants’ stories, which occur alongside memo-writing, literary engagement, and musicological analysis, that data is made sense of, and triangulation is established (Merriam, 2002).

3.6.4. Memo Writing

Throughout the data collection and analysis process, memo-writing is used to record ideas about codes, as and when they occur (Charmaz, 2014). These memos act to capture thoughts, comparisons, and connections, whilst clarifying directions to pursue (Charmaz, 2014). Memo-writing involves the capturing of informal analytic notes, which lead the way for later, more formal writing (Charmaz, 2014). This process enables the researcher to become actively engaged in the data, to recognise how future data collection can be improved and to develop theoretical ideas. (Charmaz, 2014).

In this study, memo-writing is also used as a method of constant comparison (Thomas, 2010). This has been described as a fundamental part of Constructivist Grounded Theory as well as qualitative studies in general (Charmaz, 2014; Thomas, 2010). Constant comparison involves the repeated exploration of data, whilst comparing phrases, sentences, and paragraphs. Initially, data is compared against other data, before codes and categories are also compared, aiding thought processes and the construction of a theory grounded in the data (Charmaz, 2014; Mills, Bonner, and Francis, 2006).

3.7. Musicological Analysis

To gain an understanding of the musical attributes present within specific examples of repertoire and activities discussed by participants, and the musical attributes present within patterns and themes that were revealed during focused coding, methods of musicological analysis were employed. The analysis consisted of a pragmatic combination of systematic musicology, with a focus on embodied music cognition (Cox, 2016; Leman, 2012), musical hermeneutics (Moore, 2016), and semiotic inquiry (Machin, 2010; Tagg, 2013). Whilst analyses concerning embodied music cognition enable an insight into the forms of engagement which are characterised by movement and action, hermeneutic

analysis facilitates an understanding of how children’s interpretations of what is heard within musical attributes can influence experiences of becoming engaged or disengaged. Semiotic inquiry helps to establish the meaning potential(s) within musical attributes, which could relate to children’s meaningful experiences of engagement (Dillon and Brown, 2016; O’Neill, 2015).

3.7.1. Elements of Analysis

Due to the aforementioned popular music background of the researcher, and the growing presence of popular music in primary school education (Dunbar-Hall and Wernyss, 2000; Vasil, 2019), it was considered appropriate for this research to adopt an approach to musicology rooted in popular music analysis, as opposed to Western art musicology. Whilst the study itself is not genre-specific, it has been established that whilst many elements are common to popular and classical music (Burton, 2015), there are also elements of popular music – such as lyrical content and associated media – which Western art music is less likely to exemplify or prioritise, but that can be paramount to musical interpretation (Machin, 2010).

This approach to analysis has also been informed by Larue’s (2011) elements-based approach. Larue’s (2011) six components for analysis: sound, harmony, melody, rhythm, growth, and text influence have been considered as important features of the musical examples, whilst Larue’s (2011) view that music is a ‘growth process ... that we feel as movement’ (p. viii) is implicit in the analyses of attributes and their relationships to types of engagement.

Whilst Western art is an important part of Key Stage 2 music education (DfE, 2021), alongside other, culturally diverse musical examples, the pedagogical aims at this stage of children’s musical development do not involve the understanding of complex characteristics that are exclusive to Western classical examples (Atkinson, 2017; DfE, 2021). An approach to analysis that focuses on

elements that children can experience, and that also considers musical attributes present in culturally diverse examples of music – which cannot satisfactorily be recorded on a score (Middleton, 1991; Zagorski-Thomas, 2018) – was considered appropriate for this exploration.

Prior to systematic, hermeneutic, and semiotic analyses, a consideration of which musical elements to consider was undertaken. It has been acknowledged that whilst musicology associated with Western art music is 'notation-centric' (Middleton, 1991, p. 106) – partly due to the representation of notes on the page in sheet music – such an approach to popular musicology would be 'problematic' (Middleton, 1991, p. 106). Richard Middleton (1991) argues that to analyse popular music through notation is to distort and reduce what occurs when musicians play, and audiences watch and listen to popular music. Developing this point, Simon Zagorski-Thomas (2018) highlights how the development of recording and, more recently, software which visually represents sound, provides greater opportunities for analysis than notation alone.

Recommendations of which elements are crucial to the analysis of recorded music vary slightly amongst scholars (Burton, 2015; Larue, 2011; Machin, 2010; Middleton, 1991, 1993; Moore, 2016; Tagg, 2000, 2013; Zagorski-Thomas, 2018). Jan Larue (2011) puts forward that sound, rhythm, harmony, growth, melody, and text influence are the components which must be considered when conducting a musical analysis. This view is shared by David Machin (2010) and Richard Middleton (1990, 1993), who also consider the importance of both lyrical content and extramusical elements which contribute to the construction of meaning.

Philip Tagg (2000) has provided a similar 'checklist of parameters' (p. 82) which contains: 1) aspects of time, 2) melodic aspects, 3) orchestrational aspects, 4) aspects of tonality and texture, 5) dynamic aspects, 6) acoustical aspects, and 7) electromusical and mechanical aspects. Whilst his methods of

analysis differ, Allan Moore (2016) considers the same parameters, as well as the importance of persona: something considered in a separate work (2013) by Tagg. A more recent list has been provided by Simon Zagorski-Thomas (2018), consisting of: 1) rhythm and timing, 2) pitch, 3) timbre, 4) tonality and harmony, 5) structure, 6) interaction, and 7) creativity, expression, and improvisation (pp. 121-122).

In order to analyse each of these elements, Zagorski-Thomas (2018) proposes a method which considers Middleton's (1993) three areas of analysis: gesture, connotation, and argument. Zagorski-Thomas (2018) highlights how Middleton (1993) considers 1) gesture: the idea that sounds within music are understood with relation to the actions that achieve them, 2) connotation: the notion that metaphor – which can often relate to personal memories – contributes to musical meaning, and 3) argument: the idea that the identification of structural features contributes to an intellectual enjoyment of music. Argument is considered by Middleton (1993) to be more prevalent when experiencing Western art music and is a type of analysis which Zagorski-Thomas (2018) argues is too complex to be undertaken in a single moment. It can, however, be enjoyed 'outside of the moment' (p. 121), often with the aid of notation. Gesture and connotation, on the other hand, can be both experienced and considered within the moments that they aurally occur.

With the views considered above in mind, the following paragraphs explain which, why, and how musical elements are analysed in this study.

Pitch

Pitch has been defined as an 'aspect of sound determined by the rate of vibrations producing it' (Tagg, 2013, p. 274). Pitches are considered to be 'rich in metaphorical associations' (Machin, 2010, p. 100). Machin (2010) references Deryck Cooke (1959) and suggests that high pitches are related to

effort whilst low pitches are related to a lack of effort. He also suggests that high pitches can be connected to interpretations of brightness, whilst low pitches connote darkness, or evil (Machin, 2010). Pitch can also be related to the perception of size (Eitan, 2013). Machin (2010) argues that these connotations are due to associations made by listeners, which are related to both language and natural sounds. He also points out that music is characterised by movement in pitch and suggests that ascending melodies can be associated with outward expressions of emotion, whilst descending melodies are more likely to connote 'incom emotion' (p. 101).

Whilst connotation-based musical analysis has limits due to its dependency on a degree of knowledge regarding listener's prior experiences (Middleton, 2003), an analysis of how pitch activity can contribute to kinetic responses to music, as part of an 'embodied interactive communicative process' (Dell'Anna *et al.*, 2021) strengthens the exploration of pitch in this study. Alessandro Dell'Anna *et al.* (2021) argue that musical experiences are by nature social interactions, which can be understood through movement-based cognition.

In this thesis, patterns in pitch are analysed in terms of both connotations and related gestures. Connotation is considered in relation to Tagg's (2013) semiotics, whilst gesture-based responses to pitch are analysed within the growing embodied music cognition paradigm (Cox, 2016; Dell'Anna *et al.*, 2021; Leman, 2007), with consideration given to mimesis, anticipation, and sensorimotor predictions. This analysis enables an understanding of the tonal attributes which are identified by primary school music teachers as conducive to movement as an indicator of engagement (Scruggs, 2009) and the analysis of which of Brown's (2016) mode of engagement these attributes correspond with, as well as implications for behavioural, emotional, and cognitive engagement (Fredricks, Blumenfeld and Paris, 2004).

Timbre

As well as the highs and lows of pitch, Tagg (2013) highlights how there are further tonal qualities which contribute to our aural perceptions of notes. The following paragraphs describe how timbral qualities, which ‘allow us to distinguish between two notes ... sounded at the same pitch and volume’ (Tagg, 2013, p. 277) are analysed to explore the musical attributes identified as engaging in this study.

Timbral qualities within pieces of music are considered to carry meaning potential (Machin, 2010; Moore, 2016; Tagg, 2013). David Machin (2010) explores sound qualities for both vocal and instrumental sounds and describes how they carry different ‘associations of emotions and attitudes’ (p. 126). Machin (2010) uses examples of Disney characters’ footsteps, which can be deep to suggest clumsy or threatening characters, or high to suggest light, bright characters. Specific timbral qualities have also been identified as related to genre (Tagg, 2013; Moore, 2016) and the arrangement of timbres has been recognised as something which can play a part in the hierarchisation of musical ensembles (Machin, 2010).

In this study, timbral qualities are analysed similarly to attributes of pitch: in terms of their semiotic potential as well as how they relate to kinetic responses: or, connotation and gesture (Middleton, 1993; Zagorski-Thomas, 2018). Zachary Wallmark’s (2022) work is considered in relation to how perceptions of timbre relate to the understanding of the movements used to create the heard sounds, and how this relates to meaning-making and associated engagement. Following teachers’ explicit or implicit identifications of specific timbres which appear to engage their pupils, it is considered whether there could be patterns in paramusical (Tagg, 2013) meanings and whether specific timbres could relate to behavioural, emotional, or cognitive responses in 7- to 11-year olds. Where potential paramusical meanings are identified, i.e. where timbres sound like something

outside of music (Tagg, 2013), these are explored, whilst remaining mindful of the epistemological limits regarding children's experiences of connotation.

The analyses of both connotation and gesture-based responses are strengthened using 'commutation' (Tagg, 2013, p. 253), previously referred to as 'hypothetical substitution' (Tagg, 2003). This involves imagining an element of sound as being replaced with another, for example a melody played on a different instrument or at a different dynamic. If the perceived effect would likely differ as a result of the substitution, the conviction of which attribute has caused the effect gains robustness. Commutation encourages an understanding of the attributes that are active in achieving their effect: be that a metaphorical association (*connotation*) kinetic response to music (*gesture*), or a cognitive attempt to make understand what is heard (*argument*) (Middleton, 1993).

Rhythm

Rhythm, Larue (2011) describes as encompassing surface patterns and vocabularies as well as the continuum of tempo and metre. Tempo and rhythmic patterns are considered the elements of music most closely aligned with movement (Cooke, 1959; Middleton, 1990; Machin, 2010; Tagg, 2013). Tagg (2013) describes tempo as related to footsteps, including different types of dance, whilst acknowledging the greater ability of 'surface rate' over tempo to convey the mood of a piece (2013, p. 289). Tagg (2013) also suggests that rhythms or grooves which are repeated can both influence repetitive movements from the listener and create musical meaning in the form of a 'kinetic impression' (p. 298). Kinetic impressions have been recognised as particularly relevant to primary school children (Campbell, 2010) and also a crucial part of understanding music (Cox, 2016).

Machin (2010) has related examples of rhythmic groupings to different movements and moods, describing them as having 'meaning potentials', which can be realised in combination with 'other

semiotic choices' (Machin, 2010, p. 129). These choices relate to the parameters which coexist with rhythm (detailed in the surrounding subchapters).

Zagorski-Thomas (2018) also puts forward the consideration that traditional methods of analysing rhythm cannot always apply to recorded popular music, due to patterns of sound which do not adhere to the strict measures of Western art music. He proposes an analysis based on a contemplation of what sounds resemble and the ways in which rhythms encourage embodied engagement. It is for this reason that rhythm is analysed, in this thesis, in the same way as pitch and timbre: with an ear for connotation and a consideration of the musical affordances that contribute to embodied music cognition. It is through this analysis that specific attributes are revealed.

Loudness

Dynamics within rhythm, melody and harmony have been recognised as further indicators of musical meaning (Machin, 2010). Machin (2010) describes differences in power and meaning in songs which are sung/shouted at different volumes, as well as differences in effect from voices working in unison, such as choirs, to those which are hierarchised, such as lead singers with backing vocalists.

Tagg (2013) has compared the use of musical dynamics to social structures, questioning the social meaning which could be uncovered from different musical parts' use of dynamics. The use of accents have also been considered: Middleton (1990) suggested the use of accentuated notes within phrases could create meaning, in a similar way to text stress.

In this thesis, both the overall dynamics of pieces and dynamics specific to instruments of interest are considered in terms of their semiotic and kinetic potential. Findings related to loudness are considered in their own right and also used for triangulation with those related to other, co-occurring

attributes. Teachers' comments which explicitly relate to timbral attributes are analysed alongside the musical examples they cite and literature which relates to emerging theories of embodied cognition, musical semiotics, and the pedagogy of music.

Lyrics

Analyses of the lyrics in popular music have explored content from a narrative perspective as well as in terms of potential social impact (Martino *et al.* 2006, Primack, Pardun, L'Engle, and Brown 2005; Gold *et al.* 2008).

Middleton (1990) discusses the ability of lyrics to root pieces of music in specific social contexts. This has also been considered by Machin, who argues that lyrical content can provide 'access to the psyche of the time or culture' (2010, p. 79). The social contexts that lyrics are written and exist within are considered in this study, as it is often a relation to something 'outside' that establishes the relevance that facilitates pupil engagement (O'Neill, 2015).

In this study, lyrical content is analysed in terms of its surrounding context. Lyrics that are 'subservient' or which relate to children of all ages' out-of-school existence in some way are already understood to contribute towards social meaning in the age group of interest (Giles and Frego, 2004). Whilst the details of pupils' out-of-school existence cannot be established through interviews with teachers, wider cultural movements can be considered alongside any further information offered by the teacher about theirs, and the children's situatedness. The relationships between lyric-inspired meaning making are explored in terms of how they can connect to Brown's (2016) modes of engagement, as well as broader engagement types (Fredricks, Blumenfeld and Paris, 2004).

3.7.2. Weighting of Attributes for Analysis

The above chapters detail how the following attributes were chosen for analysis in this study:

- 1) Pitch,
- 2) Timbre,
- 3) Rhythm,
- 4) Loudness, and
- 5) Lyrics.

Each of the above also have subcategories, for example, loudness can include accents as well as articulation. The weighting of the analysis of each attribute is determined by its presence throughout interviews, which are largely participant-led, as well as inductive. Findings chapters are presented in a way that facilitates effective communication and contains logical grouping.

3.8. Pilot Study

To pre-test the interview guide, improve the researcher's interviewing skills, and identify and correct any problems or barriers in the data collection and modes of analysis (Janghorban, Roudsari, and Taghipour, 2014), a pilot study was conducted for this research project.

The term 'pilot study' refers to a mini version of a full-scale study. They are also called 'feasibility studies', due to the opportunity they present to assess the viability of a research protocol (Baker, 1994; Teijlingen and Hundley, 2001). These small-scale studies also present opportunities for the collection of preliminary data, researcher training, and epistemological and methodological determination (Janghorban, Roudsari, and Taghipour, 2014; Teijlingen and Hundley, 2001). They have

been described as a crucial element of a good study design and as something which increases the likelihood of a project's success (Teijlingen and Hundley, 2001).

As well as pre-testing the interview guide, practice-interviews provide the researcher with unique opportunities to improve the skills required for successful semi-structured interviewing. These include dealing with participants, selecting appropriate venues, conducting in-depth interviews and seizing probe opportunities (Janghorban, Roudsari, and Taghipour, 2014).

10-20% of a main sample size is considered a reasonable amount for a pilot study (Baker, 1994; Connelly, 2008). Although at the time of selection, the full sample size was unknown, the average amount of interviews needed for a qualitative grounded theory study has been discovered to be twenty-five (Bruce Thompson, 2011). For this reason, four participants were chosen for the pilot, each of whom were experienced, enthusiastic, and deemed to be experts in the phenomena of interest (Bruce Thompson, 2011).

3.8.1. Pilot Study Data Collection and Analysis

Data collection and analysis procedures for the pilot study consisted of following the interview schedule an appropriate amount, as well as initial and focused coding with the aid of NVivo software. At this stage, theoretical coding was not attempted due to the limited amount of data and preliminary level of analysis, however, initial musicological analysis was undertaken in the form of identifying musical patterns and considering their relationships to kinetic engagement. Comparative analysis was also restricted, however, initial data collected from these interviews did present the opportunity to trial coding methods and confirmed their appropriateness for the study.

3.8.2. Pilot Study Findings

Findings which occurred through the data collection and analysis in the pilot study were bipartite: 1) those which progressed the theoretical direction of the study, and 2) those which worked to refine data collection and analysis processes.

Findings which progressed the theoretical direction of the study were achieved through the initial and focused coding procedures described in section 4.6. It became apparent through focused coding that *relevance* was a consistent theme. This realisation led to the exploration of ‘relevance theory’ literature (Sperber and Wilson, 2006), which states that ‘the search for relevance is a basic feature of human cognition’ (Wilson and Sperber, 2006). Relevance has also been categorised into ‘social’ and ‘personal’, with both types considered to be essential to achieve primary school children’s engagement (Bruner, 1971). These distinctions led to the closer reading of Brown’s (2016) work on engagement including the distinctions between personal, social, and cultural meaning within music. The reflection on these distinctions paved the way for further theoretical analysis.

Something else which became evident following the pilot study was that embodied music cognition looked likely to form a larger part of the study than initially anticipated, with hermeneutic and semiotic analyses quickly leading to embodiment theory. During the first four interviews, teachers referred to children’s kinetic musical learning with frequency. Teachers in pilot studies also did not report significant responses to the performance persona of musical artists in this age group, contrary to personal expectations. However, early thoughts emerged about the potential occurrence of pupil responses to the teachers’ performance persona, as ‘enthusiasm’ was mentioned with significant frequency.

Practical findings which occurred through the pilot study related to the processes of data collection and analysis. These resulted in changes to the interview schedule and the fine-tuning of interviewing techniques. Whilst the original schedule contained specific questions relating to different musical parameters and an exploration of persona, the pilot interviews demonstrated that allowing teachers to decide which musical topic to cover in depth provided insight into what was important to them. This encouraged the preservation of participants' voices and allowed them to speak freely and with depth. It was also discovered during this process that it was only appropriate to use probes when it was apparent through vocal behaviour and body language that a teacher was comfortable in talking about a topic (Charmaz, 2014). This participant-dominant approach is crucial in CGT data collection (Charmaz, 2014) and essential in answering the research question regarding teachers' own identifications of musical engagement. Particularly with Teacher 1 and Teacher 2, who had specialised approaches to music education (one primarily rhythm and the other primarily vocal), it would have been inappropriate, disrespectful, and inefficient to ask questions regarding areas irrelevant to their own teaching.

All four teachers in the pilot study seemed comfortable talking and in little need of probing. However, when reflecting on these four interviews, it did become clear that I could have probed a little more, to explore areas of interest in greater depth. For example, when Teacher 4 expressed that 'I think that canon is something that everybody needs to know', I could have asked why that was. This is something that was recorded via memo-writing, to reflect on and learn from. In later interviews, statements such as these were followed up with probes, to gain richer data and enable understanding (Rubin and Rubin, 2005).

Another learning experience during the pilot study was the familiarisation with Otter.ai transcription software and NVivo data management and analysis software. Throughout the data collection process, the researcher became comfortable with transcribing interviews via artificial intelligence

and editing accordingly, as well managing data digitally. This meant that coding and categorising was conducted in a thorough and efficient manner.

Finally, the pilot study enabled the consideration of the inclusion of a quantitative summary of data within the forthcoming findings chapters. Whilst the nature of the study remains qualitative for the reasons outlined in this chapter, the inclusion of a brief, quantitative summary will enable clarity and the reflection on pertinence (Creswell and Creswell, 2020; Miksza *et al.*, 2023).

3.9. Validity and Credibility of Data

For data to be considered valid, triangulation must have occurred (Creswell and Miller, 2000).

Triangulation is a procedure where researchers seek union among multiple and different sources of information, to form themes or categories (Creswell and Miller, 2000). This is a process which validates theoretical claims and contributes towards credibility (Creswell and Miller, 2000).

Norman Denzin (1970) identified four types of triangulation: 1) Data Triangulation, involving the combination of different types of data, 2) Investigator Triangulation, which uses multiple researchers to gain different perspectives, 3) Theoretical Triangulation, which combines theoretical frameworks to interpret data and 4) Methodological Triangulation, which combines methodological approaches.

In this research, Theoretical Triangulation is employed. In the context of Grounded Theory research, this means combining the grounded approach with further theoretical approaches, such as hermeneutics (Flick, 2020). Whilst hermeneutic analyses provide insights into meanings and practices, grounded theory involves the implementation of these insights, into further research or practice (Flick, 2020). The use of several theoretical approaches has also been demonstrated to be

practical in grounded theory research (Werts *et al.*, 2007). Frederick Werts *et al.* (2007) analysed interview data from five different research perspectives, including grounded theory, discourse analysis, and narrative research, demonstrating that differences and commonalities can occur through varied empirical approaches to the same material (Flick, 2020). This is a method which is argued to 'widen one's theoretical lens' (Fusch *et al.*, 2018) and expand the researcher's knowledge of what is known (Denzin, 2009).

A combination of Constructivist Grounded Theory approaches to data coding and analysis (Charmaz, 2014), embodied music cognition theory (Cox, 2016), modes of musical engagement (Brown, 2015) and theories of music pedagogy (Abril and Gault, 2016) are used to gain varied perspectives of the data (Denzin, 2009). The use of multiple theoretical frameworks to interpret data has been described as a 'robust' (Turner and Turner, 2009, p. 4) approach, which can produce 'rewarding conclusions' (p. 4), due to the opportunity it provides to spot diverse issues and find alternative explanations (Thurmond, 2001). According to Norman Denzin (1978), the goal of using theory coding is to form a theory that is convincing at the subjects' level, whilst conforming with the accepted rules concerning how a theory should be grounded. By analysing data through different – and often contrasting – theoretical lenses, the risk of premature explanations is reduced, and confidence in theoretical development is increased (Banik, 1993; Thurmond, 2001).

Credibility also refers to the truth of the data and the accuracy of how participant views are represented by the researcher (Polit and Beck, 2012). This can be enhanced by the researcher communicating with participants to verify findings. If descriptions are recognised by those who share the experience, a qualitative study is considered credible (Cope, 2014; Sandelowski, 1986). To ensure credibility in this research, clarification is continually sought with participants, before and after interviews as they are given the opportunity to correct anything they consider to be misrepresentative of their views.

3.10. Ethical Considerations

Prior to data collection, this study received ethical approval from the university (reference UWL/REC/LCM-01066).

Ethical issues which were considered before the research was undertaken included informed consent, beneficence, and respect for confidentiality, anonymity, and privacy (Fouka and Mantzorou, 2011).

Informed Consent

Informed consent was ensured through the requirement of participants to sign an opt-in consent letter ahead of scheduling interviews.

Opt-in consent involves participants' making an active choice about becoming involved in the research and signalling their willingness to do so (Thomas, 2010). Information that must be given to participants in order to make this choice are: 1) The nature, purpose and methods of the study, 2) Expected benefits of the study, 3) Possible harm that may come from the study, 4) Information about confidentiality, anonymity, and data storage, 5) Ethics procedures being followed, 6) Full name and contact details. (Thomas, 2010).

These details, as well as reasons for the teachers' participation within the study were presented in a written letter. The letter also highlighted how participants could withdraw at any time, with or without reason (Wisker, 2008). See Appendix item 1 for a copy.

Beneficence

The benefits of taking part in the research included the opportunity for participants to reflect on practice, in a way they might not have previously. A further benefit was the sense of purpose the interview process gave to them. Interviews were an opportunity for self-acknowledgement and self-awareness for the participants (Hutchinson and Wilson, 1994). Additionally, teachers were offered access to research findings after completion, to further enhance each of these benefits as well as add clarity to the process they were a part of. The majority of research participants showed interest in this.

From a broader perspective, Janet Mills (2005) states that an ethical requirement when conducting music education research is that research questions are chosen for their relevance to 'improving the learner's lot in music' (p. 213). Mills (2005) emphasises how music education research questions must be grounded in what is already happening to learners and have relevance to educational professionals. This research seeks to 'improve the learner's lot' in music education by developing knowledge of how the learner can become musically engaged in the classroom and therefore experience more enjoyment and musical enrichment. This knowledge will not only be useful for informing further music education studies and improving practice, but reflection encouraged in participating teachers will present them with the opportunity to develop richness in their music lessons, benefiting their current pupils and beyond (Miller, 2007).

Confidentiality, Anonymity, and Privacy

Confidentiality requires researchers not to share information from participants, without their agreement to do so (Felzmann, 2009). Whilst it would be impossible to achieve absolute confidentiality whilst analysing and discussing qualitative data (Saunders, *et al.*, 2015), anonymity is

attained by hiding the participants' identities from all persons other than the researcher. All participants are named after a number (in the pilot study) or a letter (in the main study) to protect their own and their peers' privacy. Data is also stored securely in encrypted files and backed up in a secure data repository. See Appendix item 2 for a data management statement for this project.

3.11. Chapter Summary

This chapter has provided a rationale for the use of a constructivist grounded theory study with qualitative data collection and analysis. It has detailed the backgrounds of both the researcher and research participants and highlighted how their combined experiences enable the answering of the research question and subquestion. The chapter also includes information about how the use of thorough data analysis and ethical research procedures will facilitate valid findings.

CHAPTER FOUR: ATTRIBUTES OF RHYTHM

4.1. Introduction

The first findings chapter explores rhythm. Rhythm is understood to be layered; related to and a part of coexisting musical elements, and linked to 'implications for movement' (Larue, 2011, p. 88).

Rhythm is defined by Larue (2011) as containing a surface level of patterns and vocabulary as well as a continuum of metre and tempo. Whilst much popular music is characterised by being in a 4/4 time signature, it is understood that rhythmic layers can alter the perception – and resulting effect – of this, as what Nicole Biamante (2014) terms 'metric dissonances' (p. 1) can influence music's tension and energy.

Rhythm is widely considered to be the musical element most closely associated with movement (Findlay, 1995; Juntunen, Larue, 2011; 2016; Phillips-Silver and Trainor, 2005; Tagg, 2013). Movement is a form of embodied engagement, which also fits into the category of behavioural engagement. Movement is also understood to be indicative of mimesis-based musical learning (Cox, 2016), conducive to entrainment (Krueger, 2014), and to act as a gateway to more cognitive forms of engagement (Leman, 2019).

The role of tempo is understood to be an influence on the speed of the actions one employs to comprehend music (Franek, Noorden, and Rezny, 2014), whilst rhythmic patterns can both signify types of movement (Tagg, 2013) and encourage mimetic responses via embodied attuning (Cox, 2016; Leman, 2019).

Throughout the process of data collection in the present study, it became apparent that many of the teachers' interpretations of engagement in the classroom involved children's movement-based responses to music. Fifteen teachers mentioned movement in relation to engagement. A selection of

broad statements by participating teachers which highlight their perception of the importance of movement within musical engagement are below:

I think that movement is really crucial. (...) Focused listening for me is focusing with an active body that is responding in appropriate ways to what they are listening to. – Teacher O

I think movement is a really key thing to focus, to get children engaged. And that's something ... I do a lot with younger children. In terms of, particularly, you know, when we're singing, (...) there won't be a time where we're singing and sat still. At any point, you know, they will always be (...) moving, even if it's literally just, you know, swaying to the pulse. – Teacher G

I'd say everything they do is either jazzy or poppy feeling. Okay, but it might have, like, an Eastern sound to it, but it's still got pulse. So, this movement thing is actually key, isn't it? (...) That idea of getting the internal pulse. – Teacher P

Teachers O, G, and P referred to movement as being 'crucial', or 'key' to engagement. Whilst according to Brown's (2015) creative modes of engagement, such movement-based responses fit into the *embodied* mode, and into the broader engagement heading of Johnston's (2018) *behavioural* type, the comments also suggest further modes of engagement. In Teacher O's comment, *embodied* engagement during movement coexists with 'focused listening': a form of Brown's (2015) *appreciative* engagement. Whilst embodied engagement may be at the core of much musical participation, the data suggests that it need not exist in isolation and that it could also encourage further forms of engagement, in the same way as behavioural forms of engagement have been found to promote cognitive engagement outside of music education (Li and Lerner, 2013).

The comments by Teachers P and G described movement as ‘key’, before relating it to children ‘getting the internal pulse’ and ‘swaying to the pulse’. These comments directly related movement-based responses to pulse: an attribute that is present throughout music, but which can be emphasised or diminished according to rhythmic and dynamic characteristics. Pulse-based responses are explored in this chapter, alongside other forms of engagement – movement-based and otherwise – that are related to rhythm, tempo, and metre.

4.1.1. Types of Music-Inspired Movement

Due to the well-documented connections between rhythm, tempo, and movement (Cooke, 1959; Middleton, 1990; Machin, 2010; Tagg, 2013), as well as the evident importance placed on movement by Teachers O, G and P alongside further participants, movement-based responses to music form a large part of the analysis of attributes of rhythm. The variety of ways one can move with music have been constructed into a typology of music affordances by Rubén Cano (2006). Cano (2006) splits movement-related consequences of music into two types: Manifest Motor Activity, and Covered Motor Activity. Manifest Motor Activities are visible external movements, whilst Covered Motor Activities are non-visible, taking place in the imagination or inside the body (e.g. a quickening heart rate). In this chapter, Manifest Motor Activities are of predominant interest, due to the ability for teachers to witness them and their prominence throughout participants’ identifications of behavioural engagement. According to Cano’s (2006) typology, Manifest Motor Activities include:

Non-musical movements and postures	Gesticulations of non-musical origin which are developed by performers and listeners to accompany particular music or styles of music.	
Paramusical movements	General basic synchronisation	Foot, hand, fingers, head, or another body part moving with a metric aspect of the

		music.
	Kinetic and postural activity related to musical genres	Moving in a way specific to the genre of music, e.g., 'headbanging' to heavy metal.
	Executant mimesis	Imitating the actions of playing musical instruments, other sound-producing actions, or acting as 'conductor' with the music.
Ritualisation	Movement and music together as part of a more complex activity, such as a game. Also, strict co-ordinated movements as part of a formal ritual.	
Dance	A complex symbolic activity, interacting intersemiotically with music.	

(Adapted from Cano, 2006)

Cano (2006) emphasises how each listener finds in a piece of music certain possibilities for response and not others, stating that this can vary in accordance with biological, physiological, circumstantial, cultural, contextual, and other constraints. However, despite the relational nature of responses to music – also called 'affordances' (Cano, 2006; Clarke, 2005) - it is understood that musical material can be conceived as suited to some actions, but not others (Clarke, 2005). For this research, that is of interest as the musical attributes which are conducive to *embodied* engagement are sought to be identified.

In Cano's (2006) typology, direct physical engagement with any of the musical features is limited to:

- 1) synchronisation with 'metric aspects' (p. 5), i.e. the beat or accents, 2) imitating the actions required to play musical instruments, and 3) movements that are genre-specific, such as headbanging.

More recently, Leman (2019) has argued that the type of engagements which Cano (2006) describes as 'general basic synchronisation' (p. 5), can act as an entry towards the physical engagement with more complex musical features that exist within the music. Cano's (2006) further music-related movement types - ritualisation and dance - are described as a part of another activity and a symbolic activity respectively, which suggests engagement with co-existing extramusical elements. However, Leman (2019) argues that, beyond 'general basic synchronisation' (Cano, 2006), movement-based engagement can align with rhythmic, melodic, and harmonic features. He describes movements such as these as 'embodied attuning' (p. 115).

Whilst seeking to identify which musical attributes primary music teachers have identified as engaging, the following attributes of tempo and rhythm are identified within the data as influential to the concepts of both general basic synchronisation and embodied attuning in 7- to 11-year-olds:

- 1) Utilisation of Children's 'Familiar' Tempo and Changes of Tempo
- 2) Syncopation,
- 3) Cyclic Rhythmic Patterns, and
- 4) Rhythmic Simplicity

Although embodied, behavioural engagement (Brown, 2015) acts as an element within all of these, there are further types of engagement suggested throughout both data and literature in relation to each of the above categories. These are explored in the corresponding sections below.

4.2. Extramusically Familiar Tempo and Tempo Changes

The idea that tempos familiar to many upper-primary school children – exhibited through movements such as walking and running – can be utilised in the classroom to foster engagement and

musical progression has been considered since the early twentieth century by pedagogues Carl Orff (1978) and Emile Jaques-Dalcroze (1921).

The Orff approach (Frazee, 1987) involves the understanding that music, movement, and speech are interrelated, each with rhythm in common (Zachopoulou, Derri, and Chatzopoulos, 2003). Walking, skipping, running, and hopping are encouraged in the Orff classroom as children are asked to match their movements to the rhythms they hear, or play a rhythm which matches a movement (Zachopoulou, Derri, and Chatzopoulos, 2003). To facilitate emotional, behavioural, and cognitive engagement, it is understood that the speed of music within activities such as these must render desired learning outcomes achievable for the children (Woody and Fredrickson, 2000; Fillips, 2005).

Dalcroze pedagogy involves the utilisation of children's familiar repertoire of movements and seeks to expand it through gradually advancing musical exercises (Zachopoulou, Derri, and Chatzopoulos, 2003). Tempo is one of the first skills taught by Dalcroze teachers, taught through movements, often relating to animals (Fillips, 2005). This technique was also highlighted by Teacher F, without reference or an explicit relation to Dalcroze, as something which encouraged children to be explorative, as is shown in the comment below:

I said (...) think of an animal, create some music to describe the animal ... Does it run quickly? Or does it walk slowly? And they had to really think about the dynamics. and the tempo as well. And (...) there's some really inventive creations. Some had actually done (...) two tunes in one (...) This is this is my rabbit hopping around, and in the fox, stalking it (...) they're able (...) put narrative with it as well, which is really good.– Teacher F

In activities such as the one described by Teacher F, music educators can consider the existing knowledge, and physical and cognitive limitations of Key Stage 2 children, seeking to start at where

they are at, before developing their skills and knowledge through music (Fillips, 2005). Some exercises involve asking the children to follow music that is improvised by the teacher using familiar movements, such as walking for those who are able, whilst others encourage children to make independent decisions (Zachopoulou, Derri, and Chatzopoulos, 2003) and thus facilitate Brown's (2015) explorative and directive modes of engagement (detailed in chapter two).

A specific Dalcroze-based activity involves encouraging children to walk with crotchets and to run with quavers (Mead, 1986). The use of walking and running to teach pupils the difference between minims, crotchets, and quavers was highlighted as a 'favourite' activity amongst pupils by Teacher I, as is shown in the interview extract below:

They like the physical stuff. So early on, the fact that we do those movements with rhythms, so you know, how crotchets are walks and minims are strides. When they get used to that, they love that kind of group work: working rhythms out with their body. – Teacher I

Teacher I, whilst not identified as a Dalcroze or Orff teacher, describes a movement-based, teacher-led activity that is followed by self and peer-led learning. Their statement that children 'love ... working rhythms out with their body' coincides with literature relating to Orff (Frazee, 1987) and Dalcroze (Juntunen, 2016) which emphasises the importance of physical movement for musical enjoyment and understanding. Teacher I also describes using music which contains rhythmic notation that they can comprehend visually: this is explored further in the later section on cyclic and simple rhythms. However, regarding tempo, it is understood that for activities such as walking and running to crotchets and quavers to work, music must be at an appropriate speed: one which facilitates gross motor movements (Juntunen, 2016).

Research with adults who learn using the Dalcroze approach has shown that music which is at a

tempo that is comfortable can encourage a feeling of being 'right' and foster enthusiasm to learn (Alperson, 1995). This has also been theorised as true of children's musical learning (Juntunen, 2002). Whilst 120bpm has been established as the average walking pace tempo for adults (Moelants, 2002; Leman, 2019), Martha Juntunen (2020) has highlighted how children walk at a significantly faster pace, also pointing out that children achieve synchronicity with more consistency and accuracy when the tempo of music is closest to their own walking tempo.

To identify children's natural tempo, teachers using a Dalcroze-inspired approach often encourage children to walk, due to how it is an 'inborn, strong, and steady rhythmic movement' (Juntunen, 2016, p. 144). Teachers can then use the tempi demonstrated by children in their movements as an indicator of appropriate pulse, for use for music that is improvised by themselves in the classroom. The ability to improvise music in lessons is expected of Dalcroze teachers (Juntunen, 2016). This can be demanding on the teacher as they must simultaneously be aware of and follow students and their movements, whilst playing, and also considering how their improvisations can 'evoke, support, or effect a change in the movement' (Juntunen, 2016, p. 150).

Teacher G described beginning movement-based musical activities with teacher-led improvisations before taking 'cues' from the children in the interview extract below:

You know, get them to kind of move how they think they should move to the music and then kind of, take it, take cues from them ... that tends to work better a bit more with some of the older children than younger ones. – Teacher G

The idea of utilising the teacher's own musicality, to the extent of taking physical cues from children which inform the teacher's tempo-related decisions is also highlighted by Teacher O in the following comment:

I just start vamping in a minor key [sings] boom ching, boom ching ... they start to tap, and it's a bit chaotic to begin with. And then I deliberately slow it down and give a really heavy bass beat. And then before they know it, they've got the pulse with me. And then I take it and then I start to put an accelerando in and they're going with me. And then I feel they're going a bit crazy. They're going beyond what I'm playing. So I take it right back again. Yeah. And, then yeah, back into my slow groove ... and then we will discuss it afterwards. – Teacher O

Teacher O describes beginning with a medium tempo before slowing it down and emphasising bass notes which align with the slow pulse. As she speeds up, children become excited, which at some point causes them to lose the pulse. As she takes it back down again, children return to synchronisation. As well as reinforcing that tempo-related musical choices which are partially led by children can encourage embodied engagement, Teacher O highlights the importance of changes of tempo throughout musical activities which seek to foster an understanding of tempo and pulse. What Teacher O described can be coded into the three general forms of engagement (*active emotional*, and *cognitive*). Active engagement takes the form of tapping, emotional engagement is in the excitement prompted by an accelerando, and cognitive engagement presents itself as children are encouraged to reflect on the musical activity during a discussion.

Literature relating to Dalcroze pedagogy (Anderson, 2012; Findlay, 1995; Juntunen, 2016) argues that varying tempi can augment rhythmic experience, whilst unconsciously developing pupils' understanding of the relationship between tempo and musical expression. It has also been argued that changes of tempo can prevent boredom in children and that flexibility in this regard, on the part of the teacher, can increase children's attention within activities (Geist, Geist, and Kuznik, 2012). This phenomenon was described by Teacher 1 and Teacher K in the following interview extracts:

I think tempo wise, I'll aim for the fast, exciting stuff, because they like that, but also playing around with tempo (...) it develops all sorts of, you know, the internal sense of timekeeping and moving visually, showing the tempo through the way you move. – Teacher 1

So, I give them the tempo, and I count for them so they can follow it ... we say now we play very slowly. And they all play very slowly. Now, we play very fast, and they start playing fast on their percussion instruments. They love that. Yeah. When it's fast, they love it (laughs). –

Teacher K

Both Teacher 1 and Teacher K highlight the importance of contrast for continued engagement and its resulting understanding. Teacher 1 emphasises how embodied engagement in the form of moving to the music encourages an understanding of tempo and Teacher K uses percussion instruments to teach tempo. They also describe, as Teacher O did, how tempo increases can facilitate feelings of excitement in the children.

That tempo increases can induce excitement and feelings of pleasure in listeners has been documented across neuroscientific and psychological literature (Gómez and Danuser, 2004; Meng *et al.*, 2020; Thaut, 2005; Turrell, Halpern, and Javadi, 2021). Excitement can be characterised by physiological increases in heart rate, skin conductance, and breathing speed (Gómez and Danuser, 2004). The phenomenon of excitement as a response to a tempo increase was described by Teacher C, who used Grieg's (1875) 'In The Hall of The Mountain King' as an example, whilst Teacher F related the phenomenon to a body percussion pattern which grew faster and faster in alignment with 'Dance Monkey' by Tones and I (2019). Exact quotations from the teachers are shown below:

I created a body percussion pattern to go with that tune (Dance Monkey) ... Stomp stomp click click, stomp stomp clap, stomp stomp clap, stomp stomp clap, stomp stomp click click,

stomp stomp clap, stomp stomp clap, stomp stomp clap. And they enjoyed it, I think when it got really fast. The first bit, that was easy. That was fine. And then the challenge was to try and keep up with it when it got faster and faster and faster. – **Teacher F**

'In The Hall of the Mountain King', it gets faster, they love that.

– **Teacher C**

The above interview extracts demonstrate teachers' perception of an increase in emotional engagement – in the form of appreciation – in response to increases in tempo. The quotations also suggest that children become physically engaged with the challenge of *accelerando* and also appear to be more cognitively engaged as they respond to the challenge. In Lori Custodero's (2005) work exploring flow in the music classroom, detailed in chapter two, she describes 'expansion' (p. 194) as an indicator of challenge-seeking immersion – active, embodied, appreciative, and directive engagement – in musical learning. In Teacher F's comment, they describe the challenge of keeping up with music as the tempo increases, whilst Teacher C expresses that children 'love' the challenge of keeping up with an increasing tempo. Custodero (2005) also describes anticipation and extension as indicators of immersion of this kind, with anticipation involving the prediction of what is to come, and extension as continuing to engage with material after the teacher has finished. Both the quotations above and the extract below, from Teacher D's interview, illustrate that tempo increases can encourage continued engagement in the form of flow, as described by Custodero (2005).

Yeah, they do love to play fast. Absolutely ... if someone says to me, 'I've been practising this, look how good it sounds', it means they can play it four times faster than it's supposed to. That's their definition of being good at something, just like winning a race. But in my lessons, I do a lot of slowing down. – **Teacher D**

In this comment, Teacher D also emphasises how engagement of this type is not always conducive to the desirable musical outcomes, highlighting the need for the teacher’s intervention and reinforcing Teacher O’s earlier comment about the importance reducing the tempo following an accelerando.

Whilst the feeling of excitement could be interpreted as emotional engagement in itself, as well as an influencer of behavioural and cognitive engagement, it is important to consider that, as stated by Teacher O, too much excitement can be detrimental to a learning experience. For this reason, considered changes in tempo are crucial to a maintained emotional, active, and cognitive experience of engagement with attributes of tempo.

The attributes described above: extramusically familiar tempo, tempo changes, and gradual increases in tempo, each encourage engagement in different ways. Figure 5 below demonstrates how each of these attributes relate to Brown’s (2015) modes of musical engagement and the well-established general types of engagement.

Figure 5 – Table Linking Attributes of Tempo to Modes of Engagement

Attribute of Tempo	Main Mode(s) of Musical Engagement	Engagement Type(s)
Extramusically Familiar Tempo (e.g., walking/running speed or animal-related tempo)	Embodied, Appreciative, Directive, Explorative	Behavioural, Emotional
Sudden Tempo Changes	Embodied, Appreciative, Evaluative	Behavioural, Cognitive
Gradual Tempo Changes	Embodied, Appreciative, Evaluative, Directive	Behavioural, Emotional, Cognitive

Figure 5 shows the use of extramusically familiar tempo as connected mostly to Brown's (2015) embodied, appreciative, and explorative modes of engagement. Whilst the embodiment refers to the children's intuitive movements which relate to music, the appreciation occurs as they act as audience members, paying attention to the sounds heard; often those which are improvised by the teacher. Exploration also occurs as children respond to prompts such as impersonating animals – as described in relation to Dalcroze pedagogy (Fillips, 2005) – that are known to them, in a musical way as the rhythm is allowed to naturally occur through movements made. Directive engagement coincides with this, as children craft and lead their creative activities (Brown, 2012). Each of these are examples of behavioural engagement: defined as the participation and involvement in activities (Fredricks, Blumenfeld and Paris, 2004). However, positive emotional engagement: the mood-based responses that affect children's willingness to participate (Fredricks, Blumenfeld and Paris, 2004) is also evident, as teachers reference their pupils' 'love' and enjoyment for such activities.

Sudden tempo changes are shown in Figure 5 as mostly linked to embodied and evaluative engagement (Brown, 2015). This is due to the movement-based responses described by participants, as well as the use of reflective discussion following such activities, as highlighted by Teacher O. Embodiment is present again as children move to music played by the teacher. Evaluative engagement, Brown (2012) states, involves judgement. As pupils discuss as a class which musical changes have occurred, evaluative judgement is occurring. As ~~was~~ highlighted in the literature review, pupils who are engaged in musical evaluation are, by nature, also attending to or appreciating the music (Brown, 2012). The evaluative engagement associated with sudden tempo changes is also a form of cognitive engagement, for which thoughtfulness is a factor (Fredricks, Blumenfeld and Paris, 2004). Behavioural engagement is evident once again, as the activities which align with sudden tempo changes as an attribute involve active participation.

Gradual tempo changes are also embodied as well as directive, as pupil-led movement is at the core of described activities relating to music with an *accelerando*. Appreciation is also apparent here, as excitement as a result of the tempo increase is both described by teachers and theorised about across literature (Gómez and Danuser, 2004; Meng *et al.*, 2020; Thaut, 2005). There is strong potential for evaluation, particularly if children are encouraged to discuss the changes following the musical activity. Combined, the types of musical engagement potential of gradual tempo changes also fit into all three engagement types: emotional, behavioural, and cognitive. Emotional engagement can occur due to the physical response of excitement associated with an *accelerando*, which can be accompanied by physical participation. Cognitive engagement can occur as such activities are encouraged to be reflected upon.

As well as exploring how the use of extramusically familiar tempi and both sudden and gradual tempo changes can influence engagement in 7- to 11-year-olds, this section has highlighted how children's preferred tempo and walking speed is higher than adults (Juntunen, 2020), therefore suggesting that the preferred tempo for synchronisation with the pulse for 7- to 11-year-olds is above 120bpm. What has become clear through the analysis of data collected alongside existing theory are the modes of Brown's (2012, 2015) meaningful engagement which can be activated through tempo-related attributes, as well as into which broader types of engagement these fall.

4.3. Syncopation

Syncopation is another feature that is understood to encourage the desire to move in listeners (Witek *et al.*, 2014). Characterised by accented notes or percussive parts which are off the beat (Tagg, 2013), it is thought that the urge to dance in a way that synchronises with the pulse of a piece is elicited when syncopation levels – particularly in percussive parts – are at a medium level (Witek *et al.*, 2014). It has also been demonstrated through neuroscientific research that unconscious

movements which synchronise with the pulse during syncopated drumming parts involve the torso and limbs, whilst hand movements are often more complex and indicate deliberate engagement with other musical attributes (Burger *et al.*, 2013).

Witek *et al.*'s (2014) research demonstrated how medium degrees of syncopation elicited a desire to move via an inverted U-shaped graphic analysis. The inverted U-shape was also present regarding participant-rated experiences of feeling pleasure when listening to syncopated rhythmic examples. Witek *et al.*' (2014) suggest that the experience of pleasure could occur due to the fulfilment of a desire to move. The growing evidence of a relationship between syncopation, movement, and pleasure indicates that Brown's (2015) embodied, directive, and appreciative modes of engagement can be activated via syncopated rhythmic parts.

Why the desire to move is elicited by syncopation has also been considered by Maria Witek (2017). Witek (2017) suggests that by emphasising off-beats, syncopated rhythms can invite listeners to 'fill in' beats which would ordinarily be emphasised. Witek (2017) argues that by filling in the gaps in time that are created by syncopation, the listener's body becomes a part of the musical structure, which 'affords a participatory pleasure' (p. 138). Witek (2017) describes participation through synchronised movements such as clapping, tapping, or stepping to the pulse as indicative of the 'entrainment' (p. 143) of both attentional and motor processes, with the rhythmic processes that occur in the music.

Whilst entrainment is explored further in the following section of this chapter, Witek's (2017) idea that pulse-based movements to syncopation occur as a result of a desire to 'fill in gaps' suggests that it is conducive to Brown's (2015) embodied engagement: spontaneous physical participation. The pulse-based movements which can occur due to syncopation also fit into Brown's (2015) *directive* mode of engagement as children lead themselves, whilst *appreciation* is implicit in audience-based

experiences such as dancing. Personal meaning is also implicit in the children's self-direction, whilst the idea of entrainment also suggests that social meaning (Dillon, 2006; O'Neill, 2015) can contribute to each of these forms of engagement, as children achieve synchronisation, through engagement with syncopation, within the social context of the classroom.

Beyond Brown's (2012, 2015) modes of engagement, pulse-based movements which occur due to syncopated rhythmic parts are also indicative of active and emotional engagement. Active, through musical participation, whilst emotional due to the apparent pleasure experienced by pupils during such participation. In the interview extracts below, Teachers B and I offer examples of pieces which appeared to be irresistible to their classes in terms of pulse-based synchronised movements.

Oh well things like 'Happy', yeah, that sort of thing that always goes down well ... anything with a good drum-beat, really, they can nod along to. – Teacher B

You know, [sings] Everybody Dance Now! ... Oh, my goodness. As soon as you play as soon as you play something like that they're off. And (...) it's not just because they recognise it. Because they do that with other pieces too (...) a Cuban Christmas song recently and it's a piece of salsa music, so there's lots of percussive elements in it (...) yeah, some just can't - some will just sit there, but some just can't help move. And you can tell they really internalise that pulse even if they're at the point where they don't even know what a pulse is. – Teacher I

In the mentioned examples: 'Happy' by Pharrell Williams (2013) and 'Gonna Make You Sweat' performed by Bob Sinclair (2006), syncopation is present as a key feature in the music. In 'Happy' (Williams, 2013), the drumbeat – highlighted as important by teacher B – has a syncopated kick drum on beats 2, 3, and 4. It also features nothing but the open hi-hat on beat 3, whereas beat 1 has a kick, clarifying where each bar begins.

Figure 6 – ‘Happy’ Drum Beat

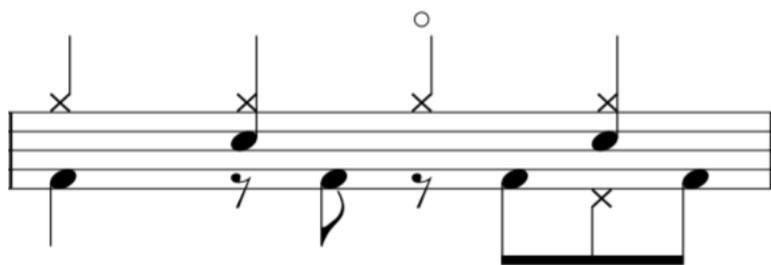


Figure 7 – ‘Gonna Make You Sweat’ Rhythmic Hook



In ‘Gonna Make You Sweat’ (2006), both a percussive and melodic hook occurs in the syncopated rhythm, shown in Figure 7 above. As with ‘Happy’ (Williams, 2013), beat 1 is emphasised, whilst beats 2, 3, and 4 come in on the off-beat. Similar to ‘Happy’, these syncopated parts could invite listeners to fill in gaps through pulse-synchronised movements, as is theorised by Witek (2016), whilst, by staying on the beat, beat 1 clarifies the beginning of each bar to establish cyclicity (explored in the next part of this chapter). Strengthening the suggestion that it is the syncopated rhythms which elicit the movement-based responses in 7- to 11-year-olds, Teacher I stated that there was a Cuban piece of Salsa music, typically characterised by syncopated percussion¹⁰, which had a

¹⁰ Cuban music is characterised by syncopated rhythmic parts – often played on claves – in the form of accentuation, additive groupings, silent downbeats and anticipations (Rey, 2006). Salsa also uses syncopated rhythmic parts, played on claves, to facilitate dancing (Fitch, 2016).

similar effect in her experience of teaching this age group. This phenomenon was also highlighted in the below comment, by Teacher G.

*I think it is the syncopation (...) we start from a kick drum on beat 1 and 3 and a snare drum on 2 and 4 (...) and then we might put in kind of like a syncopated, hi hat or something, then all of a sudden they're like, 'Oh, yeah! Okay, this is, this is, like a cool beat that we can move to now!' So yeah, when you kind of start syncopating, things like that. I don't know. It's just, I guess that's, you know, the success of Latin American music and, you know, crossover, things like this Despacito kind of things like that, you know, people like to dance to it is just kind of, it is just engaging and kind of catches your attention, doesn't it? – **Teacher G***

Whilst the pulse-based movements described by Teachers B, I, and G and theorised about by Witek (2016) fall into Cano's (2006) *General Basic Synchronisation* category, both literature and interviews also suggest that syncopated rhythmic parts can contribute to what Marc Leman (2019) describes as *embodied attuning*. It has been argued by Leman (2019) that all movement-based responses to music respond to the perception of movement within music, and that the sound energy of auditory beats affects the body's motor system. Leman (2019) also highlights how synchronised movements – such as those evoked by syncopated parts – are often involuntary and require little cognition, making them one of the most basic forms of musical engagement (Leman, 2019). However, he also argues that this basic form of engagement can pave the way for more advanced movement-based involvement with music, which can in turn encourage more advanced musical understanding. Embodied attuning is a level above basic synchronisation, whilst empathy is a higher form of musical engagement (Leman, 2019).

In Teacher G's comment two paragraphs previously, all five of Brown's (2015) modes of engagement are described, through an activity involving the composition of syncopated drum parts. Figure 8

below demonstrates how each mode was achieved in the teacher’s report of this music-making activity, and how they relate to broader engagement types as well as personal, social, and cultural meaning-making.

Figure 8 – Modes of Meaningful Engagement in Teacher G’s Syncopated Sequencing Activity

Element Described in Sequencing	Mode(s) of Meaningful Engagement	Type of Meaning
Activity Involving Syncopation		
Using sequencing software to create syncopated beats	Explorative, directive	Personal
Spontaneous moving to syncopated beat	Embodied	Personal, Social
Reflection on syncopation’s relationship with movement	Appreciative, Evaluative	Personal, Social, Cultural

Figure 8 evidences the potential for the use of syncopation within creative music-making activities. Syncopation helped the creative task itself to be both explorative and directive: explorative due to its open-endedness and directive due to the pupil’s control over the outcome. Figure 8 also demonstrates how the use of syncopation can relate to appreciative and evaluative engagement (Brown, 2015), as is evidenced in Teacher G’s ‘This is a cool beat we can move to’ comment. Brown (2012, 2015) defines evaluative engagement as the consideration of a song’s meaning and affordances. By recognising its potential for movement-based responses, this is evident in the pupils’ apparent comments, such as ... The same comment also suggests embodied engagement, as to say ‘we can move to’ the music implies that one has experienced the spontaneous movements required for embodied engagement.

Figure 8 also describes the types of meaning that can be associated with each of the elements of creating syncopated beats as a music-making activity. The act of creation itself is defined as having personal meaning, as the creative task is characterised by the individual's immersion (Dillon, 2006). Moving to the beat is described as both personal and social, as this immersion is accompanied by a physical response that can be shared with others, whilst the reflection on this has the potential for cultural meaning as wider associations can be considered (Dillon, 2006).

Teachers G and I also both flagged Latin American rhythms as a notable example of syncopation. Latin American Rhythms were highlighted again by teacher 1 relating to percussive activities including djembe drumming¹¹ and body percussion¹² and by Teacher L regarding singing and instrumental playing. The interview extracts below detail Teacher 1's experiences of syncopated percussion-playing in the classroom using both drums and the body, as well as Teacher L's experiences of appreciative and embodied engagement related syncopated, Latin American rhythms in the classroom.

With Key Stage two classes, we often do Samba reggae, which has a little bit more of a kind of a ... yeah, offbeat thing going on ... rhythms that kind of relate to each other and converse with each other clearly. So it's not too mystifying. You can get a nice groove going quite quickly. – Teacher 1

The rhythm (...) in the word is quite catchy. 'Hey, Mambo, Mambo Italiano.' So, you've got that kind of swing, but a syncopation in there ..., it's, I think it's a nice kind of catchy, catchy piece of music. – Teacher L

¹¹ Djembes are a traditional African drum played with the hands (Anderson, 2010), often used in the primary music classroom (Nkosi, Niekerk, and Muziki, 2017).

¹² Body percussion is a classroom music activity which involves using the body as an instrument, for example stamping, clapping, or clicking (Naranjo, 2013).

What is evident in each of the above quotes is that syncopated rhythms are taught and learnt aurally in the classroom. In a large, in-depth study into children's natural musicality, Patricia Campbell (2000) evidenced how 'rhythmicising' (p. 34) amongst school-aged children could often musically surpass what could be taught in the classroom. This suggests that, for syncopated rhythms to be successfully utilised as a tool for encouraging engagement, they must be taught by ear and without a reliance on – or requirement for – accompanying notation. In the interview extract below, Teacher O points out how the use of syncopation might be difficult for primary school music teachers who lack confidence: a well-documented phenomenon (Cooper, 2018; Daubney *et al.*, 2019; Hennessy, 2013; Zeserson *et al.*, 2014). However, it could be that the new knowledge that this study offers regarding how attributes including syncopation can relate to experiences of engagement, could inspire confidence in teachers who have previously experienced a lack in this area.

If you are less confident in your music teacher delivery, you're going to go for the more obvious, you know, 4/4 time, and, you know, nicely on the beat. You're probably not going to want to tackle syncopation too much. – Teacher O

Whilst samba drumming and body percussion activities were described by teachers as examples of aural learning and exploration, engagement as pulse-based synchronisation was understood to evoke a largely unconscious embodied response. One potential issue that could occur when using syncopation as a tool for engagement in the classroom is the pupils' ability to read what they have played using traditional notation in the form of a score. This is a skill which many teachers prioritise (Kelly-McHale, 2013).¹³ In the previous part of this chapter, Teacher I described using simple notation consisting of minims, crotchets, and quavers in order to allow children to work out and read rhythms

¹³ Notation literacy has been identified as the key focus of 'formal' music education (Hess, 2020).

using their body. However, in the case of syncopation, children can often play rhythms that are more complex than those they are able to read (Campbell, 2010), thus removing an element which is often considered to be an essential aid to both achievement and understanding (Coss, 2019; Kelly-McHale, 2013).

As an alternative to notation for the purpose of both grasping and retaining syncopated rhythms, Teachers J and L described using language as a tool. This is shown in the interview extracts below:

I like grapes. I like pomegranates. I like grapes. I like pomegranates. Then the violins go, I like to eat bananas, apples or mangoes, too. – Teacher L

We put some words to help them remember the rhythms of the accompanying part. It could be 'I play the G chord, I play the G chord' ... kind of instilling the idea of chanting what they're going to be singing or playing, to kind of instil it ... even for teachers! – Teacher J

The comments by Teacher L and J emphasise how language can add a layer of accessibility to the rhythmic learning process. This, like movement, is also associated with the Orff *Schulwerk* (1978) strategy to learning music. Orff-inspired teachers often use words to not only establish purely rhythmic properties, but dynamic attributes such as accents, as well as inflection and intonation (O'Herron, 2006). Pupils are also encouraged to pat or tap a steady pulse, whilst using their hands to play the rhythms of words and phrases, either on their body or a percussion instrument (O'Herron, 2006).

Another proposed reason for children's engagement with syncopated rhythms has been its relation to hip-hop culture (McCord, 2013). It could be the case that cultural meaning (Dillon, 2006; O'Neill, 2015) contributes in some cases to children's appreciative and evaluative musical engagement

(Brown, 2015). However, it is also evident throughout Witek's (2017) argument, as well as across previously mentioned scientific literature and within data collected for this study, that there is an embodied explanation for responses to syncopated rhythmic patterns which can exist regardless of cultural association.

Further theoretical understanding from Witek *et al.* (2014) highlights how, for the desire to move and its associated experience of pleasure to occur, syncopation must exist as an element of 'groove'. In order to become grooves, syncopated rhythms must, by definition (Tagg, 2013), be both short and repetitive. In the following section of this chapter, the roles of rhythmic cyclicity and simplicity are explored. Afterwards, a summary of the compilation of rhythmic attributes which primary school music teachers have identified as engaging are presented and aligned with with Brown's (2015) modes of creative engagement, as well as behavioural, emotional, and cognitive engagement types (Johnston, 2018).

4.4. Cyclicity and Simplicity in Rhythmic Patterns

Two further rhythmic features that were identified as engaging throughout interviews with teachers were *cyclicity* and *simplicity*.

Cyclicity refers to rhythms which contain repetition of both phrasing and accentuation (Krueger, 2014). Whilst rhythm, by definition, contains repetition (Simons, 2019), what makes a rhythm *cyclic* is its recurring accentual placements (Krueger, 2014; Windsor and Bezenac, 2012). This feature is often associated with movement-based responses (Krueger, 2014; Windsor and Bezenac, 2012) and has been linked to musical learning experiences (Richmond *et al.*, 2016). The second feature, simplicity, refers to rhythms that are both short and manageable for children to comprehend in notated form. Whilst this can appear to contradict the previous section on syncopation, it relates to

engagement differently in that *evaluation* and *direction* are prioritised over *embodiment*. Simplicity characterised by brevity of rhythmic patterns is argued by Cox (2016) to contribute to ‘danceability’ (p. 14) and has been described in pedagogical literature (Zachopoulou *et al.*, 2003) as appropriate for children’s creativity and learning.

In the musical examples: ‘Happy’ (Williams, 2013), ‘Gonna Make You Sweat’ (Williams, 1990; Sinclair, 2016) and ‘We Will Rock You’ (Queen, 1977), both cyclicity and simplicity were present in the rhythmic parts. Figures 9, 10, and 11 below demonstrate this:

Figure 9 – ‘Happy’ Drum Beat

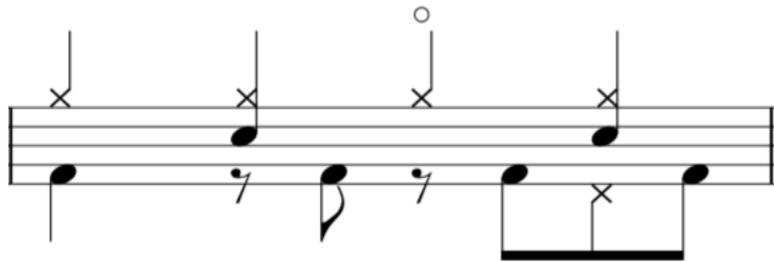


Figure 10 – ‘Gonna Make You Sweat’ Rhythmic Hook



Figure 11 – ‘We Will Rock You’ Body Percussion Part



Stamp Stamp Clap

In both *Happy* (Williams, 2013) and *We Will Rock You* (Queen, 1977), the percussive parts are repeated exactly throughout the song. There is a brief break in *Happy*, at 1 minute 43, where the drum part is removed for 16 bars, making way for the clapping parts and bass guitar to hold the rhythm. However, upon its return at 2 minutes 08, the drum part remains identical. In *We Will Rock You* (Queen, 1977), the body percussion part remains the same throughout.

Gonna Make You Sweat (Williams, 1990; Sinclair, 2016) has a busy percussion part running throughout. However, there is a simpler cyclic rhythmic – and also melodic and harmonic – hook repeated in the song, which is played on synths as well as bass guitar. This repetitive hook disappears and reappears throughout the song, occasionally reappearing partially which works to build anticipation (Gebauer, Morten, and Kringelbach, 2012).

Both cyclicity and simplicity are experienced in each of the three rhythmic hooks above. Descriptions of these two attributes, and the ways in which to contribute to experiences of musical engagement are explored in further detail in the paragraphs to follow.

4.4.1. Rhythmic Cyclicity

For syncopated rhythms such as those explored in the previous section of this chapter to be considered as ‘grooves’, they must be both short and cyclic (Tagg, 2013; Witek, 2016). Repetition is understood to be a key component of ‘groove’ and crucial to the movement-based effects that

grooves can have on listeners (Tagg, 2013; Witek, 2017). Witek *et al.* (2014) have argued that the physical experience of groove relies on the predictability facilitated by repetition, which makes continuous synchronisation possible. Tagg (2013) has also highlighted how, for something to be experienced as a groove, it must usually last no more than a couple of seconds. Tagg (2013) states that this combination of syncopation and repetition produces most obvious feature of music which relates to gross-motoric movements, such as dancing and step patterns.

Repetitive rhythm parts are common across popular music (Attas, 2015; Julien and Levaux, 2018).

However, they are particularly prevalent in music designed for the dancefloor (Butler, 2006).

Electronic dance music is characterised by repetition in the form of looped drumbeats (Butler, 2006), which Mark Butler (2006) argues are not only heard, but felt and 'enacted through bodily motion' (p. 91). As well as repetition, Butler (2006) highlights how the prevalence of bass drum parts contribute to the embodied engagement in dance music, emphasising this by pointing out how 'breakdowns' – short sections of music which have the bass drum removed – are followed by physical engagement with higher energy, when the bass drum returns. This has implications for timbral qualities, which are explored in chapter five.

As well as encouraging embodied, active engagement via movement, repetition in dance music has been considered to have the potential to contribute to cognitive activity (Lovink, 2015). Geert Lovink (2015) highlights how dance music such as trance and techno can, through repetition, expand the mind of the listener as they encourage the hyper-awareness of subtle differences and the consideration of the same sound in differing ways. Lovink (2016) considers adults who engage with electronic dance music and its associated lifestyle choices, including drug use to enhance experiences of stimulation and ecstasy. However, the potential of repetitive rhythms to evoke the reflective consideration of sounds could be transferred to children's own joyful experiences of music with this feature (Makina, 2009).

Repetition is also present in much children's music, due to a developing understanding of how it can encourage such joy (Makina, 2009) as well as confidence (Benari, 2014) in the elementary stages of development. Blandina Makina (2009) argues that children respond to the pleasurable feeling of repetitive rhythms, particularly when they are percussively participating themselves. Considering confidence, Naomi Benari (2014) explores how to train deaf children to dance, and as part of her theorising states that children are happy to repeat sequences 'over and over again' (p. 6) as their confidence builds as a result, inspiring a feeling of pleasure.

This association of dancing to repetitive rhythms with feelings of pleasure suggests that the embodied engagement encouraged by cyclicity can also pave the way for appreciative, emotional engagement. This feeling of pleasure in response to repetitive rhythmic parts was highlighted by Teachers B and 3 in the interview extracts below:

The simple chord progressions are the ones that get them because it's repetitive and usually quite singable. – Teacher B

It just goes, 'you've got to have bones to hang your body on, you've got to have bones to hang your body, you gotta have bones to hang your body on. That's what bones are for.' And you repeat it. And the last line goes, 'if you didn't have bones to hang your body on, you'd be a big blob of jelly on the floor.' And it's a funny ending, and then collapses ... They love that, so, repetition. – Teacher 3

In the comments above, singing was also referenced. This is explored further in chapter six, however, rhythmic repetition is also highlighted by both teachers as a contributor towards the accessibility of

sung parts. According to Brown's (2015) creative modes of engagement, to sing could be *embodied* – when it is spontaneous, *directive* – when it is led by the pupil, or *explorative* – when it is improvised and creative.

As well as *embodiment* and *appreciation*, the combination of cyclicity and simplicity could also contribute to *explorative* engagement. William Fitch (2016) argues that, whilst complex syncopated rhythms can inspire pulse-related movements and movements which align with the patterns present in the music, simpler cyclic patterns can encourage 'expressive deviations from the pulse' (p. 4). Emily Spitz (2019) has also identified how the musical models in Orff's *Schulwerk* (1978) contain rhythms which are short and easy to remember, describing these characteristics as 'stimulus for musical invention' and 'motivic seeds' (p. 15) and suggesting that they can facilitate improvisation in the classroom. This was hinted at by Teachers 1 and F in the following extracts:

It's just kind of like keeping a simple statement look very repetitive, very repetitive, but you changed like key elements. And also, those little changes. You know, you really emphasise a little changes. – Teacher 1

Just doing some very simple repetitive rhythms like ... your turn copy what I did, yeah. And then with ones that wanted to volunteer, to do their own, I gave them the opportunity to write: can you create a rhythm? And then we'll try and copy it. And that engaged some of the more able students, the more creative ones. – Teacher F

Whilst Teacher 1 describes teacher-led deviations from a cyclic rhythm, which are then evaluated by pupils, Teacher F describes pupil-led deviations which are inspired and encouraged by preceding cyclic rhythms. The ability of cyclic rhythmic patterns to encourage explorative engagement in this

form amongst pupils has been partially explored by Dillon and Brown (2007), who emphasise how the use of loops in creative sequencing activities can encourage pupils to be both reflective and creative as they continue to hear a musical extract, rather than relying on their memory to create upon.

Richmond *et al.* (2016) have also utilised cyclic rhythmic patterns to establish engagement which caters for individual learners, due to the continual opportunity to advance on current levels of music-making. With a repetitive rhythm, children can begin by beating the pulse, before working to achieve the rhythm that is heard, ultimately adding to the cyclic rhythm with their own improvisations.

Another dominant discourse regarding cyclic rhythms and their relationship to embodied engagement is that cyclic rhythmic patterns contribute to the listener's rhythmic entrainment. This is the idea that through the body's latching onto musical structures, one can achieve the mastery of music-producing movements (Krueger, 2014; Windsor and Bezenac, 2012). Luke Windsor and Christophe de Bézenac (2012) argue that musical features – such as cyclic accentual patterns – can make it difficult for a listener to *not* move to music, thus increasing the potential for both embodied engagement and its resulting learning. Joel Krueger (2014) echoes this belief, also highlighting the importance of rhythmic cues, such as metre-related associations, for bodily responses. Whilst the majority of musical data collected in this study was in 4/4 time, it is likely that different choices of metre have an effect on the listener's desire to move as well as the type of movement (Krueger, 2014; Tagg, 2013). For example, Tagg (2013) identifies how semiotic significance based on prior experiences can encourage different types of movement in, for example, a waltz, jig, or march. However, Tagg (2013) also highlights how a difference in metre cannot guarantee a variation in kinetic effect.

According to Leman, Buhmann, and Van Dyck (2017), when patterns establish themselves as repetitive, the listener too establishes the ability to predict their repetition. Particularly, when events such as cyclic accents establish salience, these can act as markers for rhythmic synchronisation (Leman *et al.*, 2017). They also argue that the reward that comes as a result of this prediction-based participation can act as a motivator for achievement. This could contribute to the development of cognitive and emotional engagement, both alongside and resulting from tangible, behavioural engagement (Leman *et al.*, 2017).

Krueger (2014) also draws to attention the pleasure one can take in moving in time with music, particularly when in the company of others doing the same. Whilst these movements can involve dancing, they can also involve the playing of musical instruments. In the below comment, by Teacher N, it is also suggested that by synchronising as a group, more successful musical outcomes can be achieved for those who would otherwise be struggling:

There's always the odd child that can't, that doesn't have that internal beat that doesn't have that internal metronome. But they are carried along by the wave of the class that moves in unison to the next chord. And they go with the same one. – Teacher N

As well as being a physical phenomenon, the above comment suggests that cyclical rhythms can contribute towards social meaning (Dillon, 2006) in the classroom: a step towards meaningful engagement of any kind.

4.4.2. Rhythmic Simplicity

Whilst cyclicity is a feature of rhythmic simplicity (Leman, 2019), the two words are not synonymous. For a rhythmic pattern to be considered as simple, it must be both short and easy to mimic (Cox,

2016). This correlates with Tagg's (2013) view that a groove can last no more than a couple of seconds.

The idea of mimesis is crucial to the concept of rhythmic simplicity. In teachers' interviews, they describe children's physical engagement with rhythmic patterns, via body percussion or percussion instruments. Examples from Teachers 1 and K are below:

'I Feel Good' ... rhythmically, there's a lot that just screams out for playing along with it. –

Teacher 1

That Wellerman song seems to have gone down well; it's catchy, and it's rhythmically quite simple because it's essentially a folk tune. It's very, very easy to put very accessible body percussion parts to. – Teacher 1

Sea Shanty, that song, the Wellerman with a boat. And they were all banging their foot on the floor. And I think this is one of the features that helps them engage ...So that repetitive beat. – Teacher K

In each of the above comments, teachers describe children's mimetic participation with rhythmic parts. Cox (2016) argues that mimesis is the root of musical learning and has used the term 'invitations' to describe motivations for mimetic engagement. Cox (2016) emphasises how imitation is a natural part of children's development and highlights how it forms a basis for all learning. Cox (2016) states that ensemble music offers 'simultaneous multiple invitations', but that whilst it might feel as though these are being attended to equally, there is always one that is being given more attention than the other(s). He identifies repetitive and simple beats as 'danceable', whilst also

considering that they must be – as was previously mentioned – at a tempo that affords whole-body mimetic movements.

In order for the mimetic participations described to occur, rhythmic patterns must be achievable using the body. This relates to appropriate tempo as was explored earlier in this chapter, but also to simplicity as a characteristic of rhythmic length. Examples given by teachers, including ‘I Feel Good’ by James Brown (1965) and ‘Wellerman’ by Nathan Evans (2021) each include rhythmic patterns which last no longer than two bars, as can be shown in Figures 12 and 13 below:

Figure 12 – I Feel Good Bassline

The image displays three staves of musical notation. The top staff shows the bassline for 'I Feel Good' in 4/4 time, featuring a sequence of eighth notes and quarter notes, ending with a repeat sign and a 'x 4' multiplier. The middle staff shows a rhythmic pattern for 'Wellerman' consisting of quarter notes and rests. The bottom staff shows the continuation of the 'Wellerman' percussion part, including a sharp sign and a final double bar line.

Figure 13 – Wellerman Percussion Part



As well as rhythmic simplicity, both of the above examples have timbral qualities which are of interest in the next chapter of this thesis. However, considering rhythm in isolation, *Wellerman* has just one repeated crotchet, in line with the pulse. This simplicity enables the synchronisation with the rhythm to quickly become an automated activity, paving the way for additional engagement such as singing. Automated movements such as beating or foot-tapping the beat are understood to have the potential to act as a timing cue for other musical activities (Leman *et al.*, 2017), whilst engagement with the pulse can act as a gateway to the participation with and understanding of other musical elements (Leman, 2019).

'I Feel Good' has more complex rhythms than 'Wellerman', also including syncopation. However, despite these more advanced rhythmic parts, it remains simple enough to be manageable to students, due to each of the parts' relative brevity. The activity demonstrated by Teacher 1, involving body percussion which synchronises exactly with the rhythm, is also teacher-led, rather than spontaneous. This could encourage what Leman (2019) defines as 'inductive resonance' (p. 114). Leman (2019) differentiates between passively tapping along to the beat and inductive resonance as the unconscious becoming conscious. During an inductive resonance response, the subject performs actions which involve the aforementioned (Leman *et al.*, 2017) short-term prediction of future musical sequences, during which they experience an illusion of musical control, which both demonstrates and enhances cognitive understanding. Leman *et al.* (2017) argue that this process contributes to engagement, motivation, and cognitive activity.

Through the active engagement with rhythms demonstrated by the teacher, children can achieve *appreciative* and *evaluative* modes of engagement as they consider the relationships between their actions and the sounds heard. If notation is present, as was described by Teacher I with crotchets, quavers and minims acting as walks, running, and strides, a further opportunity for evaluative engagement is introduced. For the use of notation to be feasible, rhythmic patterns will often need to be not only simple enough to replicate as well as simple enough for the average child to comprehend on a score. Teacher 1 refers to the multitude of rhythmic parts in 'I Feel Good' (1965). Whilst some of these might exceed younger children's notation reading ability to a point beyond their current reach, other parts could be easy for children to understand.

Simple rhythmic parts can also highlight the achievability of musical creation to pupils, as was described by Teacher F. This creative engagement could be *directive*, *exploratory*, or both (Brown, 2015), depending on the associated activity. Chapter 7 of this thesis examines how music-making activities can be utilised for achieving Brown's (2015) five modes of engagement, as well as Dillon (2006) and O'Neill's (2015) meaning-making and Fredricks, Blumenfeld and Paris' (2004) types of engagement.

4.5. Chapter Summary

In this chapter, attributes of rhythm have been identified as something which can contribute to children's experiences of musical engagement. It has been acknowledged that attributes of rhythm are the musical elements which are most closely aligned with movement-based responses and thus they have been explored primarily using theories of embodied music cognition (Cox, 2016; Leman, 2019), affordances (Windsor, 2012; Krueger, 2014), and entrainment (Ilari, 2016; Ilari *et al.*, 2018; Nijs and Bremmer, 2019).

It has been identified within this chapter that the utilisation of tempi which are higher than 120bpm are often appropriate for engaging 7- to 11-year-olds in pulse-based synchronisation. Whilst the teachers' comments remained largely positive, the suggestion is that slower tempos could prove boring to children. It was also established that this tempo can be achieved through the teacher's musical responses to children's (often) familiar walking and running tempi. If Tagg's (2012) commutation is considered, the replacement of a tempo exceeding 120bpm with one that's slower would make associated activities based on the natural speed of movements such as walking or running incoherent. Sudden tempo changes were also identified as an engaging feature, due to their potential for appreciative and evaluative engagement both during and following embodied and directive musical activities.

It has also been established within this chapter that syncopation can contribute to both general basic synchronisation and embodied attuning in 7- to 11-year-olds. As well as these embodied, behavioural modes of engagement, there is evidence to suggest that syncopation can encourage appreciative and emotional types of engagement as feelings of pleasure are associated with the unconscious movements syncopated rhythms can facilitate. Syncopation also can encourage directive engagement as children figure out rhythmic parts, and evaluative engagement as they realise its potential for 'danceability' (Cox, 2016, p. 14). The behavioural and emotional engagement which can occur due to syncopation could also encourage cognitive engagement if the opportunity is given to children to reflect.

One of the reasons for syncopation's capacity to engage was its potential for 'groove', which is characterised by both syncopation and cyclicity. Cyclicity is also thought to foster a sense of security in pupils that encourages them to participate with and enjoy music and enables them to memorise and reflect. It is also understood to facilitate entrainment due to the recurring cues which invite the bodily latching onto of rhythmic features. Cyclicity has the potential for Brown's (2015) 1) embodied

engagement, through pulse-based synchronisation, 2) directive engagement, as repetition encourages children to ‘have a go’, 3) explorative engagement, as the presence of loops can encourage the deviation from them (Fitch, 2016), 4) appreciative engagement, as children are understood to enjoy repeating musical parts whilst developing their musical skills, and 5) evaluative engagement, due to ongoing opportunities for reflection.

Finally, rhythmic simplicity – characterised by parts which are two bars or less in length and at a manageable speed (Cox, 2016) – is identified as a feature which can engage 7- to 11-year-old pupils through the opportunity for mimesis (Cox, 2016). Rhythms which are immediately manageable to replicate encourage Leman’s (2019) embodied attuning, which can take the form of directive engagement (Brown, 2015) as well as appreciative and evaluative engagement. Together, directive engagement as instrumental playing, appreciative engagement as musical enjoyment, and evaluative engagement as consideration of the role of the music also demonstrate active, emotional, and cognitive types of engagement (Fredricks, Blumenfeld and Paris, 2004). Once again, a consideration of Tagg’s (2012) commutation clarifies the importance of brevity for successful mimesis and its associated engagement, as without this, successful imitation is extremely unlikely due to the ‘chunky’ nature of musical perception and cognition (Temperley, 2013).

Figure 14 below provides a visual summary of how each of the attributes explored in this chapter relate to types of engagement and musical meaning-making, according to data analysed in this study.

Figure 14: Summary of Attributes of Rhythm and their Connections to Engagement

Attribute of Rhythm	Mode of Musical Engagement (Brown, 2015)	Type of Engagement (Johnston, 2018)	Type of Meaning Potential (Dillon, 2006, 2009)

Extramusically Familiar Tempo (e.g., walking/running speed or animal-related tempo)	Embodied, Appreciative, Directive, Explorative	Behavioural, Emotional	Personal, Social, Cultural
Sudden Tempo Changes	Embodied, Appreciative, Evaluative	Behavioural, Cognitive	Personal, Social
Gradual Tempo Changes	Embodied, Appreciative, Evaluative, Directive	Behavioural, Emotional, Cognitive	Personal, Social
Using sequencing software to create syncopated beats	Explorative, Directive	Behavioural	Personal, Social, Cultural
Spontaneous moving to syncopated beat	Embodied	Behavioural	Personal, Social
Reflection on syncopation's relationship with movement	Appreciative, Evaluative	Cognitive	Personal, Social, Cultural
Cyclical Rhythms	Embodied, Appreciative, Evaluative	Behavioural, emotional	Personal, Social
Simple Rhythms	Embodied, Appreciative, Evaluative, Explorative, Directive	Behavioural, emotional, cognitive	Personal, Social, Cultural

Throughout this chapter, further musical attributes have been referenced, including timbral and melodic features which form a part of the rhythmic attributes explored. In order to be considered as music, none of these parameters can exist in isolation (Moore, 2016). However, each of these chapters explores them one by one in order to establish how types of engagement are triggered by individual factors. In the next chapter, timbre and loudness are explored in relation to Brown's (2015) five modes of musical engagement and Fredricks, Blumenfeld and Paris' (2004) three types of pupil engagement.

CHAPTER FIVE: ATTRIBUTES OF TIMBRE AND LOUDNESS

5.1. Chapter Introduction

This chapter explores how timbral attributes and attributes of loudness can relate to experiences of engagement in 7- to 11-year-olds. Categories which emerged during qualitative analysis are analysed in relation to existing theories and related to modes and types of engagement. Attributes are also considered in terms of their potential to foster personal, social, and cultural meaning-making (Dillon, 2006, 2009).

Whilst definitions of timbre can lack clarity (Risset and Wessel, 1999), and descriptions of sounds often 'revert to metaphors' (Elferen, 2020, p. 8), the term is used in this research as a descriptor of the sound's source. Isabella Elferen (2020) describes a timbral listening experience as a journey from ontology, through to phenomenology and then aesthetics. This means that, once the source of the sound is recognised, perhaps accompanied by information about its production (e.g. movements made to create the sound), the following perception is of the sound's acoustic surroundings, before possible meaning or emotional content is considered (Elferen, 2020). This highlights the importance of recognising a sound's source in some way before meaning can be established, which will be explored further in this chapter.

The second explored attribute, loudness also has more than one potential meaning. Whilst it is often used to refer to the actual volume of a sound (Eitan, 2013; McKinnon, 2010), it can also be used to describe the subjective perception of a sound's size (Florentine, 2010) or intensity (Elferen, 2020). In this study, the subjectivity of loudness is considered and both decibel loudness – or volume – and the

subjective perception of loudness relating to timbral features are considered in relation to experiences of engagement.

In the sections to follow, timbres of the body – meaning percussive sounds which can be made without using an external musical instrument (Romero-Naranjo, 2013) – are analysed. Their relationships with engagement are established following an in-depth consideration that is informed by data collected, as well as existing theories found in literature. An analysis of the use of timbres which have physical familiarity is also included, before the use of percussive timbre is investigated. Attributes of loudness are explored in the second part of this chapter. Specific areas of loudness which occurred within the data were dynamic variation and playing loudly. The differences between decibel loudness and the perception of loudness due to timbral features are considered as a part of the analysis. This relationship formed the reasoning for grouping these attributes together during the research process.

An overview of how the attributes identified can contribute to experiences of engagement is provided at the end of the chapter, detailing key findings and offering an analysis of what they suggest. In a similar way to Chapter 4, embodied cognition and mimesis establish themselves, throughout this chapter, as important themes relating to children’s musical perception and accompanying engagement.

5.2. The Timbres of The Body

This section details how timbres which are created using the body can contribute to experiences of engagement in 7- to 11-year-olds. It begins with a definition of body percussion and justification of its inclusion in the thesis, before detailing the differences between body percussion in music-making activities and in those which involve recorded sound. It considers accessibility, achievability, diversity

and culture. The connections between hearing and producing timbres of the body and types of engagement are highlighted throughout.

5.2.1. Body Percussion

Body percussion involves creating sounds by clapping, patting, stamping, and clicking/snapping fingers (Hall, 1960). Francisco Romero-Naranjo (2013) describes it as ‘the art of striking the body to produce various types of sounds for didactic, therapeutic, anthropological and social purposes’ (p. 443). Romero-Naranjo’s (2013) analysis of the ‘Science and Art of Body Percussion’ highlights its potential for cognitive, behavioural, and emotional engagement as it reveals how it can stimulate cognitive and physical activity as well as socially satisfying experiences. These include the development of multiple intelligences, the pairing of sound and movement and the ability to work together in a group, creating music in unison (Romero-Naranjo, 2013).

Body percussion was mentioned by nineteen of twenty teachers in this study, thus during attention as a finding. Due to its significance within the data, a third of Chapter 5 is dedicated to the topic. Each of the nineteen teachers discussed body percussion in relation to directive music-making activities. Body percussion sounds were also present in examples of repertoire – explored in the previous chapter – ‘We Will Rock You’ (Queen, 1977) and ‘Happy’ (Williams, 2013). Interview extracts are shared throughout this chapter, alongside analyses of what is occurring – in terms of engagement – during experiences which involve participation in the creation of body percussion parts and/or interaction with perceived timbres with a bodily source, within recorded and live music.

Body percussion is associated with Dalcroze and Orff-inspired pedagogy. Whilst Dalcroze’s approach to body percussion was based upon the foundation that the body acts as a mediator between sound and thought (Juntunen, 2002), the Orff approach to body percussion involved the pedagogical use of

playful activities which were designed to bring the natural rhythm of speech and movement together (Beegle and Bond, 2016; Frazee, 1987). The use of playful body percussion is designed to encourage musical development and understanding in children through enjoyment, or – in engagement terms – *emotional* and *appreciative* engagement, due to the pleasure of participation.

The concepts that body percussion can be used to connect sound and cognition, and that speech and that movement activities can foster enjoyment, musical development, and understanding, are discussed in this chapter. That the body can act as a mediator between sound and cognition is a concept which can be directly related to the timbral attributes of body percussion and developing research into embodied music cognition (Cox, 2016; Leman, 2019; Wallmark, 2022). These will be the areas of focus in this chapter due to their connections to cognitive, emotional, and behavioural engagement.

5.2.2. Body Percussion and Mimetic Participation

As discussed in Chapter 4, there is a growing level of understanding regarding the role of the body in musical comprehension (Cox, 2016; Godøy, 2013; Leman, 2019; Wallmark, 2022). Arnie Cox (2016) explores the hypothesis that the cognition of music involves the bodily comprehension of the actions that are used to produce sounds. In the case of clapping or stamping sounds, the sources of actions required to make them can be considered to be unambiguous, because they can be readily achieved without additional resources (Romero-Naranjo, 2014). This suggests that timbral attributes which can be made using the body could facilitate both instant recognition and reproduction of the action required to make the sound. This lack of ambiguity thus relates to both embodied and directive engagement (Brown, 2015), as children respond physically to recreate perceived timbral attributes.

Cox (2016) argues that when a listener attends to the actions required to produce sounds, they engage in 'intramodal mimetic motor imagery' (p. 45) (intramodal MMI). This is the direct matching of sounds and the actions used to make them, such as a hitting movement to create a percussive sound. In order to accurately comprehend how an action could produce a sound that is heard, prior experience and understanding must have been achieved (Cox, 2016; Leman, 2019). The process of comprehension involves the consideration of what it would be like to perform what the performer is performing, which can then be followed by a mimetic motor action (MMA). This is described by Rolf Godøy (2003) as 'motor-mimesis' (p. 318), which he summarises by stating that a translation is made from musical sound to the image of a sound-producing action. He also argues that the mental or physical imitation of the sound-producing action can help to store musical sound in our minds (Godøy, 2003).

Leman (2019) discusses this process in terms of 'mirroring' and 'imitation' (pp. 103-106). He highlights how children learn through imitation and derive pleasure from it as they play, for example, mimicking an adult taking a telephone call by holding their shoe to their ear. He also emphasises how musical learning often begins with the imitation of 'low-level' (p. 107) skills and challenges, which rise in difficulty as skills improve. Leman (2019) references Csikszentmihalyi's (1990) flow theory to illustrate how musical engagement based on imitation relies on an equilibrium between the skills of the learner and the challenges that perceived musical attributes afford. He also compartmentalises physical engagement with music into three hierarchical forms: synchronisation, attuning, and empathy. By engaging with a timbral quality in a way that both mimics a perceived sound and considers or comprehends the emotional meaning within the sound, both attuning and empathy are achieved.

In Chapter 4, an interview extract was shared from Teacher B with reference to 'Happy' (Williams, 2013), which suggested that children enjoyed it due to what Teacher B described as a 'good beat'.

The extract below shows Teacher A discussing 'We Will Rock You' (Queen, 1977). Both of these examples contain recorded body percussion. An analysis of the potential for engagement with recorded body percussion parts is to follow.

'We Will Rock You', I must have done that a trillion times (...) It's two and a half minutes. But I've done a whole lesson on 'We Will Rock You' (...) you've got the rhythm, (...) you've got interaction. So I could do two knees – dum, dum car – (...), could do the clap, (...) instruments on that third beat...– Teacher A

In 'Happy' (Williams, 2013), the body percussion sounds are claps, whilst 'We Will Rock You' (Queen, 1977) contains both stamping and clapping. These are sounds which can be easily imitated by 7- to 11-year-olds. Cox (2016) describes this process as an 'acoustic cross-modal imitation' (p. 45), due to how the participatory actions produce sounds which imitate those heard. This is in contrast to a non-acoustic imitation, such as dancing or head-bobbing. Whilst both modes of imitation arguably constitute musical participation, it is logical to assume that only acoustic cross-modal imitation can be considered as a complete example of music-making. This also suggests that acoustic imitation is of greater benefit to musical engagement and skill development than non-acoustic imitation.

When considering 'Happy' (Williams, 2013) and 'We Will Rock You' (Queen, 1977), it is crucial to remember that music is multimodal (McKerrell and Way, 2017). This means that, as well as sound-based stimuli, within which body percussion has varying levels of dominance dependant on context, there are lyrical and visual elements which could contribute to listeners' – and viewers' – will and drive to become physically engaged. In 'Happy', Pharrell Williams (2013) sings the following:

*Clap along if you feel like a room without a roof,
Clap along if you feel like happiness is the truth,*

Clap along if you know what happiness is to you,

Clap along if you feel like that's what you wanna do.

(Williams, 2013)

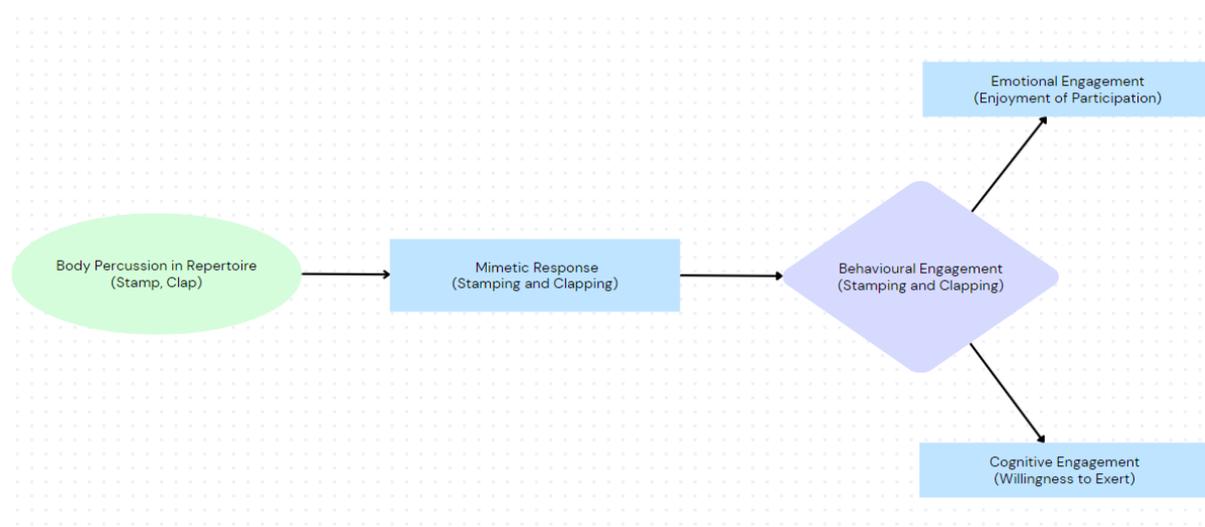
The lyrics throughout this song have been recognised to be ambiguous, inviting wide interpretation and participation amongst listeners (Tidmarsh, 2019). The lyrics in the chorus extract above specifically invite us as listeners to participate and suggest that we will experience a positive emotional experience as a result (Tidmarsh, 2019). The instruction to 'clap along' is direct in this example. However, 'We Will Rock You' (Queen, 1977) appears to assume that mimetic participation will occur without choosing to verbally direct the listener, due to its combination with repetition and simplicity. In an interview with MOJO magazine (2008), Brian May states the following:

I went to bed thinking, 'What could you ask them to do?' They're all squeezed in there, but they can clap their hands, they can stamp their feet, and they can sing (...) in the morning I woke up and had the idea in my head for 'We Will Rock You' (May, 2008).

At the heart of May's (2008) comment is an awareness of the accessibility of stamping and clapping, even in a space-limited environment. This accessibility is something that participating teachers referred to in interviews, with reference to restrictions during the Covid-19 pandemic. Examples of teachers' comments regarding are shown in the section below as well as in Chapter 7 of this thesis. However, prior to that, it is important to emphasise how acoustic mimetic motor imagery, followed by imitation (Cox, 2016) can be encouraged through choices of repertoire containing body percussion sounds which are easy to recreate. As well as having implications for early choices of repertoire, the principle of mimetic accessibility can be transferred to further instruments at later stages of learning. This development has the potential to foster a 'flow' experience (Csikzentmihalyi, 1990) as described by Leman (2019).

It is easy to comprehend how the use of sounds whose actions can be understood and imitated by children could foster both inclusion and a sense of togetherness in the music classroom. This, as well as inspiring *behavioural* engagement through mimesis, has the potential to influence *emotional* and *cognitive* forms of engagement, through experiences of pleasure and an increase in the willingness to exert. Figure 15, below, offers an example of how the use of body percussion in repertoire can lead to experiences of emotional, behavioural, and cognitive engagement:

Figure 15: Body Percussion, Mimesis and Engagement



5.2.3. Body Percussion, Accessibility and Diversity

As well as the enjoyment and drive for mimesis, another factor regarding how timbral sounds with a bodily source can encourage experiences of engagement is understood to be the accessibility of associated actions. As well as physically understanding *how* the clapping and stamping sounds that they hear in repertoire are made, children can reproduce them in the moment, without instruments,

wherever they are. This produces what Cox (2016) would define as a ‘mimetic motor action’, which acts as a clear indicator of *embodied, directive* (Brown, 2015), and *behavioural* (Johnston, 2018) engagement.

The accessibility and achievability of imitating sounds heard can encourage children to explore the ‘tone-colour possibilities of their own bodies’ (Frazee, 1987, p. 26). Jane Frazee (1987) states that the imitation of body-percussion sounds, and adding of vocal colours where appropriate, can both encourage composition-based activities and establish the groundwork for subsequent layering of vocal and instrumental parts. The message implicit in body percussion sounds; that *you can do this*, identically or with embellishments, and using original patterns, produces the potential for empowerment within pupils.

The following comments signify teachers’ awareness of the potential for body percussion to produce feelings of empowerment, or, using Dillon (2005) and O’Neill’s (2015) language, personal meaning-making, amongst pupils. The extracts are related largely to body percussion sounds that are made in the classroom, as opposed to perceived through recordings.

They love body percussion stuff. I think that's one thing. Again, I think they love anything that involves movement and dance, particularly because they're always better at it than the teachers. – Teacher M

I think body percussion is probably quite unique in that way, in that you don't have to be as good as the people you're teaching (...) to teach it, because you as the educator are facilitating their learning – Teacher 1

If you're doing body percussion (...) they love to follow what you're doing. Or I might clap a pattern (...) and I might get them to copy and see if they remember it. And then you (...) do it increasingly difficult, or more elaborate, or longer. (...) It all kind of revolves back to them being part of it and being engaged with it. Because music isn't something that you can just sit there and watch. You have to really get on board. – Teacher E

If you can use the body as an as an instrument, I think that is really, really important. Also, to ask a child to sit still in a music lesson is rubbish. Ask a child to sit quiet (...), to sit still in a music lesson, well, it ain't music as far as I'm concerned. – Teacher O

The first two comments above emphasise two things. Firstly, the accessibility of body percussion to the majority of 7- to 11-year-old pupils, and secondly the potential of body percussion to activate both directive and explorative modes of engagement (Brown, 2015). The second two comments highlight the importance of physical participation in musical engagement and development.

As well as being physically accessible, body percussion is understood to have a broad cultural reach. It is believed that body percussion can be dated back to prehistoric times (Romero-Naranjo, 2013) and understood that body percussion is a practice common in both classrooms and playgrounds internationally (Popovic and Karl, 2021). In a recent review of body percussion pedagogy worldwide, Ana Popovic and Blanka Gigic Karl (2021) explore the use of rhythmic exercises which utilise the body across Croatia, North America, Ghana, Morocco, Brazil, Liberia, and West Africa. Popovic and Karl (2011) highlight how the game-based nature of body percussion activities is common across cultures. They also describe how activities which utilise rhythm and timbres of the body, as well as being one of the earliest communication methods of mankind, are adopted in each of our individual infancy. They focus on applications in kindergarten and highlight how no prior musical experience is required

for the imitation of body percussion sounds, which fosters the development of rhythmic skills and timbral comprehension. They also emphasise how few lyrics are present across the majority of body percussion activities, which maximises their suitability for intercultural education as a reliance on linguistic unity is removed (Popovic and Karl, 2021).

Regarding diversity of reach, it is understood that the role of body percussion within music lessons decreases the older pupils get (Philpott, 2004). However, it is clear from participants' comments that it can positively influence the initial engagement with repertoire in pupils across the 7- to 11 age group, as the opportunity for instant imitation and the potential for creative progression enables behavioural, cognitive, and emotional engagement. Figure 16 below demonstrates how each of these forms of engagement, as well as Brown's (2015) five modes of creative engagement, can be activated through the use of body percussion sounds within both recorded repertoire and sounds created in the classroom.

Figure 16: Timbres of the Body and Types of Engagement

Attribute and Context	Modes of Musical Engagement	Types of Engagement	Meaning Potential
Timbres of the body within repertoire	Embodied, Appreciative, Evaluative	Behavioural, Emotional, Cognitive	Personal, social, cultural
Timbres of the body in teacher-led body percussion activities	Embodied, Appreciative, Evaluative	Behavioural, Emotional	Personal, social, cultural
Timbres of the body in pupil-led body	Embodied, Directive,	Behavioural, Emotional, Cognitive	Personal, social, cultural

percussion activities	Explorative, Evaluative, Appreciative		
-----------------------	---	--	--

Figure 16 shows that body percussion activities that are led by pupils facilitate all five forms of Brown’s (2015) engagement. This is due to teachers’ comments relating to enjoyment (appreciative), pupil creativity (explorative, directive, evaluative), and initial physical reactions (embodied). Each of these also fall into behavioural, emotional, and cognitive categories as discussed in Chapter 2. Body percussion activities that are pupil-led also have the potential for personal meaning if they are demonstrating their own creation, social meaning if they share the experience with others, and cultural meaning if it forms a part of a larger act of musicking.

Body percussion activities that are teacher-led are shown to enable embodied, appreciative, and evaluative engagement for reasons similar to those that are pupil-led. However, directive and explorative engagement cannot be present without a pupil-led element. In practice, a combination of timbres of the body within repertoire, teacher-led body percussion, and pupil-led body percussion could enable a progression to the facilitation of all five modes of musical engagement (Brown, 2015).

5.2.4. Summary of Section

This section has explored how the use of timbres that are achievable using just the body can prompt behavioural, emotional, and cognitive engagement in 7- to 11-year-old pupils via their mimetic responses. It began with a definition of body percussion as sounds which can be achieved without further resources, and an explanation of the presence within the data collected in songs including ‘Happy’ (Williams, 2013) and ‘We Will Rock You’ (Queen, 1977). This was followed by the

contextualisation of body percussion within common pedagogical methods including Kodaly, Orff, and Dalcroze. The role of motor mimesis was established, specific musical examples were analysed, and achievability, accessibility, and diversity were considered.

This section has continued on the embodied music cognition theme of the previous chapter. Once again, each of the attributes identified as engaging by teachers were related to bodily movements and data suggests that the movements made by children relate to those made in both recorded musical examples and following demonstrations in the classroom. The importance of achievability is another continuing theme, present in the previous chapter with regard to simplicity and in this section in relation to the physical accessibility of body percussion imitation. Both ideas highlight that music can be engaging when it can be imitated and 2) that a successful imitation must be achievable, are key considerations within this thesis.

5.3. The Use of Instrumental Sounds which have Physical Familiarity

Another timbral attribute that became thematic in the data was the use of instrumental sounds, within both recorded and live repertoire, that relate to experiences that children already have physical familiarity with. This physical familiarity includes the following:

- 1) Children having previously played the instrument and
- 2) Children having seen others playing the instrument.

Both are discussed within this section, with a greater emphasis on instruments children have previously played due to the presence of this code within the data and its relationship with the already established theme of motor mimesis.

Teacher I remarked upon children's emotional and behavioural engagement as a result of hearing recorded brass instruments during a trumpet lesson, whilst Teacher K used an example of an activity wherein children identify the sounds of different instruments they have previously played. Teacher C described playing classical music to their classes, following an introduction to the cultural context.

I think it makes a lot of impact because it's all brass instruments with like a snare drum. So, if you're doing it with a brass group, which is what we do, I think there's a lot of impact. They're hearing brass instruments, playing with brass instruments, and it's not a backing track. It's the actual track. Which I think makes all the difference. – Teacher I

We put a child in the cupboard, we close the door. And that's that child has 10 instruments. They're in there and they play the instrument and someone else from the music room – from the 29 – has to (...) think the timbre of the instrument. – Teacher K

Classical music (...) on violins, it's relevant. Yeah. So we had (...) some pictures (...) so you could relate the period that they were playing into: what does it look like? That's 18th century, there's Vivaldi. We talked a bit about the background to it (...) then we did Hallelujah chorus just with open strings, Autumn from the Four Seasons like that. I adapted it and did it that way. – Teacher C

The evidence suggesting the importance of aural examples which contain instruments with physical familiarity relates to the hypothesis, recently argued by Zachary Wallmark (2022), that timbral perception cannot be separated from motor activity. He describes timbre as an 'acoustic byproduct' (p. 32) of motor action and argues that it is perceived in terms of implied bodily actions. He also highlights how the levels of exertion required to make sounds are physically perceived by the listener and relates the perception of this as well as general timbral identifications to experiences of empathy

(Wallmark, 2022). This empathy can strengthen as emotional reasons *for* heightened arousal and exertion in the performer are understood by the listener, who understands them through the imagined activation of their own muscles.

There is more of interest in Wallmark's (2022) work, including the role of vocal expression which is explored later in this chapter. However, his description of timbre as something which is perceived as related to action offers an argument and explanation for the positive influence on children's engagement that listening to instruments with which they have personal physical experience can have. We could take from Wallmark's (2022) theoretical contribution that, as children listen to recorded sounds made on instruments they are learning, they perceive them as 'executant mimesis' (Cano, 2006, p. 5), in terms of the actions that were used to make these sounds. This could also extend to instruments pupils have seen others play and have a second-hand understanding of.

In terms of engagement, firstly the three broad forms, this type of timbral perception has the potential to be *emotional*, *behavioural*, and *cognitive*. It is difficult to imagine recognising the sound of an instrument one has experience playing, without experiencing some kind of an emotional reaction, related to imagined motor responses or subvocalisation (Wallmark, 2022). This could be positive or negative, dependant on the individual's experience. Behavioural engagement could be demonstrated through 'air' or actual instrumental playing as a response to the recognition of timbral attributes, whilst cognitive engagement could be activated during listening activities, such as that described by Teacher I, as children develop a sense of what they are aiming to achieve through their learning.

Returning to Brown's (2015) five modes of creative engagement, listening activities which involve an instrument a child has previously played can be linked to *appreciative*, *evaluative*, and *embodied* engagement. *Appreciative* engagement is possible if the child's experience with the instrument is

positive, whilst *evaluative* engagement begins the moment they recognise the instrumental sound and consider its meaning to themselves and others. Embodied engagement must also occur during this moment of recognition, due to the nature of timbral perception. Depending on the teacher's chosen follow-up activities, *explorative* and *directive* engagement can also be activated as a result of timbral recognition of this kind.

The use of recorded repertoire which uses instruments that children are familiar with playing could also facilitate experiences of flow. Lori Custodero (2002) describes one of the features of flow in a music education context as the 'fusion of doing and perceiving' (p. 4). Within the embodied music cognition paradigm, this fusion is ever-present in musical perception and when sounds are perceived as the actions that made them, sounds which pupils are capable of recreating, this also creates a clear, achievable goal and – if the pupil engages physically – immediate feedback. All of these are requirements for and indicators of flow and are achievable through the selection of repertoire which contains parts that, as well as having physically familiar timbral attributes, are developmentally appropriate for pupils (Custodero, 2022). This largely relates to rhythm/growth and pitch-based attributes, which are explored and discussed in Chapter 4 and Chapter 6.

Physical familiarity can also take the form of instruments that pupils have seen and heard others play live. These could be perceived according to cultural or social associations. Teacher H stated that pupils "really like to hear" it when they played the drums, whilst bass guitars and electric (six string) guitars were referred to as "obviously fairly popular" by Teacher M. Teacher A also highlighted that music containing drums and electric guitar was consistently popular in her classes.

The sounds of drum kits, bass guitars and electric guitars have each been identified by Tagg (2013) as having potential for extramusical meaning. Tagg (2013) makes parallels between distorted electric guitars and motorbikes, and states that there are 'clear links' (p. 438) between the sound of

distorted, rock guitar and the sound of a Harley Davidson bike or similar. He highlights how images associated with both rock guitarists and motorbikes are those of 'rebellion, freedom, vulnerability and a daredevil spirit' (p. 438). Tagg's (2013) work suggests that distorted electric guitars and the preferred motorbikes of rock-fans both contain similar symbolism and are interrelated. Whilst the idea that today's 7- to 11-year-olds' timbral understanding of the sound of an electric guitar occurs through the relation to a motorbike is questionable, participants' implicit suggestions that children find them 'cool' does suggest that an image-based association occurs. This indicates that children respond to the sound of distortion according to their individual past experiences of seeing or hearing rock personas playing the electric guitar, relating to Moore's (2016) work regarding the role of perceived persona(s) of musical performers during musical comprehension, whilst emphasising the relationship between timbre and genre.

The use of drum kits is explored further in the following section of this chapter, which is concerned with percussive timbre, whilst bass guitar is explored in more depth during Chapter 6 which covers pitch-based attributes. This is due to the role that the bass guitar tends to fill (Moore, 2016) and a developing understanding of the importance of low frequencies in encouraging spontaneous bodily movement (Van Dyck *et al.*, 2013).

5.4. Percussive Timbre

Another timbral attribute identified as engaging throughout interviews was sounds which could be described as percussive. That is, sounds which have a swift attack and decay (Burger *et al.*, 2013) and are produced using a swift, singular motion. This attribute presented itself within data in listening activities, instructed playing, and improvised playing.

Whilst percussive timbre can be both tuned and untuned, the majority of thought in this section is given to untuned percussion, due to the prevalence of untuned percussion as a theme within the data. Mimesis and achievability are explored initially, before the relationship between percussion, play, and excitement are considered. Cultural aspects are then taken into consideration, followed by an analysis of the types of engagement that can be activated during various musical activities which involve percussive timbre.

Percussive Timbre and Mimetic Motor Actions

Similarly to the timbres of the body, the source of action behind percussive sounds is often unambiguous. Even when a particular instrument is unknown, an image can be formed that is somewhat accurate, of both what has been hit and the way it was hit (Wallmark, 2022). According to Wallmark's (2022) theory, the perception of this sound thus involves imagining committing the same action. He argues that 'timbre is a verb' (p. 21), meaning that all timbral perception involves 'implied bodily actions' (p. 32). This perspective; that timbre is 'tied to the physical source of a sound' (Brent, 2010, p. 1) is predominant in this study, as opposed to sonic considerations of timbre which are related to possibilities of synthesis (Brent, 2010). Crucial to this study, in the case of percussive timbre, the act of hitting or striking something is one which even those without prior musical training have had experience of, accidentally or on purpose. The sounds made by different kinds of drums also have timbral similarities with those made without musical instruments, such as the previously explored body percussion sounds, or natural sounds, such as footsteps, closing doors, or placing items on a surface.

Wallmark (2022) describes how this familiarity of the actions which produce sounds can help us to understand them. As well as considering: *what is that sound?*, the familiarity enables the listener to ask: *what does it feel like to create that sound?*. This has an obvious connection with the

successfulness of carrying out the actions required to make those sounds and also involves an empathetic process. Wallmark (2022) argues that this process of perception can also involve the consideration of *what does it mean to make that action?* This consideration can enable the production of emotional meaning for the listener.

This echoes the work of Leman (2019), who considers empathy to be the highest level of ‘corporeal imitation’ (p. 112), after synchronisation, which involves moving in time to the pulse, and embodied attuning which consists of the body hooking onto musical parameters. Whilst all of these involve imitation, and Leman (2019) argues that music is always perceived and understood through a mirroring process, empathy with music requires the identification of emotional expressiveness within it. Leman (2019) states that empathy is produced through a combination of shared and distinct representations of perception and action. This empathy can be experienced as an observation, or evaluative, cognitive engagement, as imitation – directive, behavioural engagement – or as an actual feeling meaning *appreciative, emotional* engagement. In the case of percussive timbre, all three could be experienced as children imitate the actions required to make sounds and potentially consider and/or experience the emotional meaning of creating these sounds.

That emotional meaning can be accessed via the imitation of timbral attributes has strong implications for engagement. The production of personal, social, or cultural meaning has been established as a key factor of relevance (Dillon, 2005; O’Neill, 2015), which is understood to be essential for experiences of engagement to occur (O’Neill, 2015). Furthermore, as children imitate a percussive sound – without difficulty, as will be explored further in the following section –, their minds have space to process and perceive what their bodies are doing. This could involve a consideration of emotional meaning, or it could involve a more evaluative process; for example, a reflection on genre, or the role of the percussive sound. Through percussive mimesis, children are permitted to *‘experience first, then intellectualise’* (a quotation commonly attributed to Orff). This is

true even during listening-based activities, as the mimetic interpretation of timbres heard enables embodied engagement, followed by evaluation and directive or explorative activities.

5.4.2. Achievability of Percussive Sounds

As well as being easy to identify and imitate, the actions required to create basic sounds on percussive instruments are significantly more straightforward than those required to make similarly basic sounds on brass, woodwind, or string instruments. Percussive sounds are also easier to control, in terms of dynamics and rhythmic variation, than sounds which require technical expertise just to get started. In the interview extracts below, Teacher 1, Teacher E and Teacher B reference the instant accessibility of percussion instruments.

You hit a drum with very, very little in the way of prior training and you get a big noise.

Communal impact and kind of instant gratification. – Teacher 1

I think percussion instruments are easy to play. And yeah, that's what children like. They like that idea that they can just pick up an instrument, and it will make a noise. You don't need any preparation really. They certainly like that. – Teacher E

One child has got selective mutism. So he will not (...) speak, does not sing, but loves music. You can tell because he smiles, and he will join in with percussion type things (...) so we (...) find ways he can do the rhythm with percussion. But I don't want him to be the only one doing that, because that sound was in there anyway. – Teacher B

All three teachers highlight how little preparation is needed from the child, prior to their making a satisfactory sound on a drum. This premise has been a consideration of Orff-inspired teachers since

the 1930s. Teachers using the Orff approach utilise both tuned and untuned percussion instruments for improvisation and creative expression. Tuned percussion instruments have bars removed to make them pentatonic, to remove the concern for harmonic dissonance and facilitate musical discovery (Lange, 2005). Percussive instruments are chosen by teachers using the Orff approach specifically for their lack of reliance upon developed fine motor skills, as well as for their ability to unite rhythm, movement, and speech as words are rhythmically imitated using the instruments (Lange, 2005).

In the interview extracts above, Teacher B also described a boy with special educational needs, who appeared to be comfortable with making a sound using percussion instruments, despite not always feeling able to do so in other ways. There is existing research which evidences the confidence-boosting potential of drumming activities amongst children who have autism spectrum disorder (Willemin *et al.*, 2018), Whilst an in-depth look into this is beyond the scope of this research, its implications require recognition. These are implications of accessibility, behavioural engagement with music, and social diversity and development in the classroom.

As well as non-pitched percussion sounds, tuned percussion was highlighted as accessible and conducive to engagement in the classroom; particularly with younger children. In the extracts below, Teachers G and E describe limiting chime bars and xylophone notes to the pentatonic scale, in order to eliminate the possibility of ‘wrong notes’ and to set up children to achieve harmonious improvisations. This is explored further in Chapter 6. Teacher E also describes how tuned percussion instruments appear to inspire confidence in their classroom, with improvising, comprehending notation, and performance.

The nice thing about the chime bars you can give them just a C and a D (...) you know it's going to be right (...) not setting them up to fail by giving the entire choice. – Teacher G

I've used xylophones, before, where I get them to write a melody first. So I say these are the five notes that you can use, you can put them in any order. They would just write the names of the notes, not necessarily formally written on a staff (...) then they would come to the front and perform on the xylophone, their own piece. (...) They certainly all have a go (...) they are definitely all confident. I don't have anyone who doesn't want to get up and (...) play the piece. – Teacher E

The use of harmonically tuned percussion instruments has been related to engagement by Richmond *et al.* (2016), who have designed a programme to maximise musical engagement by reducing the cognitive load and fear of mistakes associated with playing. Richmond *et al.* (2016) utilised the 'assured pitch outcomes' and 'pleasing sounds' (p. 146) of xylophones to maximise the potential for engagement in children. They also highlight how the larger muscle groups are used to play tuned percussion instruments, rendering them suitable for children whose motor development is not yet mature (Richmond *et al.*, 2016).

5.4.3. How Percussive Timbre Relates to Engagement

The paragraphs above establish how the use of percussive timbre – defined by swiftness of attack as well as 'dryness' and 'noisiness' (Brent, 2010) – in repertoire and activities facilitates an experience that is both easy to understand and easy to achieve. Whilst non-pitched percussive sounds can relate to everyday non-musical experiences, as well as bearing similarities to timbres that can be created using the body, pitched percussion instruments offer an achievability of pitch that is not reliant on arduous technical skill-building or advanced motor skills.

Non-pitched percussive timbres were present in listening activities as well as teacher-directed and self-directed music-making activities. Pitched percussive timbres presented themselves in the data

collected, as well as associated literature, only in teacher-directed and self-directed playing activities. In Figure 17 below is an overview of how the three types of activity associated with non-pitched percussive timbre and the two types associated with pitched percussion relate to Brown's (2015) modes of creative engagement, as well as engagement more broadly.

Figure 17 – Percussive Timbre and Modes of Engagement

Attribute / Activity	Mode of Creative Engagement	Engagement Type
Non-pitched percussion, listening	Embodied, appreciative, evaluative	Behavioural, emotional, cognitive
Non-pitched percussion, teacher-directed playing	Embodied, directive	Behavioural
Non-pitched percussion, self-directed playing	Embodied, directive, explorative, appreciative, evaluative	Behavioural, emotional, cognitive
Pitched percussion, teacher-directed playing	Embodied, directive	Behavioural
Pitched percussion, self-directed playing	Embodied, directive, explorative, appreciative, evaluative	Behavioural, emotional, cognitive

Figure 17 above shows how, by listening to non-pitched percussion sounds, 7- to 11-year-olds can become engaged through embodiment, appreciation, and evaluation, each of which fit into behavioural, emotional, and cognitive engagement types respectively. These engagement types occur as children 'gear onto' (Krueger, 2014, p. 3) the timbral qualities and perceive them through the covert or overt imitation and comprehension of them (Wallmark, 2022). Non-pitched percussion sounds which occur within teacher-directed playing activities facilitate embodied and directive engagement as children repeat what they are shown or follow instructions. However, activities of this type are less conducive to appreciative engagement as they are more centred in compliance and

extrinsic motivation than intrinsically motivated personal meaning-making and musical comprehension (Dillon, 2007).

The presence of non-pitched percussive timbre within self-directed music-making activities is highlighted as conducive to embodied, directive, explorative, appreciative, and evaluative engagement. This is reliant on compatible music-making activities, which are explored in Chapter 7.

5.5. Attributes of Loudness

Attributes of loudness also presented themselves within the data as a feature which influences experiences of engagement in pupils. In the paragraphs to follow, the theme of dynamic variation is explored. This involves sudden and gradual changes of dynamic within a combination of teacher led and pupil led music-making activities. Accentual placements are also considered in this section.

After dynamic variation, loudness is considered in terms of volume and timbre, before conclusions are drawn regarding how and why each of the attributes explored can contribute to experiences of musical engagement.

5.5.1. Dynamic Variation in Teacher Led Music-Making

The inclusion of varied dynamics within teacher-led music-making activities was highlighted as an engaging attribute by six participants. Participating teachers described playing music to pupils which they responded to physically before discussing, as well as instructing pupils to use variations of loud and soft singing or playing during music-making activities.

In Chapter 4, an extract from Teacher O described a scene wherein tempo changes were experienced by children who were instructed to play freely, using claves, during the teacher's piano improvisation.

Embodied and appreciative engagement preceded evaluative engagement in this case, as children found enjoyment in the movement-based activity before reflecting on the musical changes during a teacher-led discussion. In the same activity, Teacher O also described making changes to the dynamic, as is shown in the extract below:

*I change the dynamic, and they start to move with less energy, quiet sounds (...) So that's (...) an example of how I might do it. And then we will discuss it afterwards. (...) And a conversation actually starts with, 'How did I make you play softly?' 'Miss, you were playing that, doing this!' And what did you do with your body when you do that? Oh, I moved my claws a bit less. So this conversations starts about the technique of playing, what we were actually doing – **Teacher O***

*There's some techniques (...) we do talk about volume control, and how they can play louder and quieter on the instruments (...), if you put the bow very close to the bridge and use a heavier arm where it's very tight, right? Okay, you can play much louder. And then if you move your bow towards the edge of the fingerboard, and just use a very light floaty bow, it's much quieter. – **Teacher C***

In the extracts above, the loudness of sounds made in the classroom were instantly related to the movements used to make them by both the teacher and pupils, during teacher-led discussion. This strengthens the aforementioned case for mimesis as argued by Cox (2016), Leman (2019) and Wallmark (2022). Teacher O describes children's musical learning process as one of action and discovery made possible through the use of a creative leader as described across Orff-related literature (for example, Frazee, 2006, Lange, 2005). Teacher C describes a discussion with 9-10-year-old pupils, wherein they discover how to create loud and quiet sounds on stringed instruments. It is

important to note that, in Teacher C's class, every pupil had access to their own stringed instrument and went on to try out the actions described.

Further teacher-led listening and music-making activities involving the variation of dynamics are shown in the extracts from Teachers K, E, and J below:

When we say let's play loud music and then soft music, they follow that (...) on those [percussion] instruments. – Teacher K

It's teaching the children (...) vocabulary. So if we are listening to a piece of music, they can use that confidently to describe to you whether it was loud or quiet, and they can say at which points (...) And also understand why that might happen in a song. So why would in an orchestra suddenly all go quiet? Then just have all the instruments starting all at once? Why is why are those dynamics used in in that way?" – Teacher E

In some ways, what it's doing is it's not just teaching that kind of dimension as its own entity, we're kind of incorporating into what we're doing. (...) That tends to really help with the kids understand and also being able to do it practically. So, it's not just like, 'Forte means louder'. Louder: how do we do that with this? (...) actually doing it physically. – Teacher J

In the interview extracts provided so far in this section present three main themes:

- 1) Learning through motor mimesis,
 - 2) Physical exploration,
- and
- 3) Classroom discussion of dynamic attributes.

As has been the case for each of the attributes explored so far in this thesis, experiences of motor mimesis and the embodied engagement that these involve have acted as pathways to further forms of engagement. By varying dynamic attributes during teacher-led musical activities, teachers enabled pupils to 'latch onto' (Krueger, 2014, p. 3) the dynamic features of the music and to discover the actions that were required to produce varying volumes on their instruments.

By allowing physical exploration during and following the experiences of motor mimesis, teachers facilitated flow experiences. Custodero's (2007) indicators of flow in the music classroom are categorised into challenge-seeking, challenge-monitoring, and social context indicators. By attempting to recreate dynamic qualities demonstrated by the teacher, children engage in both self-correction and gesture, which are forms of challenge-seeking flow indicators. The addition of dynamic control also facilitates expansion, which is a form of challenge-monitoring. There is potential for this to include social context as an indicator of flow, which is characterised by the pupil making eye contact with peers or seeking their engagement during an activity (Custodero, 2007).

Finally, the classroom discussions which preceded and followed pupils' physical exploration of producing varying dynamics on their instruments enabled evaluative engagement and also put pupils in a position for further directive and explorative engagement, via pupil-led musical activities. This is explored in the next part of this section. However, prior to that, another reason for the use of teacher-led dynamic changes in music-making activities that was mentioned by participants was its ability to encourage behavioural engagement in the form of focus and compliance in the classroom. This is shown in the extracts below:

Quite a lot of dynamic changes (...) showing that drumming isn't just about loud. (...) If you've got a group that are kind of getting a little bit kind of non-focused, bringing the dynamic down (...) they listen more when it's quieter. – Teacher 1

If I want to kind of go into the next thing, I need to (...) bring the energy down (...) that's, pretty much always with dynamics (...) we might sing the song again (...) quieter. – Teacher G

The suggestion that bringing the volume down of performed music also quiets down children's voices and calms their behaviour offers further evidence for Wallmark's (2022) hypothesis of musical perception as motor mimesis and Leman (2019)) and Wallmark's (2022) ideas about empathetic involvement with musical features.

5.5.2. Dynamic Variation in Pupil Led Music-Making

The use of dynamic variation in pupil-led, explorative music-making activities was highlighted by three participants. In the interview extracts below, the use of dynamic variation to facilitate explorative engagement is described by Teachers O, 3, and 2.

This conversation starts to happen about the technique of playing (...) but it's just (...) a quick conversation that's happening between them (...) go off into breakout groups (...) they're starting to make up that little piece - Teacher O

It's their choices, the music they make is up to them. And there's no wrong answer. That sounds quite safe. You know, you can hit your drum really loudly and you chose that. So that's what's going to happen in your piece of music. – Teacher 3

I said, 'okay, so we'll do the game. And what should we change today?' So one of them said, 'Let's change the dynamic. (...) what you have to do is sing it either louder or quieter than the person who went before you. First child [sings] 'my my, me oh my, how I love that cherry pie'. And the other one went 'crescendo!' I'd never thought of that. – Teacher 2

In the extracts above, teachers O, 3 and 2 describe handing over creative control to their pupils, following an introduction to dynamics within teacher-led music-making activities. This correlates with Lucy Green's (2017b) informal learning pedagogy, informed by popular musicians (Green, 2017a). Green's (2017b) approach to musical learning includes, amongst other elements, self and peer-led learning, learning by ear, performances and improvisation. Each of these are implicit in the interview extracts concerning pupils' explorations of dynamics above. An informal approach to musical learning has also been previously shown to increase engagement (Jeanneret, 2011), evidenced through pupils' good behaviour, motivation to learn, uptake of extra-curricular instrumental lessons, positivity towards music, heightened confidence, and engagement with music at home. That is, multi-layered emotional, behavioural, and cognitive engagement.

The above highlights how musical attributes can be harnessed by pupils when they can be physically, emotionally, and cognitively comprehended. It also suggests that opportunities for creativity which follow these initial comprehensions can facilitate further understanding, as well as *directive*, *explorative*, *evaluative* and *appreciative* forms of engagement (Brown, 2015). Whilst *appreciative* and *evaluative* engagement can occur at any stage during the perception of varied dynamics, *explorative* and *directive* engagement are present when this attribute is then utilised, within child-led music-making activities.

5.5.3. Cyclic Accents

Within musical examples given by teachers, including those ‘Happy’ (Williams, 2013), ‘Wellerman’ (Evans, 2021), and ‘We Will Rock You’ (Queen, 1977) already explored in this chapter as well as in Chapter 4, accents which have cyclic repetition work to form the rhythmic basis of the song. This is a common feature in popular music (Guanti, 2016; Zbikowski, 2004), and one which Luke Windsor and Christophe de Bézenac (2012) argue can make it difficult for a listener to *not* move to music. The most basic level of this is the listener’s synchronised responses to the beat, as has been discussed with reference to Leman (2019), Cox (2016), and Wallmark (2022). Synchronised movements which align with cyclic patterns of accentuation are described by Joel Krueger (2014) as a patterned response, reflective of the music’s dynamics.

According to Leman *et al.* (2017), when patterns establish themselves as repetitive, the listener too establishes the ability to predict their repetition. Particularly, when events such as cyclic accents establish salience, these can act as markers for rhythmic synchronisation (Leman *et al.*, 2017). It is understood that the experience of ‘feeling’ a beat is reliant on regularly spaced accents (Grube and Griffiths, 2009), and that it is these accents which enable the perception of metre.

Leman *et al.* (2017) also argue that the reward that comes as a result of this prediction-based participation can act as a motivator for achievement. This relates to the concept of *entrainment*. Entrainment occurs when two movement-based patterns synchronise and gradually align, in the case of the embodied listener, through the ‘gearing onto’ (Krueger, 2014, p. 3) of musical structures. Krueger (2014) argues that experiences of entrainment during listening-based musical activities can facilitate forms of emotional engagement. Krueger (2014) states that as one listens to and synchronises with music, one allows it to partially ‘organise’ (p. 4) their emotional responses and grant access to emotions which are experienced through the comprehension of musical features.

Whilst participants did not explicitly reference cyclicity, its presence within musical examples in the data and across the literature highlighted above suggest that it can influence Brown's (2015) embodied and appreciative modes of engagement. This relates to the rhythmic cyclicity explored in Chapter 4, which it is likely could not be perceived without the volume-based accentual markers, which work to establish salience (Leman *et al.*, 2017) and encourage movement-based rhythmic perception (Krueger, 2014). This has implications for primary school music teachers, particularly those who create or adapt repertoire for use in the classroom. These are explored further in Chapter 8.

5.5.4. The Power of Loud

A final category which presented itself within the data was children's preference for 'loudness'. This phenomenon was highlighted by five participants.

Cox (2016) argues that when we choose to listen to something at a higher volume, this involves the metaphorical logic of 'greater is higher', or 'more is up' (p. 62). This suggests that when children hear a sound that appears loud within its context, a value judgement is attached. He also describes loud sounds as 'strong' (p. 187), in part due to the exertion required to both make the sounds and to mimetically comprehend them (Cox, 2016). Cox (2016) suggests that, as a listener perceives a loud sound and mimetically participates in the actions required to make them, an emotional experience accompanies in line with the expression of the sound. Cox (2016) and Wallmark (2022) also both consider how motor mimesis can involve subvocalisation. That is, the real or imagined reproduction of a sound using the voice. This means that, when interpreting a loud sound, the consideration of the feelings that would be involved in recreating a sound of this volume using the voice could contribute to the perception and production of musical meaning.

The perception of loudness also relies on multiple factors. Whilst an increase in volume plays its part, Cox (2016) emphasises how timbral attributes must also be consistent with appropriate levels of exertion in order to construct the aural appearance of loudness. Timbral attributes are considered to be a crucial part of the perception of dynamics (Fabiani and Friberg, 2011).

Interviews with participants demonstrated that, whilst children appeared to be emotionally and behaviourally engaged with producing loud sounds themselves, they were less enthusiastic about listening to music played at a high volume. However, data also demonstrated that pupils did remain enthusiastic about hearing live drums, which are both contextually loud and characterised by timbral features such as a swift attack and decay, as discussed in the previous part of this chapter, which can connote exertion and – as has already been discussed – be readily understood in a physical way by the pupil. The extracts below highlight participants' experiences with loudness as an attribute in listening and playing activities, on various types of drums, brass instruments, violin and guitar.

Samba drumming (...) is very loud (...) they love it. And I think (...) they actually find it really easy to access. And even though I'll be playing things in different parts (...) they enjoy it as it makes a lot of noise. – Teacher M

I think brass instruments are seen as 'loud and proud' by kids. They're just like, 'We want to play this loud!', 'I want to be loud!'. It's like a power thing. I think they see it as a power thing. That's usually the reaction. – Teacher I

Teaching guitar, it's a lot more tactile, and it's (...) more quiet and kind of introverted instrument, because you've not got that volume to it. Whereas brass really feel that it goes one of two ways. It's either not enough air through it or way, way too much because they're just going for it (...) when they're so young, some of them it's really hard for them to get that

balance. So I understand why they do it. Yeah. And then you've got some who just do it because they can They control it, but they want to do it. So they do it. Teacher I

Some of them like it really loud, but (...) because it's a stringed instrument (...) you know, it's not easy. (...) I think actually the technical issues are (...) in the front of their mind. – Teacher C

Both of the quotations above draw to attention the technical difficulties of dynamic control on stringed and brass instruments, which Teacher I's also calls attention to the relationship between individual personality traits and choices of instrument. This phenomenon has been notably explored by Atara Ben-Tovim and Douglas Boyd (2012), who provide guidance to parents about how to help their children to choose which musical instrument to learn. The most recent edition (Ben-Tovim and Boyd, 2012) highlights how children are increasingly accustomed to instant gratification, which has made unrewarding practice sessions decreasingly likely and amplified the importance of choosing an instrument which is suited to the individual child physically, mentally, and personally.

The work of Ben-Tovim and Boyd (2012) is based on the premise that, whilst parents may know their own children very well, analysis-based assistance with instrumental could help to ensure continued musical engagement. They highlight the ease of dynamic control on percussion instruments and echo Tagg's thoughts on the parallels between electric guitars – as well as electric bass guitars and keyboards – as similar to motorbikes, terming both as *aggressive* (Tagg, 2013).

Whilst the comparison between electric guitars and motorbike sounds and/or attitudes appears to be dated, Ben-Tovim and Boyd (2012) reinforce the point that the 'loudness' of electric instruments is a part of their appeal to children, particularly adolescents. However, whilst Ben-Tovim and Boyd (2012) compare playing an electric guitar quietly to riding a motorbike slowly; stating that it is

dissatisfying to children, Tagg's (2013) work suggests, the perception of loudness could be more related to the timbral attributes which create effects such as distortion and/or overdrive. Such sounds could contribute to satisfaction due to a perception of exertion (Wallmark, 2022) due to their resemblance to genuinely loud sounds (Tagg, 2013), without existing at an actual volume that could be perceived as aggressive or antisocial.

In the case of brass instruments as referenced by Teacher I, Ben-Tovim and Boyd (2012) argue that aggressive, dominant, or ambitious children are well-suited, due to the potential for instruments such as the cornet – which is also physically more manageable than other brass instruments and the choice of Teacher I for younger children – to act as an energetic outlet.

The issue of technical difficulty in the dynamic control of brass and stringed instruments, as well as woodwind instruments relates back to the Orffian approach to using percussion instruments, particularly at early stages of music education (Beegle, 2022). As well as being easy to mimic sounds upon, percussion instruments, as discussed in the previous part of this chapter, make dynamic control accessible for children (Beegle, 2022; Richmond *et al.*, 2016). They are also well-suited to being played loudly (Smith, 2019).

Loudness as a feature was also referenced in relation to singing activities, both teacher and pupil-led. Teacher A described singing loudly himself at the start of a lesson with an unfamiliar class, whilst Teacher G highlighted a group singing activity. Both Teacher A and Teacher G suggest that, by creating musical sounds which are high in volume, children gain confidence and therefore become emotionally engaged.

So we'll do like a warm up and I'll just literally straightaway do a massive (...) Beyonce warble, you know. Kids go, 'Oh my gosh!' And that's not to show off at all. It's to go (...) 'I'm gonna sing really loud (...) I'm not embarrassed' (...) boys can trust that as a guy doing it, you know (...) he's not embarrassed, you know (...) and he can do it out loud." – **Teacher A**

Singing is immediate (...) you can get kind of an adrenaline (...) particularly if it's kind of loud (...) or you get a nice sound together to be confident with (...) yeah, I think it's just quite easy to quickly get people engaged in that. – **Teacher G**

The extracts above suggest that there is a meaning associated with loud singing that can work to empower pupils. That sounds which naturally have a higher volume – such as projected singing – carry meaning potential which relates to power has been demonstrated in a qualitative study by David Welch and Guy Fremaux (2017). Welch and Fremaux (2017) interviewed nightclub attendees and workers to discover their attitudes towards loud sounds and found that their enjoyment was related to an emphasis and enhancement of their personal identity, as well as excitement and arousal, the masking of unwanted thoughts, and the facilitation of socialisation. The facilitation of socialisation was also highlighted by Teacher G, who emphasised making a sound 'together' and referenced the adrenaline that it could cause.

Whilst the research by Welch and Fremaux (2017) was with adult participants, it does offer an insight into the potential for social, cultural, and personal meaning-making through participation with high decibel music, that is relevant across age-groups. However, it is important to note that it was highlighted by Teachers C and D that children can be sensitive to music played at higher volumes during listening activities. This can be detrimental to engagement. In the interview extracts above, loudness is discussed in a pupil-led, directive context. In a similar way to how the enjoyment of loud

music in night clubs is reliant on some degree of participation, the appreciative engagement with loud music in the classroom requires simultaneous directive engagement.

5.5.5. Attributes of Loudness and Types of Engagement

The attributes highlighted in the second part of this chapter are:

- 1) Dynamic variation in teacher-led-activities,
- 2) Dynamic variation in pupil-led-activities,
- 3) Cyclic Accents, and
- 4) Loudness.

Figure 18 below details how each of these attributes relate to experiences of engagement:

Figure 18 – Attributes of Loudness and Modes of Engagement

Attribute / Activity	Mode of Creative Engagement	Engagement Type
Dynamic Variation in Teacher-Led Activities	Embodied, Appreciative, Evaluative	Behavioural, Emotional, Cognitive
Dynamic Variation in Pupil-Led Activities	Embodied, Appreciative, Directive, Explorative	Behavioural, Emotional, Cognitive
Cyclic Accents	Embodied, Appreciative	Behavioural, Emotional
Playing Loudly	Appreciative, Directive	Behavioural, Emotional

Figure 18 above shows that all five modes of engagement can be reached within music-making activities that explore and utilise attributes of loudness. The variation of dynamics – in a similar way to the variation of tempo explored in Chapter 4 – enables the achievement of each of the modes,

through a combination of teacher and pupil-led music-making activities. Cyclic accents, which are common across existing repertoire, can encourage involuntary embodied interaction and the appreciation that comes with that, whilst playing loudly can also enable a positive emotional response from children, providing it is combined with directive engagement.

5.6. Chapter Summary

In this chapter, five attributes of timbre and loudness have been identified as having engagement potential in the Key Stage 2 classroom. These conclusions have arisen through a combination of theoretical consideration and the analysis of empirical evidence provided throughout teacher interviews.

The three attributes of timbre discussed were:

- 1) Timbres of the body,
- 2) Timbres with physical familiarity, and
- 3) Percussive timbre.

Whilst each of these related to their own specific theories, for example, bodily timbres had a high level of accessibility, whilst timbres with physical familiarity could foster personal and social meaning-making, the idea of mimesis remained consistent throughout. Embodied cognition theorists Cox (2016), Leman (2019), and Wallmark (2022) make a case for the perception of music as reliant on bodily understanding for all individuals. For the music teacher working with 7- to 11-year-olds, both prior experiences of sound-making and stages of motor development must be considered in order to utilise embodied experiences of musical perception for the purpose of engagement in the classroom. This is explored in further detail in Chapter 8.

The two attributes of loudness discussed were:

- 1) Dynamic variation, and
- 2) Loudness in music-making activities.

Dynamic variation acted as an umbrella term, covering alternations between passages of higher and lower volume in teacher and pupil-led activities, as well as accentual cyclicity. Once again, theories of motor-mimesis were prevalent in this discussion. Whilst purely timbral features were related to prior experiences, motor skills and an emotional understanding of sounds, the use of dynamic variation as fluctuations in volume facilitated a more explorative type of engagement. Accentual cyclicity was primarily related to involuntary bodily movements, which can develop into more appreciative and emotional forms of engagement.

This chapter has continued to reinforce the importance of movement for 7- to 11-year-olds' musical engagement and has demonstrated ways in which musical repertoire can facilitate movement-based responses, both embodied and directive (Brown, 2015). It builds upon the theoretical understanding developed in Chapter 4 and offers an explanation of why and how timbral features and attributes of loudness can encourage engagement when used in repertoire and music-making activities. Chapter 6 will continue to explore the musical attributes identified by participants as engaging, with a focus on pitch-based features.

CHAPTER SIX: ATTRIBUTES OF PITCH AND TONALITY

6.1. Chapter Introduction

In this chapter, the relationships between attributes of pitch and tonality and experiences of musical engagement in 7- to 11-year-olds are explored.

Pitch is defined as the perception of a sound's frequency (Houtsma, 1997). However, it is understood that pitch cannot be interpreted in isolation from timbre, particularly when multiple frequencies are present within a sound (Houtsma, 1997). For this research, pitch is considered in terms of height and relationships, within a tonal context that helps to establish potential meaning (Krumhansl, 1979; Machin, 2010).

Tonality is considered to be a listener-focused process which involves the organisation of pitches that are heard in relation to a single pitch (Rings, 2011). In this research, tonality refers to individual chords and chord progressions, as the relationships within them are related to experiences of engagement in 7- to 11-year-old children.

In the sections to follow, identified attributes of pitch and tonality are explored and connected to types of engagement. Minor third and major second intervals, limited melodic ranges, and simple patterns of pitch and tonality are investigated, with a particular focus on major second and minor third intervals, major and minor triad chords, and cyclicity within melodic phrases and chord progressions.

6.2. Minor Thirds and Major Second Melodic Intervals

The use of major second and minor third melodic intervals – explored separately in the following parts of this chapter – was illuminated as a feature with the potential to engage 7- to 11-year-olds in the music classroom. This theme presented itself in both participant interviews and in existing literature relating to music education and development (Elmer, 2011; McKernon, 1979; Mizener, 2008).

Six teachers explicitly referenced melodic intervals of *a major third or smaller* as an attribute they considered to be effective with classes of 7- to 11-year-olds. In the paragraphs to follow, these examples are analysed in correlation with types of engagement; predominantly Brown's (2015) five modes, detailed earlier in this study.

6.2.1. *Minor Thirds*

Minor third intervals, encompassing three semitones, are widely regarded to convey sadness (Curtis and Jamshed, 2010). However, they are also commonly used in popular music (Capuzzo, 2009; Pfliederer, 2019) and, to some degree, in playground games (Marsh, 2008). This interval, particularly when descending, was a specific attribute highlighted by four teachers as conducive to experiences of engagement. Minor third intervals have also been related to songs found in children's games and are regarded by some to occur in the first singing of infancy (Anderson, 2021). The relevance of this is considered below, alongside an exploration into experiences of embodied cognition associated with minor third intervals, and how these can both signify and produce experiences of engagement.

Descending minor thirds are often used in the preliminary stages of Kodaly-informed pedagogy (Howard, 1996). This was acknowledged by Teacher 2 – a self-described Kodaly teacher – and Teacher G who draws from a variety of pedagogical methods, in the quotations below:

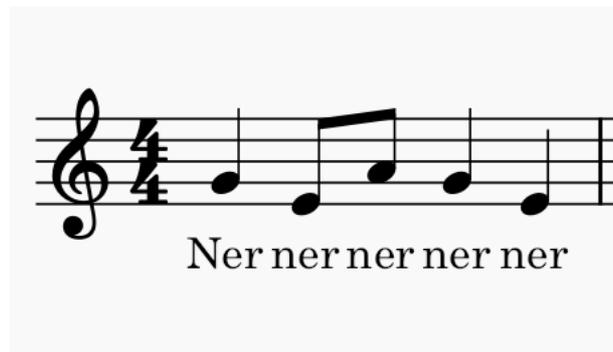
We use naturally occurring repertoire (...) which is playground games, right? (...) You're wanting the children to learn to sing in tune. And they're not going to learn to sing in tune by singing things which have a huge range, or which have lots of chromaticism or lots of semitones (...), which is why we start with the so-mi interval, because that falling minor third is just a natural sound for the human voice to make. And that seems to be across cultures. –

Teacher 2

*Well, (...) the Kodaly approach, which I (...) follow (...) melodically through the early years (...) so-mi, so-mi (...) and then (...) building up from there. (...) I do find that really effective in terms of kind of (...) getting children (...) matching pitch and things like that. – **Teacher G***

Kodaly-inspired lessons are characterised by singing which is developmentally appropriate and in keeping with children's musical activity outside of the classroom (Bondurant-Koehler and Koehler, 1998). Due to its use in the playground, such as the utterance detailed in Figure 19 below and in games like 'Doggy Doggy where's your bone?' (Moon, 2020), a falling minor third (sol-mi) interval is often used in preliminary lessons, followed by la. The sol-mi interval is also commonly used during the early stages of Orff-inspired (1978) music education.

Figure 19



Whilst Kodaly's (Dobszay, 1972) argument was for the natural occurrence of this pattern, which is understood to be sung by children internationally (Bondurant-Koehler and Koehler, 1998; Sheridan, 2019), this has been challenged by Peggy Bennett (2016). Bennett (2016) draws attention to the fact that evidence for children's use of sol-mi in the North American playground is limited and argues that its relevance in historical Hungary should be contextualised, rather than transferred internationally. In playgrounds in the United Kingdom today, popular music is commonly utilised, within which melodic intervals are often below a fifth but there is no particular relevance to the so-mi interval (Marsh, 2008; Willett, 2011). Bennett (2016) questions whether sol-mi really is the 'universal interval' (p. 299) it is widely considered to be, citing Walter Dowling (1984) who argued that the evidence for this was weak. Since Dowling's (1984) work and Bennett's (2016) critical reflection, further research has reflected on how the phenomenon – also known as the 'Ur-song theory' (Anderson, 2021) is present in children's music but to a lesser degree than is often suggested. Anderson (2021) states that further research must be done to gain a fuller understanding of children's melodic acquisition.

Orff (1978) argued that the use of the notes in playground games made them both easy for children to achieve and contributed to an atmosphere of playfulness in the classroom. Explanations and descriptions of the falling minor third in both Kodaly and Orff classrooms point primarily to two forms of engagement: *appreciative* and *directive*. Appreciative, due to the enjoyment described in the play-based activities like 'Doggy Doggy...' (Moon, 2020) that this interval lends itself to after

children master this interval in infancy (Fillips, 2005; Geen, 1970). Directive, due to the ability of this interval to encourage active, behavioural engagement in students (Fillips, 2005).

Both Orff (1978) and Kodaly (Dobszay, 1972), as well as scholars interested in their work (for example, Frazee, 2006; Houlahan and Tacka, 2015) have highlighted how the descending minor third can act as an effective entry to music education due to the ease of successful imitation. This ease is related to social and cultural familiarity owing to its organic use by children, but the organic nature of its use also suggests physical comfort which aligns with the previous consideration about consonance and physical relaxation. However, subsequent and scientifically-oriented research has raised the question of *why* the minor third interval has such widely reported use in naturally occurring situations involving children (Anderson, 2021; Buxó-Lugo, Andrés and Robert Slevc, 2020).

It has been suggested that descending minor third interval is akin to the sounds we naturally make when conveying sadness in speech (Curtis and Bharucha, 2010) and that singing a descending sol-mi interval results in a sad facial expression, which could influence the perception of emotion during actual or imagined singing (Cochrane *et al.*, 2013). Each of these can be related to theories rooted in the neural processing of tonality, which argue that the aesthetic emotion that music is able to achieve through tonal relationships can be appreciated by those who are not experiencing, or have limited experience of the emotion (Gabrielsson and Juslin, 2003). Furthermore, the underlying mechanisms within music which contribute to the expressivity of its compositional structure; for example pitch relationships and attributes of timbre, can be compared to those within expressive speech, contributing to an experience of emotional contagion (Juslin and Vastfjall, 2008).

With further consideration to Korsakova-Kreyn's (2018) two-level model of embodied music cognition, it is also worth contemplating both the resolution of the falling minor third interval and the consonance of both notes in unison. Both of these are significant due to what Korsakova-Kreyn

Whilst Teacher 2's example illuminates the potential of simple melodic phrases using the minor third interval to engage 7- to 11-year-olds, the lyrical content could be reconsidered by individual teachers, for classrooms with differing social and cultural backgrounds and requirements.

6.2.2. Major Second intervals and Conjunct Motion Melodies

The use of major second intervals and conjunct motion (stepwise) melodies were also highlighted within interviews, with codes: singability, physical representation, and internalisation. All three themes are interrelated. However, for clarity, they are considered one by one in the paragraphs to follow.

The quality of singability – being easy to sing – has been associated with major second intervals and conjunct motion melodies across music education and music perception literature for decades (Elmer, 2011; McKernon, 1979; Mizener, 2008). It is understood that children can achieve conjunct motion melodies more accurately than those which are disjunct (Moore *et al.*, 1997) and music education scholars have urged music teachers to consider this achievability when choosing repertoire for children in middle-childhood (Mizener 2008). This knowledge, based largely on empirical findings throughout the studies referenced, reinforces the statements given by Teachers D, L, and A in the extracts below:

Something that's got (...) close intervals really helps. So like a stepwise melody (...) if they can internalise and memorise it, it's really useful. (...) A stepwise melody is much easier to do that. Because (...) if you go from a C to a D, then you can almost predict it's going to be an E. (...) They find it much more fulfilling to play those melodies, rather than something that leaps around. – Teacher D

Moving by step, in the first instance, for (...) younger children, or maybe thirds. (...) As you get higher up the age group, then you can start to think about more challenging intervals as well.

– Teacher L

A lot of my material I keep simple (...) one of my songs (...) is called ‘Get up, Get down’. It just goes (...) *sings* ‘Get up, get down and move it all around’. It’s slightly funky, (...) just two chords. – Teacher A

Figure 21: ‘Get Up, Get Down’ Sung Notation



The extracts above highlight teachers’ experiences of major second intervals and conjunct motion melodies achieving directive and appreciative engagement in the classroom. Whilst *directive* engagement is demonstrated by singing along, appreciative engagement is activated through the aforementioned participatory pleasure (Leman *et al.*, 2017) of doing so. Teacher D’s quote also highlights the role of internalisation and memorisation, explored later in this section, whilst Teacher L focused on the achievability of major second intervals, referring to ‘younger children’, meaning 7-year-olds at lower Key Stage 2. Teacher A’s extract was in response to the question of how they fostered relevance in pieces that were composed for the classroom. Teacher A stated that simplicity was crucial and demonstrated an example using two notes just one step apart, which he also emphasised had ‘cool’ lyrics. Returning to Teacher B’s ‘Cherry Pie’ example, it could be easily

explained how ‘Get Up, Get Down’, could appeal to some pupils who might fail to get engaged with ‘Cherry Pie’, based on its lyrical content and regardless of the similarly achievable melodic intervals.

Both *directive* and *appreciative* engagement are related to the singability of conjunct motion melodies. This is due to how singing literally involves physical doing, and the already established participatory pleasure (Leman *et al.*, 2017) that joining in with a part can provide. However, both involuntary physical responses and the process of internalisation involve *embodied* engagement as a third type related to this attribute.

The physical and visual representation of closely related pitches is related to memorisation.

Neuroscience has shown that physical movement can facilitate long-term memorisation of learned concepts (Mendes *et al.*, 2021) whilst visual representation in the form of notes written on the stave is understood to foster musical understanding and independence (Sheridan and George, 2004). By using melodic phrases with small intervals, limited pitch ranges are automatically encouraged, which make physical representation on the body – such as in body percussion activities – achievable (Jacobi, 2012) as well as the transferal of notes to the stave (Lane, 2006).

Despite all of this, for melodic phrases with small intervals to be successfully memorised, neither an overt physical or visual representation is necessarily essential. Covert motor responses such as imagining singing along with a piece – also known as subvocalization (Pruitt, Halpern, and Pfordresher, 2019) – is also understood to be responsible for the internalisation of melodies (Cox, 2011). Due to the singability of melodic phrases containing small intervals, this covert motor response is a likely outcome of listening to them and could also contribute to emotional forms of engagement as a meaning is formed from the imagined vocal participation and its associated physical characteristics. For example, to imagine singing a high-pitched phrase would require accompanying imagined effort and, depending on whether the phrase was ascending or descending, an outgoing or

incoming emotion (Machin, 2010). On the other hand, a low-pitched melodic phrase with small intervals would indicate minimal effort and would therefore construct a different emotional meaning in the subvocalising listener (Machin, 2010; Cox, 2011; 2016).

6.2.3. The Minor Pentatonic Scale

Made up entirely of minor third and major second intervals, the minor pentatonic scale combines both intervals discussed so far in this chapter and was referenced explicitly by seven teachers.

Themes relating to the pentatonic scale ranged from improvisation and composition – both of which are activities considered in Chapter 7 – to singability (discussed in section 6.2.2), social and cultural relevance, instrumental affordances and consonance. The paragraphs to follow explore each of the latter three themes.

The pentatonic scale takes its name from the Latin words ‘penta’ and ‘tonus’, which mean ‘five’ and ‘tone’ respectively (Alles *et al.*, n.d.). It is commonly used in popular music (Biamonte, 2010), as well as American folk music (Schade, 1976), and playground games such as ‘*Doggy Doggy*’ and ‘*Ner Ner...*’ mentioned in section 6.2.1 (Marsh and Marsh, 2008). Intervals throughout this scale range from two to three semitones, meaning that there are no opportunities for dissonance.

The use of pentatonic melodies throughout popular music and playground games was highlighted by Teacher F in the comment below:

It's the sort of scale that's used a lot in modern music that they will listen to (...) Hip hop would use it, (...) The Kinks base a lot of their songs on (...) a pentatonic scale. So, it's just very accessible because it's (...) used so much in pop songs. – Teacher F

Another consideration relating to the pentatonic scale and directive engagement is the affordance of pentatonic notes on different instruments. In the interview extracts below, Teacher F and N highlight the affordances of playing only pentatonic notes on chime bars and keyboards.

The nice thing about the chime bars you can give them just a C and A D (...) which is good (...) because, you know, it's going to be right. – Teacher F

You can certainly compose in modes quite straightforwardly, either using the black note pentatonic stuff or (...) Dorian modes, which work perfectly fine at that kind of age range. – Teacher N

Teacher F's comment, relating to chosen chime bars, echoes literature relating to Orff's pedagogy (Lange, 2005). In Orff-inspired lessons, pentatonic chime bars are given to children to result in unavoidable, pleasant-sounding harmonies during improvisation-based activities. Improvisation has been related to increased engagement in a number of studies (Wright and Kanellopoulos, 2010; Sarath, 2013; Van Nort, 2018) and the pentatonic scale has been frequently cited as an attribute in improvisation-based musical activities (Brophy, 2005; Ashley, 2009). This is considered further in Chapter 7.

Teacher N refers to the exclusive use of the black notes on a keyboard to create pentatonic melodies.¹⁴ Again, this relates to music education literature concerning improvisation and composition activities (Kampmeier, 2007; Upitis, 1987). The concept remains the same as removed chimes in Orff's (1978) pedagogy; with the choice of white notes removed, pentatonic notes are

¹⁴ By using exclusively the black notes on a tuned keyboard, the F# Major Pentatonic scale is played

readily achieved and the result is a confidence-boosting, musical-sounding creation which can open the door to improvisation and further musical activity and understanding (Brophy, 2005).

A further crucial part of the connection between the pentatonic scale and *appreciative, directive* engagement is its continual consonance and tonal stability. This is highlighted in the interview extracts below, as Teachers F and C emphasise the inability to ‘go wrong’ when improvising using the scale.

The five note (...) pentatonic (...) scale is really easy to capture, (...) you can't really go wrong with it at all. If you just stick to those five notes, you can't make mistakes. – Teacher F

We have one of the pieces in here (...) called Saraswati. (...) you can just noodle around the notes you've played, you can improvise with those four notes over the whole backing track, and it just works. – Teacher C

Teachers F and C’s comments related directly to improvisation as a music making activity, which is considered in more detail in Chapter 7. However, they additionally highlight the consonance of using notes from this selection and suggest that this contributes to children’s ability to engage with activities such as improvising.

The pentatonic scale can be understood as deriving from a collection of fifth intervals, arranged to ascend horizontally. This offers an explanation for its stability; as the fifth interval offers ‘perfect consonance’ (Kolinski, 1962) due to its position as second after the perfect octave in the harmonic series (DeWitt and Crowder, 1987). How this relates to engagement connects, again, to experiences of embodied cognition. The lack of musical tension within the pentatonic scale translates to a physical lack of tension when it is heard (Korsakova-Kreyn, 2018). This means that little effort is required to comprehend its emotional meaning and it can be readily imitated with a focus on

behavioural engagement. This is not to say that the pentatonic scale cannot contribute to experiences of emotional engagement. However, it does suggest that experiences of emotional – or appreciative – engagement are related to participation and/or social/cultural relevance, rather than inherent musical meaning, when the pentatonic scale is used.

6.2.4. Summary of Section

This section has detailed how minor third and major second intervals can contribute to experiences of engagement in the Key Stage 2 classroom.

Through the examination of minor third and major second intervals in relation to types of engagement, it has become evident that the singability related to intervals of these sizes can contribute to both overt and covert motor responses, which enable *directive* and *embodied* forms of engagement as well as *appreciative* engagement. As well as being singable, minor third and major second intervals are also related to playability due to instrumental affordances and common pedagogical processes across instruments, which foster familiarity with pentatonic or diatonic scales in a sequentially logical way (Giddings, 2022; Wang, 2021).

The pentatonic scale – made up of minor third and major second intervals – has also been identified as a tonal attribute which can contribute to engagement due to, as well as the overt and covert motor-based responses related to the intervals themselves, cultural and social associations which can be readily made by children across cultures. Popular music and playground games are both highlighted as sources of pentatonic melodies, which enables a meaning-making process as described by Dillon (2009), wherein social and cultural factors contribute to experiences of emotional, behavioural, and cognitive forms of engagement.

The role of embodied cognition is twofold throughout this section, concerned with both of Korsakova-Kreyn's (2018) 'deep' and 'surface' levels. Whilst the 'surface' level indicators of embodied interaction are akin to those found in relation to other attributes explored throughout this thesis, 'deep' level interactions are unique to tonality. This is due in part to their reliance on qualities of tension and release (Korsakova-Kreyn, 2018). The notion of tension and release in music is a widely considered phenomenon (Temperley, 2007, 2018), understood to be related to the perception of time and the desire to comprehend (Erickson, 2012).

Further 'deep' level embodied interactions (Korsakova-Kreyn, 2018) can be attributed to the experiences of emotion which are cultivated, expressed, and understood via the relationships between pitches. This section has clarified how pitch and tonality are crucial to meaningful emotional engagement with music and it has also suggested that engagements of this type can contribute to children's emotional, as well as musical education.

By using small intervals, experiences of musical tension are allowed to be at their most intense and most noticeable (Huang, 2021). This, combined with the playability and singability of melodic phrases which utilise small intervals offers an opportunity for both emotional and behavioural engagement, each of which could precede cognitive activity, particularly with appropriate teacher guidance as is discussed further in Chapter 7.

Figure 22 below summarises how small intervals in the forms of minor thirds, major seconds, conjunct motion melodies, and pentatonic phrases can each contribute to experiences of engagement in the Key Stage 2 classroom. In the following section, simplicity is considered as an attribute; both of melodic phrases and patterns of tonality.

Figure 22

Attribute	Engagement Type(s)	Reason(s) for Engagement(s)
Minor third intervals	Directive, appreciative, evaluative, embodied	Singability, pleasure of participation, social relevance, physical responses to small intervals
Major second intervals	Directive, appreciative, embodied	Singability, pleasure of participation, physical responses to small intervals
Conjunct motion melodies	Directive, appreciative, embodied	Singability, pleasure of participation, physical responses to small intervals
Pentatonic phrases	Directive, appreciative, evaluative, explorative, embodied	Singability, pleasure of participation, social relevance, ease of improvisation, physical responses to small intervals

6.3. Limited Pitch Range

An attribute highlighted by X teachers was the use of a limited pitch range. That is, melodies with the maximum range of an octave, but often a fifth or less.

In the paragraphs to follow, narrow pitch ranges are considered in relation to singability, playability, memorisation and understanding. Whilst singability and playability are most readily associated with directive engagement, memorisation and understanding in this context relate to embodied, appreciative and evaluative forms of engagement. Once again, embodied music cognition is

considered as a crucial factor in the construction of experiences of engagement; both on a 'deep' and 'surface' level as defined by Korsakova-Kreyn (2018).

6.3.1. Singability

As with small intervals and the use of repetitive, short melodic patterns, the use of a limited melodic range has been related to singability (Crocker, 2000). In the paragraphs to follow, the role of a narrow pitch range in experience of singability is explored. The common vocal ranges of 7- to 11-year-olds are also considered, as well as how the physical representations that are compatible with narrow pitch ranges can contribute towards the achievability of singing exercises and types of engagement associated with that.

In the interview extract below, Teacher H suggests that the singing range of pupils could roughly correspond with the age of the learners.

Roughly speaking, this is vastly oversimplifying it (...) the average range corresponds to the age of children. So if you're five, you could probably handle a five note range, (...) seven at age seven, an octave at the age of eight – Teacher H

This idea is present within literature. Jinyoung Kim (2009) suggests that the range of five notes (seven semitones) is recommended for lower Key Stage One children across textbooks and also suggests that this increases with age. Megan Perdue and Patricia Campbell (2020) identify the gradual increase from a five-note range as one strong argument within music education literature, also highlighting a second argument that Key Stage Two children can sing up to an octave. Both common arguments agree that the starting point of primary-aged children's range begins on or just above the middle-C (Kim, 2009; Perdue and Campbell, 2020).

Of particular relevance when considering social and cultural contributors to experiences of engagement, is the finding by Cynthia Lum and Campbell (2007) that musical utterances delivered spontaneously by children within play settings tend to fall within a range of a fourth. Lum and Campbell (2007) emphasise that children's chosen tessitura is smaller than what they are understood to be capable of singing. This establishes an idea that a limited melodic range can achieve personal and social relevance for children, due to its alignment with the music-making they participate in and create voluntarily. Through the achievement of relevance, *appreciative* and/or *evaluative* modes of engagement can also be activated, as enjoyment or the consideration of meaning are established.

The physical representation of pitches using parts of the body is also thought to make melodies easier to both absorb and sing. Bonnie Jacobi (2012) discusses this in relation to Kodaly-inspired lessons and argues that the kinaesthetic preparation that differentiating pitch levels on the body provides works well when it is 'using only four to five pitches' (p. 14). She argues that to attempt to use body signs to gain an understanding of sung higher and lower pitches using more than five pitches would become 'tedious' (p. 14). She also states that whilst bodily representations of pitch are not accurate enough to determine interval steps, they work well for younger students who are gaining understanding of higher and lower notes (Jacobi, 2012). Jacobi (2012) offers examples of alternative kinaesthetic singing activities which are better suited to teaching and learning intervallic steps. These are considered in Chapter 7.

In section 6.2, Teachers H and I described kinaesthetic pitch activities using notes with small intervals. These activities also had a small pitch range. Teacher H described transferring notes that are sung with accompanying bodily actions to a 'three line stave', whilst Teacher I detailed how the four body parts used represented step intervals. These examples reinforce Jacobi's (2012) suggestion

that a range limit must be in place when using the body to understand pitch movement, in order to prevent a loss of emotional and behavioural engagement.

The use of notes within a gradually expanding pitch range are also accompanied by correlating hand movements in Dalcroze-inspired lessons (Nijs, 2017; Eisenreich and Juntunen, 2019). These can span as much as an octave, and are most commonly using a fixed 'do' on the middle C (Anderson, 2012).¹⁵ In Kodaly-inspired lessons, pitch range can be limited to a fourth for a large amount of time – with a moveable solfege system and so, mi, and la acting as starting notes to be expanded upon (Luen and Ayob, 2019). Each of these notes are accompanied by hand gestures which reinforce the understanding of intervals and facilitate singing in tune. Melodies which combine sol, mi, and la, with a fixed or moveable do, are thought to be akin to children's natural utterances, as has been empirically explored by Lum and Campbell (2007). This phenomenon was reference by Teacher 2, in the extract below:

We just sort of collect games that children play, really, that there are a few that are composed songs, but they're still within this quite small range, because you're wanting the children to learn to sing in tune. – Teacher 2

The use of limited melodic ranges is also understood to relate to expectation during musical perception, which is thought to facilitate the confidence required to sing along (Leman *et al.*, 2017). Temperley (2007) highlights the ubiquity of melodies with a narrow pitch range and argues that listeners learn to expect these limits. This fulfilment of expectation facilitates the emotional responses to tonality described by Korsakova-Kreyn (2018) constructing an opportunity for

¹⁵ Fixed 'do' is used to encourage absolute pitch, always referring to middle C. Moveable 'do' is utilised for fostering relative pitch and intervallic understanding and ear training (Boucher, 2019).

appreciative engagement through enjoyment and evaluative engagement through reflection and consideration of musical expectation, alongside the directive engagement that singing itself enables.

6.3.2. Playability

Small melodic ranges also offer physical playability to 7- to 11-year-olds on the instruments they are becoming technically familiar with. This relates to embodied attuning and the perceived source of sounds, learning by ear, as well as the ease of processing discussed in relation to singability.

Embodied attuning experiences involving instruments that children have physical familiarity with was discussed in Chapter 5. It was concluded that when the source of a sound can be recognised, engagement can be achieved through the construction of personal and social meaning-making and a motor-mimetic understanding of what is heard.

In the case of pitch, the data and literature (Cox, 2017; Godoy, 2018) suggest that introducing repertoire using notes which can already be achieved by pupils could also activate motor mimesis and its associated engagement(s).

Teachers 2, B, D, and P describe the introduction of notes and phrases during warm-up activities, which are to appear within repertoire. There is consistently a melodic range of below a fifth in the activities explicitly detailed, due to the stage of musical technicality the pupils are at. These warm-up activities, explored more in Chapter 8, fulfil the purposes of reminding pupils of how to play notes in their current range, familiarising pupils with the pitches, and teaching new notes when necessary. They also enable embodied attuning experiences when repertoire is introduced via listening activities.

The activities described by teachers foster familiarity with phrases and individual pitches. Cox (2016) argues that familiarity goes ‘hand in hand’ (p. 51) with mimetic participation, stating that repeated exposure to musical features theoretically correlates with mimetic motor imagery but that disorders such as schizophrenia and autism spectrum disorder could limit the mimetic comprehension of other people’s gestures. He emphasises how motor mimetic imagery involves the imitation of sounds and the actions used to make them, making the process of – in the case of pitch – imitating a melody an embodied attuning exercise as well as an empathetic process concerned with how it would physically feel to create the sounds heard.

Leman (2019) describes embodied attuning as an attempt at ‘being as much as possible in harmony with features of the moving sonic forms of music (p. 115). It is an active role for the listener, positioned between unconscious synchronisation and the higher involvement of empathy. A higher level of empathy could be sought for at greater stages of musical development. This could be done through the consideration of tonal relationships and how they contribute to musical meaning and the reflection on how pitches heard can be achieved. This reflection indicates empathetic experience as a cognitive form of engagement that is also conducive to behavioural engagement. This involves what Leman (2019) describes as a high level of intentionality, which is present in some, but not all, experiences of embodied attuning. He suggests that further research is needed into neural, physiological, and behavioural articulation in order to understand the differences between varying degrees of mirroring and imitation (Leman, 2019).

In the extracts below, Teachers J and P emphasise the importance of the use of limited melodic ranges within instrumental lessons:

Normally you only have like maybe two or three note range, (...) C, D, and E to play for a very long time. – Teacher J

Repertoire itself has got to be achievable. Of course, yeah. It's got to be within a range of notes that they can cope with (...) on any instrument. – **Teacher P**

A limited pitch range also offers opportunities for successfully learning to play by ear. Lucy Green (2017b) argues that learning to play melodies by ear offers pupils an authentic musical experience which reflect the learning activities of the popular musicians they listen to. Throughout Green's (2017b) work with secondary school children, she identified how initial imitations of music related to the melodies present in riffs or vocal parts. This was the case even when pupils were attempting to play a part on an instrument with a different role. Green's (2017b) research also described several instances of pupils copying back riffs successfully following audio recordings, in a way that they had difficulty succeeding with live demonstrations. This is considered more in Chapter 9, but of interest for this section is the pitch range in an example given by Green (2017b), spanning a fifth. Whilst the majority of her examples were concerned with the details of musical activities, rather than the attributes of pitch or other musical parameters, Green's (2017b) chosen melodic example strengthens the argument for a narrow pitch range and increased engagement due to ease of memorisation.

When considering the relationship between playability and a limited pitch range it is crucial to consider the differences between instruments. Whilst some have a tendency to be taught initially in a small pitch range; for example, the piano beginning with five fingers starting on the middle C (DiCienzo, 2019) or the recorder on B, A, G (Philbeck, 2005), others – such as string instruments – are taught using open strings first, due to the physical achievability of this. In the case of bowed string instruments, these are often already a fifth apart. In Suzuki-inspired lessons, 'Twinkle Twinkle' is used as a preliminary piece, keeping a limited range of 10 semitones whilst utilising singability and familiarity (Ozal, 2007). Whilst this chapter so far has established the benefits of a limited pitch range

in terms of singability which is related to playability, the affordances of different instruments must be considered by music teachers and arrangers when putting this theory into practice.

6.3.3. Memorising and Understanding

Limited melodic ranges also contribute to memorisation and musical understanding, which relate primarily to evaluative and cognitive forms of engagement. This is due to experiences of ‘catchiness’, opportunities for embodied attuning, a gradual expansion of musical knowledge, and compatibility with written notation that is clear and simple.

Catchiness is defined as ‘long-term musical salience’ (Burgoyne *et al.*, 2013, p. 245). Whilst it can be achieved through rhythm, lyrics, or timbre (Bechtold and Witek, 2024), it is commonly associated with melodic figures (Grevler, 2019). Kelly Grevler (2019) identified limited pitch ranges as a feature in melodies that were considered to be catchy and suggested that this attribute enabled intervallic relationships to be more salient than in a melody with a larger pitch range. Grevler’s (2019) work reinforces how limited pitch ranges and small intervals coincide within melodies, and suggests that this combination can enable emotional movement in a way that larger intervals – and ranges – are unable to achieve. It has been suggested that the emotional movements related to a series of small melodic intervals can encourage long-term memorisation, due to a level of importance being established in the brain (Salakka *et al.*, 2021).

The potential of melodic phrases with limited pitch ranges to evoke feelings of importance due to emotional meaning-making demonstrates their ability to achieve Brown’s (2015) *appreciative* engagement as well as emotional engagement more broadly. It also highlights a potential for *evaluative* engagement through reflection on these experiences of salience. Furthermore, covert embodied engagement is required to achieve the appreciative and resulting evaluative types of

engagement. This is enabled through the physical responses which relate to tensions and releases in melodies (Korsakova-Kreyn, 2018), many of which are unseen to the observer but which are integral to emotional responses. It is the combination of *embodied*, *appreciative*, and *evaluative* engagement that facilitates musical memorisation and understanding as emotional responses are felt, considered, and understood through this participation.

Directive engagement can also contribute to memorisation and understanding, and can be reached through melodies with limited pitch ranges via physical participation. Physical participation, in the form of embodied attuning (Leman, 2019), is understood to involve the ‘perception of structural features in music’ (p. 115) as well as an empathetic process of imitating expressive behaviours (Leman, 2019). By physically ‘latching onto’ (Krueger, 2014) the melody, and perceiving how its structural features contribute to emotionally moving experiences, memorisation and understanding can be achieved. This occurs through involvement, in line with Orff’s (1978) philosophy and the educational philosophy of John Dewey (1986).

It has already been established that kinaesthetic activities relating to pitch are most effective when the number of notes used are limited. Previous parts of this chapter have also clarified how, for the singing element which makes these activities effective to occur, intervallic size should also be limited. The combination of singing and other kinaesthetic movements – that are made plausible through limited pitch ranges which align with distances between parts of the body – are understood to contribute to musical understanding through experiential learning (Gault, 2005).

The gradual increase of pitch range can also facilitate a grasping of musical knowledge, which by nature involves evaluative and cognitive engagement, as the repetition of familiar concepts – i.e. notes – becomes essential. Repetition is understood to be essential to musical learning (Saville, 2011) and learning in general. Kirt Saville (2011) highlights how repetition enables children to learn

letters of the alphabet, animal sounds, multiplication tables and more. By using a limited pitch range throughout repertoire and only gradually increasing which notes are used, neural connections in the brain are given the opportunity to strengthen (Jensen, 2008; Walter and Walter, 2015) as notes become increasingly familiar and relationships between note names and how they are achieved and represented are understood. Saville (2011) emphasises the importance of varied approaches to repeated concepts in musical learning, to avoid boredom and monotony. Whilst the extended use of a limited pitch range can offer an excellent opportunity for repetition, this must be approached in such a way that the repetition occurs somewhat disguised as something else.

Finally, a gradual build-up of pitch range, as described by Teacher G, can be viewed through the lens of the theories surrounding Orff and Kodaly-inspired pedagogy, in relation to representation on the staff. In Kodaly lessons, a small range of notes is thought to increase a melody's transferability to the staff (Hippel, 2002). After melodic phrases are learnt by ear, their corresponding pitch placements are shown on the staff in the classroom (Jacobi, 2012). Jacobi (2012) discusses this phenomenon and describes how the process moves from singing a limited number of notes using hand signs, to reading them on the staff. She argues that the preparation for reading the staff must involve visual, aural, and kinaesthetic experiences which encourage sense-making and highlights how the use of multiple senses facilitates memorisation (Jacobi, 2012). By using a narrow melodic range, the body can be employed as a mode of musical understanding what is heard, whilst the visual spectacle these movements achieve can foreshadow the representation of pitch height on the staff.

Carl Orff (1963) also describes using a minor third as a 'melodic starting point' (p. 35), before increasing the melodic 'compass' (p. 35) to a pentatonic scale. Arnold Walter (1961) argues that there is a natural melodic impulse in children and questions the use of the major scale with an octave range as a starting point. He describes the eight-note major scale as a more developed stage and argues that following the familiarisation with a minor third interval, children can become familiar

with thirds, fourths, and fifths in order to sing pentatonic tunes which he describes as ‘particularly well suited for children’ (Walter, 1961, pp. 8-9). The philosophy, again relating to Orff’s *Schulwerk* (1978) is that, following a growing physical familiarity with notes and a playful approach to pitch acquisition, children gain musical understanding through experience (Hollander and Juhrs, 1974).

6.3.4. Summary of Section

This section has investigated how the use of a limited melodic range can encourage pupils to sing along, achieve musical understanding including the reading of notation on the stave, learn to play their instruments by ear, and memorise repertoire. Each of these musical outcomes are – like all learning – reliant on forms of engagement.

The use of a limited pitch range has been linked to both voluntary and involuntary movement-based responses (Leman, 2019). Whilst singing and/or playing along with melodies which can be easily achieved highlights the presence of appreciative and directive engagement, an involuntary embodied engagement can also be activated via limited melodic ranges due to the opportunities for emotional meaning-making that they present (Korsakova-Kreyn, 2018).

It is increasingly evident that the role of the body as a ‘mediator’ (Leman, 2019) is crucial to engagement with all kinds of musical parameters. In the case of pitch and the attribute of a limited pitch range, this engagement is most directly related to internalisation due to the aforementioned ‘principle of least effort’ (Korsakova-Kreyn, 2018), singability – which is likely to be connected to internalisation (Stefani, 1987) – and the compatibility between a small selection of notes and physical representations or imitations of them: using instruments, the body, or the stave.

It is crucial to keep in mind the importance of the gradual development of range, as emphasised by Kodaly and Orff-inspired practitioners and scholars (Houlahan and Tacka, 2015; Frazee, 2006). A gradual expansion is crucial, as repetition, consistent imitation, and memorisation are integral to continued engagement and musical development.

6.4. Simple Patterns of Pitch and Tonality

Another theme concerning pitch and tonality highlighted by participants was simplicity. In a similar way to with attributes of rhythm in chapter four, this took the form of short, repetitive patterns. Short, repetitive melodies were associated – like small intervals and limited melodic ranges – with singability, memorisation, achievability and the potential for exploration and evaluation. Short and cyclic chord progressions were also associated with the same areas of engagement, with the additional themes of entrainment and familiarity, reinforcing the embodied element of achievability and the social and cultural nurturing behind much meaning-making and engagement.

Simple major and minor triads were also highlighted as having the potential to engage 7- to 11-year-old children musically. As with other attributes discussed so far, embodied this is linked to embodiment. On a ‘surface’ level as defined by Korsakova-Kreyn (2018), major and minor chords were related to aural recognition activities with associated bodily movements. On a ‘deeper’ (Korsakova-Kreyn, 2018) level, major and minor triads were also related to experiences of emotional meaning-making, which is understood to foster all five of Brown’s (2015) modes of engagement. In the following three subsections, short, repetitive melodies, short, cyclic chord progressions, and major and minor triads, are explored in relation to Brown’s (2015) modes of engagement in order to decipher how they can be utilised by teachers to contribute to experiences of engagement in the classroom.

6.4.1. Short, Repetitive Melodies

Melodic phrases are generally considered to be short when they are around two bars in length, and no more than four bars (Shih *et al.*, 2001). Tagg (2013) argues that melodic phrases do not usually exceed 'the extended present' (p. 335) in length, which can be measured by the inhalation and exhalation, or long exhalation, of a breath, or compared to a few footsteps or heartbeats (Tagg, 2013). Tagg (2013) suggests that the idea of the extended present can be compared to a computer's RAM system; where information is processed immediately, rather than stored to and then accessed via memory.

Short, repetitive melodies were highlighted by four teachers as something which contributed to experiences of engagement in their classrooms. In the extracts below, Teacher 3 highlights 'repetition' as a theme, whilst Teacher B emphasises the ease of teaching and learning short and repetitive phrases:

If you're looking at a theme, it's rounds, it's a song with repetition... I use a lot of songs that are tunes that already exists. So, 'Frere Jacques' often appears, just with different words. – Teacher 3

If it's a simple tune, I just do it a couple times and we just join in, see what happens (...) I do the minimal interferences possible, (...) why bother teaching line by line if you don't have to? –

Teacher B

Teacher B's comment emphasises how short, repetitive melodies encourage pupils' ownership of learning as they can participate without excessive instructions or breaking down of the music. This is another feature which echoes the Orff *Schulwerk* (1978) approach. A recent analysis of the use of Orff pedagogy within music lessons in Australia (Christie, 2018) has highlighted how no instructions

are given by the teacher. Instead, teachers repeat a sung or played part and children are invited to join in. After this, the group can be divided and simple, repetitive melodies can be sung as rounds (Christie, 2018), as were highlighted by Teacher 3 as a further feature of lessons which engaged their pupils.

Teacher 3's comment highlighted 'Frere Jacques' as an example, which was also mentioned by Teacher 4 in the extract below:

*If I'm teaching 'Frere Jacques', it's French (...) it's got a linguistic thing. Oh, but it's also if you do it in the minor key (...) it suddenly becomes a funeral march. So (...) a simple French folk song, can you give it different layers? - **Teacher 4***

This comment highlights another key part of the ability of short melodic phrases to engage: their opportunity for creative development (or explorative engagement). Teacher 4 describes a teacher-led musical change and also emphasises how the use of a foreign language offers an additional layer for children to cognitively engage with. Whilst these creative activities were teacher-led, it is understood that when creative behaviours are modelled by music teachers, children can emulate these behaviours (Soh, 2017). By demonstrating the ease with which creative changes can be made to short, repetitive melodies such as those found in 'Frere Jacques', Teacher 4 enabled both *evaluative* and *explorative* engagement in their pupils.

The use of short, cyclic melodies have also been related to embodied attuning. Burger *et al.* (2020) identified how listeners of electronic dance music (EDM) moved in a way that reflected melodic features, as well as rhythmic elements, and that participants in a study which investigated spontaneous movements to EDM, jazz, funk and Latin music found moving to EDM easier than the

other genres. Whilst EDM is characterised by – amongst other features – short and cyclic melodies (Brown, 2014), as well as simple patterns of tonality which is considered later in this section, both melodic and harmonic features in the other three genres are often more complex (Coker, 2010; Yang, 2016; Przybysz *et al.*, 2015).

As well as movement-based responses, singing and the transferral to the stave were related to short and repetitive melodic phrases. As has already been established, singing is a form of *directive* engagement which can result in *appreciative* engagement, whilst the comprehension of notes upon the stave can be considered as a form of *evaluative* engagement.

In an analysis of what makes children sing well, Hilary Apfelstadt (1988) underlined how repetition is crucial for achieving accuracy through the memorisation of melodies and emphasised how pitch perception and accuracy can be strengthened through the reading of the score. The embodied music cognition hypothesis (Cox, 2016; Leman, 2019) argues that imitation is the root of all musical perception and engagement. A study by Getz (1963) has shown that repetition of melodic features can increase 12-13-year-old children's positive responses towards 'serious' music whilst melodic repetition has been identified as a key feature of 7- to 11-year-olds' own compositions (Kratus, 1989).

The visualisation of pitch patterns, using a full or partial score, interrelates with experiences of singability and the bodily representation of pitch movements. In the interview extract below, Teacher G demonstrates the importance they place on melodic simplicity, singing, and the use of the stave:

Simple is important. And I think it (...) really makes sense for them to kind of visualise music and read music. (...) you can translate from what they (...) sing to the stave – Teacher G

Teacher G's comment describes a sound-before-sight progression that is commonly associated with Kodaly-inspired teachers (Dobszay, 1972). Such teachers utilise melodies which use a limited range – as was discussed in section 6.3, to foster a curiosity in pupils of what these will look like on the staff. However, as well as being characterised by a limited range, melodies used in Kodaly-influenced lessons are also short and repetitive (Waterhouse, 2002). Repetition is a musical feature that is used with the aim of fostering memorisation and ensuring accurate internalisation (Waterhouse, 2002). Each of these aims point towards *evaluative*, cognitive engagement, demonstrating the potential, beyond appreciation and participation, of short and cyclic melodies to engage 7- to 11-year-olds.

6.4.2. Short and Cyclic Chord Progressions

Short, cyclic chord progressions are also linked by participants to directive participation. Whilst 'short' in the context of melodic phrases is considered to be approximately two bars in length, chord loops can be four bars in length and still considered short due to their repetitive nature (Tagg, 2013). In a similar way to the use of short and repetitive melodic phrases, cyclic chord loops of four bars or less were related to engagement due to achievability and opportunities for directive engagement. Cyclic chord loops were also linked with experiences of entrainment in the classroom. These relationships are highlighted in the interview extracts below:

I always like (...) three chords, four chords, you know (...) C, F, Am, G (...) your classic four chord sequence. If you can get pull it off with three, even two, you're a genius. (...) I think keep the songs quite short (...) with a simple statement (...) very repetitive (...) but you change (...) key elements. And (...) emphasise the little changes. – Teacher A

The simple chord progressions are the ones that get them because it's repetitive and it's usually quite singable – Teacher B

They're just reading it. And then you can see them (...) working it out. (...) You talk about counting up to four (...) there's always the odd child that (...) doesn't have that internal metronome (...), they are carried along by the wave of the class that moves in unison to the next chord. (...) That's the chordal bit. And then some of the kids play the bass part. And they understand that the bass is essentially the root of the chord. (...) And then, if we get far enough down that road, we will change the sound. – Teacher N

The first two extracts from Teachers A and B both refer to the simple melodies that are well-suited to accompanying short, cyclic chord progressions. Whilst these have already been discussed in this section, these quotations highlight the attributes' tendency to coincide. However, of greater relevance to engagement are Teacher A and N's comments about changing 'sounds' and 'elements' within cyclic chordal patterns, and Teacher N's remark about children who do not appear to have an 'internal metronome' becoming 'carried along by the wave of the class' in order to gain an experience of playing in unison. Whilst the comments regarding changing sounds/elements are related to both directive and explorative forms of engagement, the entrainment described by Teacher N is a form of *embodied* and *directive* engagement which – as has been established throughout this research – can also activate *appreciative* engagement.

The use of cyclicity to foster exploration was considered in relation to attributes of rhythm in Chapter 4. When regarded in terms of patterns of tonality, further cognitive avenues are opened for participants. Whilst cyclic features of non-pitched rhythm instruments facilitate rhythmic, timbral, and dynamic exploration, the addition of coinciding pitches enables an emotional meaning-making experience based on experiences of tension that are unique to tonal attributes (Korsakova-Kreyn, 2018).

The Idea that less of musical entrainment can also be encouraged by cyclic chord progressions was highlighted in the extract from Teacher N. This theme is present within psychological and neuroscientific literature (Krueger, 2014; Windsor and De Bezenac, 2012). Joel Krueger (2014) argues that both cyclic melodic patterns and tonal patterns which appear to be 'goal-directed' (p. 4) enable listeners to anticipate, regulate, and monitor their movement-based responses. Teacher N described pupils who were struggling rhythmically becoming 'carried along' with the rest of the class during cyclic chord progressions. Existing research has demonstrated that social conditions increase rhythmic accuracy in children (Ilari *et al.*, 2018). Existing research also suggests that experiences of musical salience are commonly related to pitch and tonal relationships (Paiva, Mendes, and Cardoso, 2006; Parncutt, 2011). This suggests that, whilst rhythmic repetition encourages rhythmic accuracy – particularly in a group setting – the addition of cyclic and goal-directed tonal patterns can increase emotional engagement with music and motivate children to accurately participate.

The following part of this section analyses the chords that were highlighted by teachers as existing within cyclic harmonic patterns. Major and minor triad chords were almost exclusively referenced, which strengthened the theme of musical simplicity whilst reinforcing the additional layer of the relatability of expressed emotions.

6.4.3. Major and Minor Triad Chords

The use of chord progressions which combine major and minor triad chords were mentioned explicitly by twelve teachers and were also implicit in examples of repertoire.

Themes associated with major and minor triad chords were instrumental affordances and playability, popularity and familiarity, and emotional meaning making. In the paragraphs to follow, each of these

are considered, with references to interview extracts and literature, in relation to types of engagement.

Affordances, or 'action capabilities' (Rodger *et al.*, 2020) are understood to be unique to both materials – such as instruments – and those who perceive and handle them. Matthew Rodger *et al.* (2020) argue that instruments mean different things to different musicians with varying levels of experience and skill. Whilst some instruments afford technically-specific actions to those in the know, for example a violin and bow would afford skilled movements to a skilled player, others require less prior knowledge in order to afford musical outcomes. Major and minor triad chords were referenced by teachers who used them with the voice, the piano/keyboard, and the guitar. As external instruments, the piano/keyboard and guitar can be considered as tools with potential affordances. For a pupil learning to play the guitar, some prior experience is required in order to successfully execute a major or minor triad chord. However, the piano keyboard affords playing triads after very little introduction; after seeing a demonstration or diagram of how a triad is played, children can understand how a piano keyboard 'affords' the playing of major and minor chords, particularly in the key of C or A minor, and imitate familiar songs with minimal room for error (Clauhs *et al.*, 2020). This is a key component of the 'Musical Futures' action research project (Moore, 2019) as well as the similar 'Little Kids Rock' programme (Dylan, Warren, and Kenrick, 2019).

Popularity and familiarity also arose as themes within this study, as teachers discussed basic major and minor chords in relation to popular musical examples. As well as making the successful renditions of music achievable after a few simple shapes are learnt (Powell and Burstein, 2017), the expectation that becomes a part of familiarity with common musical structures is understood to increase positive emotional responses to music (Gebauer, Kringelbach, and Vuust, 2012). This indicates that the ubiquity of major and minor triad chords in popular music as well as folk music

(Miller, 2018) and music made for children (Gonzalez, 2016) can contribute to experiences of appreciative, emotional engagement.

Major and minor triads are also related to emotional meaning-making which can contribute to experiences of *appreciative* and *evaluative* engagement with music. Research has shown that children between the ages of 3 and 12 can accurately identify the connotations between major passages and positive emotions, and minor passages with negative emotions (Kastner and Crowder, 1990). More recent research has also suggested that these connotations are ‘deeply connected’ (Bakker and Martin, 2015, p. 15), rather than socially attributed, whilst an increasing number of neuroscientific studies consider how neural correlations could contribute to this perception (Limb, 2006; Green *et al.*, 2008; Janata, 2015; Virtala and Tervaniemi, 2017).

Paula Virtala and Mari Tervaniemi (2017) have argued that responses to both major and minor chords and consonant/dissonant tonal intervals are in part innate, universal, and with biologically wired origins, which could be related to human vocalisations. They also emphasise the role of nurture and highlight how Western music is particularly characterised by the use of these chords (Virtala and Tervaniemi, 2017). However, the idea that emotional responses are innate – strengthened by the finding that infants with very little musical experience appear to be able to differentiate emotionally between major and minor triads – is in keeping with Wallmark’s (2022) timbral argument for musical perception based on ccurrination. Further research is needed to explore the role of culture and language in the shaping of musical perceptions such as these. However, for the purpose of this research, current knowledge suggests that the use of simple triad chords could invoke and embodied, emotional response, which could then prompt *appreciative*, *evaluative*, and potentially *directive* and explorative engagement.

Whilst further research is required to understand the *how*, what can be drawn from this is that major and minor triads *do* prompt emotional experiences, even in 7- to 11-year-olds with limited musical experience. This indicates that emotional engagement can be achieved when chords are presented as a focal point and also suggests that *evaluative* engagement can be activated through discussions which follow music-making activities.

As well as fostering musical understanding, the emotional engagement with major and minor features has been argued to contribute towards children’s emotional and social development as it enables them to aesthetically experience emotions without the consumption of feeling them (Juslin and Sloboda, 2001). As well as being an end in itself, when emotional and social development is achieved in the music classroom, both personal and social meaning-making (Dillon, 2009) becomes more likely and, as a result, a level of engagement that is easier to achieve and has a greater level of depth.

6.4.4. Summary of Section

This section has demonstrated how the study’s participants pointed towards short and repetitive melodic and harmonic phrases and major and minor triad chords as an attribute which could influence experiences of engagement in their lessons. Through the triangulation of their statements with existing literature, and the cross-referencing of established themes alongside Brown’s (2015) modes of engagement, it has been established that the attributes highlighted can influence engagement in the ways shown in Figure 23 below:

Figure 23

Attribute Type	Engagement Type(s)	Reason(s) for Engagement(s)
Small Intervals	Directive, appreciative,	Singability, pleasure of

	evaluative, explorative, embodied	participation, social relevance, ease of improvisation, physical responses to small intervals
Limited Pitch Range	Directive, appreciative, evaluative, embodied	Singability, pleasure of participation, social relevance, physical responses to small intervals
Simple Patterns of Pitch and Tonality	Directive, appreciative, evaluative, explorative, embodied	Singability, pleasure of participation, social relevance, opportunities for creativity, physical responses tonal attributes

As well as continuing to reinforce the role of embodied cognition in musical comprehension, this section has shown how attributes of pitch and tonality have the potential to engage in more ways simultaneously than the attributes of rhythm, growth, timbre, or loudness explored in previous chapters. Traditional musical analysis has tended to focus on tonal attributes when seeking to obtain comprehension of Western art music (Marsik, 2016), whilst popular musical analysis often opts to consider how features work together and what they could represent, both culturally (Frith, 2004) and semiotically (Machin, 2010; Tagg, 2013). This study is beginning to demonstrate that, whilst it is crucial to consider a combination of parameters when analysing how musical examples are interpreted, the weight of tonal meaning is notable even in relatively simple, popular music examples.

6.5. Chapter Summary

This chapter has reinforced the themes of simplicity and embodiment established in previous chapters, whilst establishing the cruciality of tonal relationships for musical engagement.

Singability is a key concept of pitch-based features and has been related to each of the attributes explored in this section: a limited pitch range, small intervals, and simple patterns of pitch and tonality. It is understood that pitch range increases with age and experience and that small intervals are more readily achievable at early stages of musical learning. By fostering successful imitation, the use of repertoire with small intervals and pitch ranges can boost levels of appreciative and directive engagement, whilst making transferal to the stave and its resulting evaluative engagement also more achievable. The idea of 'Ur-song' (Anderson, 2021) has been considered and, although current research (Bennett, 2016; Anderson, 2021) suggests that it is not as strong a phenomenon as was once believed, the singability and potential familiarity (as in 'ner ner...') of minor third intervals remains significant for the encouragement of embodied and active engagement.

Motor-mimesis using parts of the body is also related to the pitch and tonality-based attributes examined in this chapter. Limited pitch-ranges can be demonstrated readily using parts of the body, which is a form of embodied attuning (Leman, 2019), whilst the use of repertoire that includes notes that are often taught during initial stages of instrumental tuition can also encourage executant mimesis (Cano, 2006).

Finally, emotional processing is considered in this chapter in a way that is unique to previous chapters. Korsakova-Kreyn's (2018) work has highlighted the importance of tonal features for emotional responses to music and has also emphasised that these can be rooted in physical reactions to aural stimulus. Whilst the motor mimetic responses discussed above, including covert

sub-vocalisation, are related to the imitation of music-making activities, physical responses to tonal attributes can also relate to the emotion that the composer sought to express, due to theoretical notions of tension and release.

The ways that these attributes can be utilised in the classroom to foster optimum levels of engagement are explored in Chapters 7 and 8 to follow, on music-making activities and implications for primary school music teachers.

CHAPTER SEVEN: MUSIC-MAKING ACTIVITIES AND THE LEARNING ENVIRONMENT

7.1. Chapter Introduction

This chapter reveals ten music-making activities that were highlighted by participants as engaging. It includes a consideration of how the musical attributes present within these activities contribute to children's experiences of engagement and an analysis of the features of the learning environment. In each of the activities explored, a facilitative learning environment which could be categorised into non-formal and informal learning (Green, 2017b; Vasil, 2019) presents itself as crucial to both experiences of engagement and deep-level learning. For this reason, constructivist learning theorists are also referred to, in order to triangulate music-specific findings with knowledge from a broader educational context and explore the age-appropriateness of included activities.

Whilst implications for teachers are discussed further in Chapter 8, they are touched upon here within each activity.

7. 2. Improvisation

Improvisation is generally understood to mean the following:

A process in which performers, with their voices or instruments, in "real time," use luck or skill to respond to or incorporate mistakes; the improvisation grows out of innovation, exploits freedom, and relies on talent in an instantaneous process that involves emotional invention and intuitive impulse to create simple, direct expressions

(Larson, 2005, pp. 241-242)

Steve Larson's (2005) quotation above summarises traditional definitions of the term. However, Larson (2005) emphasises how this definition – which distinctly separates improvisation from composition – can be misleading. Larson (2005) highlights how the assumption that a successful improvisation can rely on luck as opposed to thoughtfulness is inaccurate in many cases. However, although the lines between improvisation can – and perhaps should – be blurred, for the purpose of this study, the traditional view that what is improvised occurs in 'real time' is employed. This is in opposition to the considered placement of notation, prior to actual hearing, that can be a part of activities which fit more accurately on the composition side of what Larson (2005) argues many would consider to be a continuum.

Improvisation-based activities were explicitly mentioned by 10 teachers. They were most commonly mentioned with reference to the pentatonic scale. In the extracts below, Teachers C and F highlight how the exclusive use of pentatonic notes during improvisation activities can build confidence and self-efficacy in students, due to the impossibility of 'wrong' sounding notes:

I've used that Manhattan blues (...) in higher grades. And you just then increase the possibilities of what they can do in the in the improvising sections and increase the length (...) it's quite nice to use the pentatonic scale, because then you can put any combination of the notes together that work really well. – Teacher C

The five note (...) pentatonic blues scale is really easy to capture, (...) you can't really go wrong with it at all. If you just stick to those five notes, you can't make mistakes. – Teacher F

By using the minor pentatonic scale for improvisation-based activities, teachers were also introducing to their pupils a real-life approach to music-making. Lucy Green (2006) has argued that

'music-learning authenticity' (p. 114) involves students' using musical learning practices that reflect those of the musicians who made the repertoire and has also highlighted the crucial role of improvisation within these processes (Green, 2006, 2017a). This idea of authentic learning precedes consideration in a musical context, most notably within Jean Lave and Etienne Wenger's (1991) theory of situated learning, which suggests that informal activities conducted in authentic and social contexts can foster effective learning.

Green (2017b) also argues that approaches to learning popular music in the classroom must reflect those outside of the classroom, if children are to access the 'inter-sonic meanings' (p. 90) present within musical examples. It has already been argued that meaning-making is crucial to experiences of engagement (Dillon, 2006), and in the case of improvisation activities these engagements could take the following forms:

- 1) Explorative
- 2) Directive
- 3) Evaluative
- 4) Appreciative

Whilst embodied engagement according to Brown's (2015) definition involves all bodily responses to musical stimulus, it is not included in this list due to the directive nature of improvisation activities. The use of the term embodied engagement, in this thesis, is reserved for bodily reactions which are to some degree involuntary.

The link between improvisation and explorative engagement has been highlighted by Brown (2015), as improvisation activities by nature involve the exploration of sounds. However, it is the

combination of the use of the pentatonic scale – particularly during initial stages of improvisation education – and an improvisation-based activities that ensures this mode of engagement’s success, along with the willingness to participate in directive engagement. *Appreciative* and *evaluative* forms of engagement can also occur through pentatonic improvisation activities, as children enjoy participating and creating (Witek, 2017) and are encouraged to reflect on the stylistic and/or emotive success of their creations (Brown, 2015).

The lack of opportunity for error, emphasised by Teachers C and F above, is of key consideration when working with 7- to 11-year-olds. These ages fall within what Erik Erikson (1968) described as the ‘industry versus inferiority’ period, during which achievement is essential. It is during this period, Erikson (1965) argues, that motivation is fragile and confidence can be easily lost. Erikson (1968) emphasises the importance of choosing activities that contain manageable targets when children are between six and twelve years of age, and of offering recognition for the achievement of these in order to foster industriousness. The 7- to 11-year-olds’ awareness of their ability to succeed – or self-efficacy – has also been related to the fostering of engagement (Eccles *et al.*, 2012).

As well as being achievable, the improvisation activities described by teachers were instantly accessible due to the use of pentatonic notes that were introduced prior to beginning improvisation activities. This can also be related to Abraham Maslow’s (2013) hierarchy of needs, wherein physical and psychological needs enable affiliation, esteem, and eventually self-actualisation or self-fulfilment. Providing basic survival needs are met, the use of an improvisation activity which removes the possibility of failure and thus offers children freedom from the fear of it, can then make possible a sense of belonging in the music classroom (affiliation), an experience of self-belief (esteem), and can allow pupils to reach their full potential (self-actualisation) (Maslow, 2013). In opposition, if improvisation-based activities are presented with contrasting attributes, such as a large melodic range and the use of notes which are physically unfamiliar as well as technically challenging, the fear

of failure is likely to be present which, according to Maslow's (2013) hierarchy, removes the potential for belonging, self-belief, and self-actualisation.

7.3. Composition

Composing was mentioned by seven teachers, in the forms of creating incidental music and exploring newly learned musical concepts. When composition is referred to as opposed to improvisation, as in Larson's (2005) work discussed in the section above, traditional definitions often assume the following:

Composition is (...) a process in which a composer, with pen and paper, outside of "real time," uses revision and hard work to eliminate or avoid mistakes; the composition builds on tradition, imposes constraints, and relies on training in a time-consuming process that involves rational reflection and intellectual calculation to create complex, sophisticated relationships

(Larson, 2005, pp. 241-242)

Larson (2005) again points out problematic areas of this traditional definition, including the issue of complexity – which can be greater in improvised music due to the lack of self-imposed constraint – as well as the issue of 'mistakes', which Larson (2005) argues are irrelevant in the work of competent improvisers and thus cannot be used as a comparison point between composition and improvisation. However, for the purpose of this study, the traditional views that composition can exist as a music-making process outside of 'real time' and can also involve revision in a way that improvisation cannot (Burnard, 2001) are utilised to enable the consideration of how participant-described composition activities can relate to experiences of engagement in the Key Stage 2 classroom.

Attributes that were readily associated with composition activities were largely melodic, including small intervals and the use of modes and scales. However, language-inspired rhythms were another identified attribute, as well as general cyclicity across musical parameters.

The use of small intervals and single-octave modes and scales within compositional activities was related within data collected to pentatonic scales, Ionian modes and Dorian modes, as is shown in the extracts below from Teachers E and N:

So, the pentatonic scale, because it only focuses on (...) five notes, it's much easier for them to grasp, and it's much easier to get that composition going. – Teacher E

You can certainly compose in modes quite straightforwardly, either using the black note, pentatonic scale or Ionian or Dorian modes, which work perfectly fine at that kind of age range. – Teacher N

Previous research has shown an increase in internalisation when 9-10 year-olds compose with one octave of a pentatonic scale, as opposed to two octaves (Kratus, 2001). Qualitative studies also suggest that improvisation is a more appropriate approach to musical creativity, for 7- to 11-year-old children, than composition, with the latter arriving as a result of repeated improvisations (Kratus, 1989; 2013). This suggests that the approach to compositional activities with this age group could work best when considered as a positive by-product of improvisation tasks, which contain melodic restrictions, cyclicity in either created or assisting parts, and the accessing of rhythmic inspiration through language, as is common throughout Orff's (1978) pedagogy (Beegle and Bond, 2016).

Methods of composition described by participants also involve instrumental playing, explored more in section 7.8, body percussion and singing, discussed in sections 7.5 and 7.7, or the use of

sequencing software, which is interrogated in the next section of this chapter (7.4). This positions them on Larson's (2005) continuum and also continues to blur the lines between the factors of improvisation compared to composition. What is apparent is that, for 7- to 11-year-olds, composition is an active process which involves the real-time creation of musical ideas as well as the considerations and evaluations that facilitate refinement.

By encouraging melodic exploration in a way that is set up by the teacher to promote achievement – in the form of limiting available notes to those that will 'work' –, the teacher can reinforce Maslow's (2013) feeling of safety discussed in section 7.2, whilst also creating opportunities for children to build strong musical identities. Middle childhood, from ages 7- to 11 is understood to be crucial for identity formation and a large part of this is the validation or obliteration of self-perceived talents (Erickson, 1968). Erickson (1968) argues that children aged 6-12 must be given tasks that they can do well and that small targets should be given and celebrated. He also emphasises the importance of recognising the achievements that occur throughout the process, as well as the end result (Erickson, 1968).

The Interview extracts from both Teacher E and Teacher N highlighted the Importance of self-perceptions of success in composition tasks and illuminated the role of melodic limitations in achieving these. They also described activities which occurred in a group context; with pupils either composing together as a class or in small groups. This was also the case in the following extracts, by Teachers 1 and Teacher E:

There'll be (...) composition (...) that we all play in unison, rather than anything more complicated. (...) the input the kids are having will be more from a rhythmic thing, (...) from literacy: 'Okay, right, we need something to do we need a sentence, something to do with Brazil doesn't have to be to do with music can be anything'. It will inevitably be something

they know geographically (...), or historically about Brazil. And we turn that into a rhythmic sentence. And then we can all play that in unison. – Teacher 1

For (...) composition, I've (...) found a silent movie, and I'm getting them to compose the music that would go (...) with that clip. So they've actually got a purpose for it. (...) I (...) say to them, (...) 'We've looked at musicals before and we know that a bad character is just about to be introduced. What does the music sound like? Can you do that in your composition?' –

Teacher E

Both Teacher 1 and Teacher E's comments illustrate a socially situated learning context. Teacher 1's example involves the use of children's prior experiences outside of the music classroom to inform and encourage discussion, creation, and musical learning in a Deweyan (1986) manner. The extract from Teacher E shows further opportunity for experiential learning (Dewey, 1986) as well as aesthetic reflection – or evaluative engagement (Brown, 2015) – that is strengthened by the sociality of the learning situation in accordance with Vygotsky's (1978) theory of proximal development. By discussing the expressive possibilities of musical features with *more knowledgeable others* (Vygotsky, 1978), in the form of their peers and their teachers, children can gain a greater understanding of compositional processes than they would achieve in the absence of social interaction.

7.4. Using Sequencing Software

The use of sequencing software was an activity highlighted as engaging by three teachers. Activities of this kind are positioned on the improvisation-composition continuum (Larson, 2005); due to their combination of real-time and pre-considered music-making. Sequencing activities involved the creation of drum-beats using real-time loops, experimenting with instrumental sounds, and replicating familiar timbral attributes.

The idea that the cyclicity present in loops that are readily created on sequencing software can be conducive to experiences of explorative engagement has been considered by Brown and Dillon (2007). In *Networked Improvisational Elements: Learning Through Online Collaborative Music Making*, Brown and Dillon (2007) discuss how sequencing software enables students to change and reflect on musical elements whilst achieving a sense of personal satisfaction and meaning-making akin to playing a physical instrument. They argue that this participation in music-making, combined with the ability to listen and analyse, provides opportunities for multiple modes of creative engagement (Brown and Dillon, 2007).

As well as cyclicity of pitch and rhythm, both familiar and unfamiliar timbral qualities were attributes associated with sequencing activities. In the interview extracts below, Teacher G describes using Ableton software with 10-11-year-old pupils to recreate sounds they have heard in music they've enjoyed, whilst Teacher F discusses 7-9-year-olds' experimentation with new sounds, using software created by 'Purple Mash'¹⁶.

We use Ableton Live as well, with year six, (...) a basic version, but professional music production software. And (...) I think that's really engaging, particularly for the older kids, because a lot of them are starting to (...) latch on to music that they like. And (...) for the vast majority of them (...) the music they like, would be made electronically. (...) They still sing, they still (...) play acoustic instruments, but it [using software] really does engage them a lot. (...) I can also (...) get from them songs or artists that they like, and (...) make a project where they (...) picked it apart, and they could hear the different sounds in it. And then (...) leading them through (...) how can you replicate that? How can you (...) do that yourself? (...) I think, if

¹⁶ Purple Mash is a creative online space, designed for primary school children for use in and out of the classroom.

they feel like it's really relevant to (...) their musical experience and what they're interested in.

– Teacher G

We did dance music, that happens to be a module (...) with 'Purple Mash', for composition.

(...) One of them is called body beats. The music programme itself isn't brilliant. The sounds aren't particularly (...) good (...), but if you rate it as a tool for composition, (...) it's great for just experimenting with sound. It was all synth beats and things. – Teacher F

Whilst *directive* and *explorative* forms of engagement are present in both Teacher G and Teacher F's extracts, the types of relevance – or meaning-making (Dillon, 2006) – which contribute to these experiences of engagement differ. In Teacher F's comment regarding 7-9-year-old children, experimentation and discovery are encouraged, both of which are most closely related to personal meaning as individuals are encouraged to realise cultivate their own preferences. However, in Teacher G's comment, regarding 10-11-year-olds, replication and the reflection on musical and cultural norms within genres are encouraged. This suggests that cultural meaning has a greater role in encouraging engagement as children progress through Key Stage 2, as it creates a perceived task value and enables shared beliefs about desired goals. The presence of cultural awareness and musical preferences in later stages of Key Stage 2 also correlates with the theory of the decline in open-earedness (LeBlanc, 1991).

With the older group of children, evaluative engagement was also implicit within the reflective element of sequencing activities. In both Teacher F and Teacher G's examples, *appreciative* engagement was implied – as with many previous examples throughout this thesis – in the pleasure of participation (Witek, 2017).

The use of sequencing software can be considered as both improvisation and composition, as beats and melodies are created and heard in real-time, whilst the software also enables reflection, refinement, and planning (Larson, 2005; Brown and Dillon, 2007). This means that the learning theories and considerations relating to learning environment sections 7.3 and 7.4 are applicable. However, whilst setting up achievability in instrument-playing and singing-based composition and improvisation activities involved melodic limitations, this was mentioned less in relation to software-based creative activities. Instead, the fostering of success crucial to 7- to 11-year-olds' continued engagement in learning (Erickson, 1968) relied on the use of loops and the availability of appropriate timbral attributes.

There were three forms of musical creativity present in software-based activities described by teachers: representation, replication, and exploration. Representative activities involved pupils' creation of musical sounds which fitted with the characteristics of short animations and images. These were flagged as engaging by Teachers F and M, who used 'Garageband' software, which was mentioned by 5 teachers in total and described by Teacher F as '*something: a lot of them had used (...) before for fun. But even those who hadn't used it before were able to access it quite quickly*'.

Replication was related by Teacher F to 'Ableton' software, as 10-11-year-old pupils were encouraged to recreate sounds which had social and/or cultural relevance to them, using the virtual instruments and loops available within the software. Exploration was evident in Teacher F's comment, relating to the discovery of new sounds, by early Key Stage 2 pupils for whom the social relevance of musical material is thought to be more influence-able by the teacher (Hargreaves and Bonneville-Roussy, 2018).

Each of these forms of creativity are reliant, again, on a peer-informed social setting, during which children's voices are heard and experiences are shared. The constructivist theories of Vygotsky

(1978) and Dewey (1986) remain relevant throughout all three of the creative activities described so far, as well as the importance of encouraging self-esteem through achievement emphasised by Erickson (1968).

7.5. Body Percussion

“I guess the nice thing about body percussion is it’s obviously very accessible. You are the instrument so there’s nothing to buy; you can do it anywhere.” – Teacher 1

Body percussion, already discussed in Chapter 4 with relation to attributes of rhythm and in Chapter 5 concerning timbral attributes, was referenced by 19 teachers as conducive to engagement in the classroom, particularly as a warm-up activity.

Although the definition of body percussion has been clarified already in Chapter 5, a reminder of the agreed meaning of body percussion is presented here, for the purpose of clarity within this chapter. Body percussion has been defined as ‘the art of striking the body to produce various types of sounds’ (Naranjo, 2013). It is commonly associated with specific pedagogical approaches including Kodaly (Houlahan and Tacka, 2015), Dalcroze (Juntunen, 2016) and Orff (Frazee, 1987). It is also understood to be present in many primary school music classrooms worldwide (Popovic and Karl, 2021). The international appeal of body percussion as an activity could, as was discussed in Chapter 5, be related to its accessibility across cultures.

Within body percussion activities, rhythmic and melodic cyclicity are often present for the reasons highlighted in Chapter 4 and Chapter 6: namely the mimic-ability of patterns, the feasibility of doing so using the body, and the opportunities for exploration that cyclicity can facilitate. Repertoire

chosen for participation using body percussion was also shown to contain timbres of the body, discussed in Chapter 5, in order for children to directly imitate the source of sound heard, as well as percussive timbre (also discussed in Chapter 5), for a less direct form of motor mimesis.

The association between the above attributes and the successful engagement within body percussion activities has already been covered in the previous chapters and related to experiences of embodied music cognition (Cox, 2016; Leman, 2019). In the paragraphs to follow, the relationships that the use of these attributes within body percussion activities have with modes of engagement are further clarified, before an analysis of their position within a constructivist learning environment are explored.

Regarding the imitation of actions believed to have made the sounds heard, timbral, melodic, and rhythmic features were all referenced by teachers as elements which were 'latched onto' (Krueger, 2014). In these cases, *embodied* and *directive* forms of engagement are immediate, with *appreciative* engagement occurring as the enjoyment of participation is achieved (Witek, 2017). *Evaluative* engagement is possible here, as children could be encouraged to reflect upon the role of the musical attribute (Moore, 2016), whilst *explorative* engagement could be initiated during a creative activity which follows direct imitation.

Achievability is an essential consideration when planning body percussion activities, as has been the case in every activity in this chapter. Body percussion activities can be made achievable through the use of both melodic and rhythmic cyclicity – as discussed in Chapters 6 and 4 – as well as the use of timbres that are created using the body – discussed in Chapter 5 – and the invitation from teacher to pupil to explore musical examples for themselves.

Another two areas of interest when considering how body percussion activities – using appropriate musical attributes – contribute to experiences of engagement in 7- to 11-year-olds are Piaget's (2005) theory of conservation in the concrete operational stage and the power of group body percussion as opposed to individual body percussion.

Conservation is the term Piaget (2005) uses for 7- to 11-year-olds' ability to comprehend how quantities can remain the same, even when appearances change. This is relevant to body percussion activities because many, such as 'I Feel Good' referenced by Teacher 1 and 'Dance Monkey', referred to by Teacher F, do not have direct timbral attributes that are copied in the way 'We Will Rock You' and 'Wellerman' do (mentioned by Teachers A, B, and P and 1 and K respectively), but rather have melodic or rhythmic features which 'invite' (Witek, 2017) imitation in the form of *embodied attuning* (Leman, 2019). Piaget's (2005) suggestion that conservation is difficult-impossible for children below the age of 7 implies that the use of body percussion activities which respond to musical features other than the timbral are appropriate and educational at this stage of development.

The group-work factor, as well as contributing to a socially-constructed learning experience, already discussed in this chapter, also has a significant unifying effect when applied to body percussion. As was discussed in Chapter 5, body percussion is understood to have an international presence in classrooms. Its accessibility in terms of practicality and achievability combine with a lack of reliance on language, to ensure that all children can participate. The unifying effect of all pupils achieving, simultaneously, as they create music using an instrument all of them have had access to since birth can foster a sense of belonging (Fabra-Brell and Romero-Naranjo, 2017), social relevance, self-efficacy and competence (Eccles *et al.*, 1999, 2012) in 7- to 11-year-old children.

7.6. Dancing and Coordinated Movements

Dancing and moving in a way that coordinates with musical and/or lyrical attributes was highlighted as an engaging activity by nineteen of the twenty teachers. Whilst this includes the already discussed body percussion, examples discussed in this section are concerned with other forms of movement, such as actions which do not produce sound. The act of dancing is understood to involve the body's 'movement in time and space' (Butterworth, 2011, p. 1), something which Jo Butterworth (2011) argues that everyone can do. Butterworth's (2011) points about the simplicity and accessibility of moving the body in time and space were highlighted by Teacher J. In the quotation below, Teacher J emphasises the ability of movement-based activities to unite children in the classroom, as the differences in musical skill levels which can become evident during other activities are silenced:

It's good for Internalising melodies and then putting them on an Instrument, but also (...) It makes it a communal thing. (...) Actions (...) reinforce the singing, reinforce the learning of it, but also introduce this element of (...) engagement. (...) They're all doing the same thing. (...) It drops down (...) one person being singled out. – Teacher J

The musical attributes which were most readily associated with dancing and coordinated movements were cyclic rhythms and melodies, small melodic ranges, tempo changes, percussive timbres and short melodic patterns. Whilst the relationships between rhythmic features and experiences of engagement are considered in Chapter 4, timbral features in Chapter 5 and melodic attributes in Chapter 6, the paragraphs to follow consider how the combination of each of these attributes with dancing and coordinated movement activities can influence experiences of musical engagement in 7- to 11-year-olds.

To begin with attributes of rhythm, the interview extracts below from Teachers G and O demonstrate how tempo changes and cyclic rhythms were related to dancing and coordinated movements:

When you're doing activities with movement, (...) something that we play around with a lot (...) is kind of listening to music and (...) matching the tempo when it changes. Maybe (...) moving around a room, (...) changing, (...) our stride as the tempo slows down. (...) It's more of (...) a warm-up thing that I do, but it's obviously (...) to get them engaged. – Teacher G

"I just start vamping (...) then I deliberately slow it down and give a really heavy bass beat. And then before they know it, they've got the pulse with me. And then I take it and then I start to put an accelerando in and they're going with me – Teacher O

Whilst the ability for tempo changes and cyclic rhythmic patterns to invoke movement-based responses was discussed in depth in Chapter 4, it is worth reconsidering here, as the importance of approaching movement-based activities using compatible musical attributes. This is also the case for timbral features is further established. Attributes can be chosen to relate to dancing and coordinated movements as pupils respond physically to sounds according to their physical understanding of how the sounds were made. This is discussed in greater detail in Chapter 5, whilst the relationship between small melodic ranges and the bodily representation of pitches is considered in Chapter 6.

Dancing and coordinated movements most obviously fit into embodied and directive forms of engagement (Brown, 2015). However, by utilising tempo changes, evaluative engagement can also be encouraged within these activities, whilst cyclic patterns can facilitate explorative engagement as discussed in Chapter 4. Once again, appreciative engagement is reached through the enjoyment of participating, in this case with dance and movement-based activities which reinforce the

understanding of what is heard in a way that is believed to enable an even higher level of appreciation (Dewey, 1986).

The ease of success in activities such as moving in relation to cyclic melodic or rhythmic features (with associated attributes including a limited pitch range as was discussed in Chapter 6) is particularly appropriate to pupils in middle childhood due to its potential to increase self-esteem (Erickson, 1968). According to Erickson (1968), the identity formation that occurs during this stage of life and is characterised in part by the development of perceived talents and weaknesses can influence children's evaluation of self-worth. By offering pupils the opportunity to excel, particularly, as Teacher M suggests in the quotation below, in a way that is 'better than the teacher', teachers can provide children with a pathway to a positive perception of self-worth.

I think they love anything that involves like movement and dance (...), particularly because they're always better at it than the teachers. – Teacher M

A crucial consideration here is the willingness of the teacher to allow pupils to be 'better' than they are at an activity. Although the idea of progressiveness in education has been alive since the 1930s (Dewey, 1986), many music teachers today struggle to establish a balance between a formal, dictated approach to teaching and an informal, partially pupil-led learning experience which utilises children's varying previous experiences (Hess, 2020).

7.7. Singing

Singing was an activity mentioned by almost every participant in this study. 19 of 20 described children singing as part of their music lessons, which reinforces the findings of other recent studies

(Ilari *et al.*, 2020) which have placed singing as a common activity across music education setting in middle childhood.

However, singing in middle childhood has been shown to reduce in frequency as children get older, particularly in Western cultures (Cohen and Ilari, 2020). Cohen and Ilari (2020) suggest that this could be due to levels of attraction towards singing as an activity, which are informed by perceived competency and are subject to external influences, such as the teacher. This reduction in the willingness to sing as children progress through middle childhood could also relate to a decline in 'open-earedness' (LeBlanc, 1991), as children become less willing to engage in styles of music that are unfamiliar to them. This documented decline, also experienced by myself when teaching music, is problematic as it leads to a longstanding belief of being a 'non-singer' (Cohen and Ilari, 2020, p. 16) and means that the benefits of singing – such as social unity and shared values and identity (Good and Russo, 2016), as well as academic and linguistic progression (Reifinger Jr, 2018), and the obvious musical skill-development – are missed out on. To help to tackle this problem, an analysis of the musical attributes which can encourage participation in singing activities is given below.

Attributes associated with singing activities were largely equal to the attributes of pitch explored in Chapter 6. Limited pitch ranges, small melodic intervals, and repetition were all highlighted as components which contributed to successful singing outcomes. Whilst these were explicitly referenced by some teachers, others provided examples of singing repertoire in which these attributes are implicit. In the interview extracts below, Teachers M and 3 refer to pieces of music which children have enjoyed singing in their lessons:

We don't solely want to use stuff they choose to listen to (...) we did a Bob Dylan song last year and (...) none of them have a clue who he was, but they were absolutely loved it. (...) It was 'Knocking on Heaven's Door'. – Teacher M

It goes, 'you've got to have bones to hang your body on, you've got to have bones to hang your body on, you've got to have bones to hang your body on, that's what bones are for.' (...)
You repeat it, and the last line goes, 'If you didn't have bones to hang your body on, you'd be a big blob of jelly on the floor' (...) they love that. – Teacher 3

As well as a repetitive melody, the lyrics in 'Knocking on Heaven's Door' and 'You've got to have bones' are cyclic, which, as has been argued (Krueger, 2014; Windsor and Bezenac, 2012), can encourage participation and entrainment: forms of directive and embodied engagement.

Varying dynamics and tempos were also associated with singing activities, as pupils were encouraged to explore these attributes using their voices. In the interview extract below, Teacher 2 describes an activity where pupils sing a short, repetitive tune at varying tempos and volumes, before choosing an order for these variations in their own arrangements of the song:

You can ask them, you know, 'Could you sing the song at a slower tempo?', 'Could you sing it faster?', 'Could you sing it louder?', 'Could you sing it quieter?' (...) and I actually get them making up their own sort of pattern (...) an ABA. (...) So, the A section is where they sing the song and bounce the ball and they sing it out loud, the B section, they sing it in their thinking voice. – Teacher 2

The references to enjoyment indicate that *appreciative* engagement can be accessed through singing activities containing repetition, small intervals, and limited melodic ranges. The combination of singing with these attributes also has the potential to facilitate exploration – as was shown in Teacher 2's comment – as well as the aforementioned *directive* and *embodied* engagement which are a part

of physical participation. Whilst *evaluative* engagement was not present in teachers' comments relating to singing activities, the variation of tempo and dynamics, described by Teacher 2, is compatible with reflective discussions during which children can evaluate the meaning and/or impact of varying musical features, of which they have personal experience.

Each of the singing activities described by teachers involved pupils' singing together as a group. This has been associated with the promotion of cooperation in 7- to 11-year-old children (Good and Russo, 2016) and is also indicative of a socially situated learning experience, understood by Lave and Wenger (1991, 2001) to contribute to immersion and the acquisition of knowledge. Furthermore, the groupwork nature of singing activities described can encourage musical entrainment (Krueger, 2014), as those who are less experienced can gain synchrony with the more readily able. What is crucial to the success of these and other groupwork activities, according to Lave and Wenger (1991) as well as Green's (2017b) informal approach to music pedagogy, is that the teacher acts as a facilitator of the children's musical learning, rather than a transmitter of their own knowledge. This can be ensured by, as Teachers M, 3, and 2 demonstrated in the extracts above, inviting the pupils' collective musical participation at as early a stage in teaching and learning as possible.

7.8. Playing Instruments

Playing with instruments was described as a favourite activity by 12 participants. Previous research has also shown that 7- to 11-year-olds consider playing with instruments to be a highlight of their music lessons (Bowles, 1998; Hargreaves and Marshall, 2010). However, historical research has also been suggested that, as children progress through this age-group, their perceived value of playing instruments as an activity has a tendency to decrease (Wigfield *et al.*, 1997; Jacobs *et al.*, 2005).

A wide variety of Instruments were referenced by participants, from non-pitched percussion such as drums, to guitars and ukuleles, trumpets, violins, and xylophones. Whilst this is largely due to the varied sample chosen for this research, it is crucial to consider that this is the reality across primary schools in the United Kingdom: music education occurs through many different instruments, largely dependent upon the skills of the teacher. It is well-established that percussion instruments – such as drums and xylophones – are more readily accessible to primary school children than those which require technical proficiency and support (Johnson, 2017). However, violins and trumpets – the most technically demanding of the list – offer opportunities for different types of engagement that more readily accessible instruments cannot. In the paragraphs to follow, examples given by participants relating to activities on different instruments are considered in relation to their opportunities for engagement.

Throughout the data, instrumental playing was associated with rhythmic and melodic cyclicity. Pitched instrumental playing at Key Stage 2 was also linked with small intervals and limited pitch ranges. Each of these attributes relate to both achievability and exploration in a similar way to body percussion activities, whilst small intervals and limited pitch ranges can also contribute to memorisation and internalisation (Salakka *et al.*, 2021). When using percussive instruments, teachers highlighted a lack of rhythmical limits, where limitation of this kind did present itself in trumpet, violin, and other notation-based lessons. The quotations below demonstrate Teacher O's willingness to abandon rhythmic lyrics in percussion-based activities, in comparison with Teachers C and I's violin and trumpet-based activities which include a focus on the ability to read what is played:

We're doing drumming at the moment, and so it's (...) quite out there (...) It's (...) poly-rhythms that we're layering up. (...) I certainly would not narrow myself by saying (...) 'simple things'. No, (...) if you are less confident in your (...) music teacher delivery, you're going to go for the more obvious (...) 4/4 time, and (...) nicely on the beat, you're probably not going to

want to tackle syncopation. (...) But (...) I don't think there's any limitation. I think it's all different flavours. – **Teacher O**

I like to get into the notation. I usually give them a notation version of it afterwards. –

Teacher C (violin activity)

Seeing it (the rhythm) written down and get them to work it out with the actions, I think that's (...) how we will get into it. And then recognising that rhythm being played, or (...) there might be reading rhythm and pitch on a five-line stave at that point. So it may be that they can recognise the rhythm on a stave, and then, because they've already internalised that, work out the pitch. – **Teacher I** (trumpet activity)

Whilst Teacher C and I's comments about readability suggest that rhythmic and melodic attributes must remain simple during instrumental playing activities, Teacher O's freer, more improvisatory approach could be more related to natural rhythms, such as those found in movement and/or language. This correlates with Campbell's (2010) research into children's spontaneous musical utterances, which found that children in a play environment would achieve much more rhythmically complex material outside of the classroom than in it. In order to achieve the benefits that both sides have for engagement, a balance between rhythmic and melodic features which can be visually comprehended and those which are enjoyable and interesting to play and hear must be sought. In each of the examples relating to playing instruments as an activity, achievability was an essential component, made possible by the teacher making technical considerations that were specific to each instrument. This is crucial when children are at the ages 7- to 11, due to the fragility of their self-esteem and the impact that success and failure can have on both their self-image and desire to learn (Erickson, 1968). Experiences of success and failure during this time can shape whether or not a child continues to pursue an activity, or decides that it is 'not for them' (Erickson, 1968).

More research into the affordances of the instruments used in Key Stage 2 classrooms would be beneficial in order to help teachers to appropriately select repertoire for this age group. In the meantime, non-specialist teachers can consider how percussion instruments, including pitched percussion Orff instruments (Lange, 2005) are made accessible by removing the need for technical proficiency or theoretical knowledge, prior to playing. Teachers C and I demonstrate that technically challenging instruments such as the violin and trumpet can encourage engagement in the classroom, when approached in a physical way and with a focus on playing and reading simple notation. However, instant positive emotional engagement and consistent behavioural and cognitive engagement across the majority of members of the class is understood to be more likely and more common when playing percussive instruments that are less technically demanding (Johnson, 2017).

7.9. Learning by Ear

Learning by ear was an activity mentioned by five teachers in relation to engagement. Learning by ear – or aural learning – is often considered in contrast to learning through notation, and commonly associated with popular music as opposed to Western art music (Green, 2017a; Vasil, 2019).

Similarly to improvisation using the pentatonic scale, aural learning has been associated with an authentic music-learning experience. The activity has been identified by Green (2006, 2017a) as a real-life approach to music-making amongst popular musicians. Green's (2017b) 'informal learning' pedagogy has been used in many secondary classrooms and an increasing amount of primary classrooms (Davis, 2013; Vasil, 2019). The aural learning that is crucial to Green's (2017b) informal learning approach has been shown to encourage the engagement in music-making for music-making's sake (Jenkins, 2011), which enables an deep and organic learning process that has been understood for decades to be only reachable through experience (Dewey, 1986).

Musical attributes associated with learning by ear were small melodic intervals and limited pitch ranges, as well as rhythmic simplicity and cyclicity, and a manageable tempo. Each of these relate to achievability and internalisation, as repetition – such as that common in popular music examples (Green, 2017b) – offers pupils the opportunity to make and correct errors in real-time (Green, 2017b). By choosing popular music repertoire which contains these elements, children are able to learn by ear in a way that mimics the learning processes of the musicians they are likely to admire (Green, 2017a).

Learning by ear was also a common feature of warm-up games amongst participants. In the interview extracts below, Teachers 2, P, and B refer to this and also suggest that engagement later in the lesson was boosted when identical rhythmic or melodic phrases appeared in both warm-up games and repertoire.

So I might sing, David, and he might, he might sing Hello, sir. And then later on, I will say who had to number one who had to number two. Yeah, yeah, right. Or, I might just say, Hello, David. And he will sing back "So La So Mi" – Teacher 2

There's always a body percussion element to the beginning of the lesson anyway, singing or body pushing at the beginning of the lesson. And the body percussion thing tends to, not always but tends to be linked to the, to the piece. – Teacher P

We do music all the time, they just don't realise it. (...) They're not familiar. They're frightened of it. They don't like to fail. Yeah, so it's about familiarity. It's about repetition. It's about making it fun. And also, (...) music is part of our normal day. – Teacher B

Each of the quotations above suggest the fostering of relevance that Dillon (2006) and O'Neill (2015) argue is crucial to engagement as it enables personal as well as social meaning-making. Whilst personal relevance can be achieved in the individual who recognises the familiar musical pattern, the nature of aural warm-up activities as groupwork can also enable social relevance as well as the socially situated learning which is understood to precede individual cognition (Vygotsky, 1978).

Both personal and social meaning-making can activate *appreciative* and *directive* engagement as they encourage enjoyment and participation (Witek, 2017) It is also arguable, when considering Green's (2017b) argument about intersonic musical meaning, that learning by ear could promote cultural meaning-making, as pupils engage in practice that is relevant and active in the wider culture of popular music. This provides an opportunity for both *evaluative* and *explorative* engagement.

The peer-led nature of learning by ear activities, in contrast with dictated, teacher-led learning (Dewey, 1986), reinforces the social aspects of learning that are considered crucial by constructivist education specialists. Vygotsky (1978) argues that all learning begins on a social level, before individual development occurs. He describes learning as a social process and emphasises the importance of relationships between individuals when developing conceptual understanding, logical memory, or voluntary attention (Vygotsky, 1978). The idea that socially-sourced knowledge must precede individual learning is also argued by Shayer and Adey (1981), who consider social construction to precede reflective learning, and John Dewey (1986), who highlights the importance of utilising children's socially acquired knowledge.

As well as being conducive to deep-level learning experiences, the high levels of directive engagement present in self or peer-led aural learning activities can also enable children to reach flow in the music classroom, as explored by Custodero (2005). *Self-correction* is a key feature of

Custodero's (2005) theory of flow indicators in the music classroom. This indicator is often a part of learning by ear, particularly during self and peer-led activities, as pupils imitate a musical part and amend it until it is in some way identical – be that in pitch, rhythm, timbre, or otherwise. *Deliberate gesture* is another of Custodero's (2005) flow indicators, meaning pupils' agency of their educational experiences, achieved by providing their own sensory feedback – in this case aural – that is necessary to their learning (Custodero, 2005).

Argued by Brown (2015) to be the highest form of engagement, flow experiences are sought after in the music classroom and can involve *appreciative, explorative, embodied, and evaluative* modes of engagement, as well as direction. In the case of aural learning activities that are self or peer-led, all five of these modes have the potential to be activated. Whilst *embodied* and *directive* engagement are immediately a part of the activity, appreciation can be achieved when the repertoire has meaning for the pupil and evaluation can be prompted by reflection upon why. Exploration is also possible in aural learning tasks as children discover their own ways of achieving their goals.

7.10. Active Listening

Active listening was referenced by thirteen teachers as an activity which they considered to be engaging. Defined in contrast with 'passive listening' (Fung, 2001), active listening occurs when those who hear pay 'active attention to various layers and elements', discern 'sounds, musical structures, harmonies, and the interrelations between the sounds', and 'grapple with these complex musical nuances, listening to different layers of the melody and harmony and connecting them to cultural and historical aspect' (Mamlock, 2017, p. 1). Passive listening, on the other hand, is more akin to hearing. During passive listening, musical sounds can be perceived, but critical attention to them does not occur (Mamlock, 2017).

Active listening activities for 7- to 11-year-olds commonly involve singing, moving, and dancing along with specified parameters (Gault, 2016). They can also involve emotional analyses of excerpts in relation to visual aids – for example faces with expressions and symbols of weather – and cultural considerations relating to composers, performers, or time periods (Gault, 2016).

With regard to specific attributes, the key consideration here seemed to be that they must be identifiable, and so in some way familiar to the children. This can take the form of musical vocabulary they have learnt, an emotional response they understand, or a movement-based response to a musical element which can be readily isolated. The interview extracts below, from Teachers 3, E, and G demonstrate the versatility of active listening activities and illuminate the idea that what is important is the pupil's familiarity with the identifiable musical attribute that the teacher wishes to highlight:

They were listening to pieces like 'Schindler's List'. Obviously, they haven't seen the film, but we played the music. None of them had seen the film and they said 'that's really sad'. –

Teacher 3

It's teaching the children (...) vocabulary. So if we are listening to a piece of music, they can use that confidently to describe to you whether it was loud or quiet, and they can say at which points, what did the music do? And also understand why that might happen in a song.

– Teacher E

We're (...) listening to music and matching (...) the tempo when it changes. Maybe (...) moving around a room, (...) changing a stride as the tempo slows. – **Teacher G**

By engaging in active listening activities which reinforce the learning of musical and extramusical attributes, 7- to 11-year-olds are exercising *appreciative* and *directive* engagement. These activities also have the instant potential for *evaluative* engagement, when prompted by teachers to reflect. *Embodied* engagement is also a feature of active listening activities, as the perception required to complete an active listening task is reliant on embodied cognition (Leman, 2019). *Explorative* engagement is not immediately present within active listening activities. However, the reflection that *evaluative* engagement involves can be used by teachers to prompt creative exploration. Ideas and implications such as these are considered further in Chapter 8.

Active listening activities, again, are described by participants in a group context. 7- to 11-year-olds are asked to listen to a piece together, and to respond to the same elements simultaneously. This is a running theme throughout this chapter and reinforces the importance of learning socially. Vygotsky (1978) has argued that learning occurs most effectively when learners are in the presence of ‘most knowledgeable others’ (Vygotsky, 1978). These can be teachers, support staff, peers, or a combination of the three. To encourage children’s learning from others and therefore entering what Vygotsky (1978) calls ‘the zone of proximal development’, teachers can encourage members of the class to share their experiences and to learn from the experiences of others. In Teacher 3’s example of children sharing their emotional responses to a piece of music, the social nature of the discussion is likely to have prompted the reflection on emotion in music amongst pupils who might not otherwise have reached these considerations alone. During these discussions and considerations, the personal and social meaning-making experiences that are crucial to engagement (Dillon, 2006; O’Neill, 2015) can also occur.

The ‘active’ nature of active listening activities also enables deep-level learning according to Dewey’s (1938) progressive learning theory, which argues that learning is the process of constantly modifying experiences. The more activities are undertaken, the more experiences are gathered, and each

experience builds upon those previous, enabling understanding and cognitive engagement (Dewey, 1938). This is evidenced in the comments by Teachers 3, E, and G above. Whilst Teacher 3's comment demonstrated children's sharing of an emotional response to music, which would inform future emotional responses and analyses of further pieces, Teachers E and G describe using a former learning experience to inform a future learning experience. Teacher E's example involves the teaching of vocabulary, followed by the recognition of elements which match that vocabulary, whilst Teacher G describes children utilising their bodies together as a group to demonstrate their collective awareness of changes in music. Each of these are examples of Dewey's (1986) progressive learning and therefore conducive to cognitive forms of engagement including reflection and pragmatism (Fleming and Mills, 1992).

7.11. Performing

Performance was an activity highlighted by seven teachers, in the forms of both whole-class performances and individual or small-group productions.

Musical performances are by nature preceded by at least some preparation, planning, and consideration. For this reason, the use of the word 'performing' in this section is used as an umbrella term, to include the musical and social activities which contribute to a child's willingness and ability to perform before an audience.

Performing has been identified in previous research as a route to meaningful music-making in pupils (Davis, 2013) as well as a contextualised learning experience in which learning itself is not seen by the pupil as the aim (Jenkins, 2011). Whilst much of the research into musical performance is concerned with secondary school pupils (Davis, 2013; Jenkins, 2011; Smart and Green, 2017), research into children in middle childhood's experiences of performing music has shown that they

can enjoy competitive performances (Koops, 2018). Research into the use of informal learning environments in a primary school music classroom has also shown that children become immersed in performance-based music-making activities and are motivated to practise by upcoming performance opportunities (Benson, 2012).

Musical attributes that were associated with the success of performance activities were not explicitly stated by the teachers interviewed. However, Teacher P did state that children enjoyed performing music they had created themselves – which suggests that attributes associated with composition would apply in this case. Additionally, Teacher P, Teacher 3 and Teacher B emphasised the importance of achievability when preparing for a performance, suggesting that the attributes associated with successful engagement with this activity are those related to the accessibility of replication and the absence of opportunity for error, rather than social or cultural extramusical considerations, or mood-related responses. A relevant interview extract from Teacher P is given below:

If there's (...) a group of kids who really take on board improvisation and composition, they can create their own piece, (...) they can (...) have ownership of it. (...) Repertoire itself has got to be achievable. (...) It's got to be within a range of notes that they can cope with. (...) It's got to engage them. (...) They've got to want to play it because they like it. – Teacher P

The act of performing and preparing to perform was associated particularly with directive engagement in the form of motivated activity, as is shown in the extract below, taken from Teacher K's interview:

Once a year, I'm planning to have a show (...) And I think this makes them engage more because they will perform on the stage. – Teacher K

The idea that motivation can be increased by children's being as active as possible when learning has circulated since the work of John Dewey (1986). By preparing for performance(s), 7- to 11-year-old pupils are encouraged to take ownership of their own musical outcomes, which as a result increases their activity and therefore directive engagement (Brown, 2015). For example, pupils' preparation to play before peers involves self-evaluation, self-management, and planning ahead (McPherson and McCormick, 2006). In Teacher K's comment above, the concept of performing on a stage is referred to as something which encourages children to engage more (than if they were not to perform).

A further consideration of the role of performance in 7- to 11-year-olds' music education is Piaget's (2005) idea of socio-centricity. Piaget (2005) argues that, during the *concrete-operational stage* that 7- to 11-year-olds are in, their awareness of others' feelings and of how others perceive them increases. This is a development from the 'egocentricity' (Piaget, 2005) of younger children and can also contribute to the social meaning-making that is a part of meaningful engagement with music (O'Neill, 2015). The interview extracts below show Teachers E and I highlighting the presence of socio-centricity in 7- to 11-year-old learners engaged in performance and performance preparation:

When they perform, they need to learn to keep their own parts and not try to copy what someone else is doing. And that's (...) one of their favourite activities. – Teacher E

I think there's a massive thing about just wanting to be heard, (...) especially if you get kids who (...) might be 'naughty', (...) or kids that just simply fade into the background. (...) Some of them, when they get into music, (...) thrive. And I think they just want to be heard finally, or, (...) there's also ones that like the attention and just want to show off to their mates. It's really nice when someone plays and another kid compliments them (...) I [also] think it's just fairly exciting for them. – Teacher I

In both Teacher E and I's comments, the learning environment described could be described as 'non-formal'. Again, this relates to the teacher's adopting a 'facilitator' over 'dictator' role, to assist informal learning in the classroom (Wright, 2016). *Musical Futures* (2021) make the distinction between informal and non-formal teaching and learning as the latter being more teacher-led than the former, and thus more suited to pupils aged 8 and above. Both Teacher E and Teacher I describe activities in which the teacher chooses which parts children play, but the children take some ownership of their own learning process. Whilst a greater level of pupil-led learning is recommended by *Musical Futures* (2021) for music teachers teaching 11-18 year-olds, as is explored in Green's (2017b) work, 7- to 11-year-olds are not yet at the level of cognitive independence that 12+ children are, still requiring a level of concrete instruction and given materials from their teachers (Piaget, 2005).

7.12. Chapter Summary

In this chapter, ten music-making activities have been explored in combination with the attributes within them that contribute to experiences of engagement. The modes of creative engagement which are activated during these activities have been clarified and a consideration into learning theories which strengthen the data of this study's findings has been undertaken.

Constructivism has been a crucial theme throughout this chapter, with theories of Piaget (2005), Vygotsky (1978), and Dewey (1986) all reinforcing the importance of utilising children's prior experience in the classroom and the cruciality of social interaction when learning music. The ten activities explored have been situated to include both children's and teachers' individual and collective experiences and to encourage the discussion of those to enable in-depth learning experiences.

Further consideration into the meaning of engagement has also been achieved in this chapter, as the work of Eccles *et al.* (1999, 2012) has encouraged the exploration into how meaning-making is achieved amongst 7- to 11-year-olds. It has been established that children must have a desire to succeed and also a belief in their own success in order to achieve any form of engagement. Their interest must be established, which can be done on an individual basis as well as situationally (Eccles *et al.*, 1999, 2012), by offering comparisons to prior experiences and considerations of personal, social, and cultural relevance (O'Neill, 2015).

Eccles *et al.* (1999, 2012) also argue that task-involved engagement, characterised by the perceived value of completing the task, rather than ego-involved engagement which is concerned with how one will look and whether one will outperform others, is conducive to higher levels of progression due to children's willingness to partake in challenges. Whilst achievability is crucial to behavioural engagement, it is vital to remember the importance of real progression and to foster a desire in pupils to achieve tasks beyond their current abilities, through the construction of personal, social, and/or cultural meaning (O'Neill, 2015) which facilitates task-involved engagement (Eccles *et al.*, 1999, 2012).

Whilst the aforementioned social context has presented itself as an irreplaceable component in achieving meaningful music engagement (Brown, 2015), teachers must also consider how personal and cultural meaning-making can be encouraged through the combination of the ten activities discussed in this chapter and the potentially engaging attributes within them. Group work was a component in the following nine activities, indicating that social meaning can readily be achieved through the use of the attributes discussed in this and previous chapters, in combination with these tasks:

- 1) Improvisation, as pupils developed ideas together in small groups and as a class.

- 2) Composition, with pupils working together as groups to create songs/pieces.
- 3) Performances, prepared by groups of students together as a band.
- 4) Active listening, as students listened to music together as a class and discussed what they heard.
- 5) Singing – the majority of singing activities described involved the whole class.
- 6) Using instruments, together as a class or in small ensembles.
- 7) Body percussion, together as a class or in small ensembles.
- 8) Dancing and co-ordinated movements, usually together as a class but sometimes in smaller groups.
- 9) Learning by ear, in the form of peer-led learning even during individual work, and as group work when playing together as a band.

The only activity which was not described as obviously group-orientated was using sequencing software. However, despite the individual nature of this task, class discussions were still evident in the interview extracts relating to creating music with software, and the active listening to of each others' creations was implied.

Personal meaning meaning can be fostered through individual emotional responses to music, as well as – at this age group in particular – a sense of achievement within activities. The following activities contained emotional reflections and/or opportunities for individual progression that was not reliant or necessarily synchronised with others in the class:

- 1) Using sequencing software as individuals, exploring timbral attributes as well as features of pitch and rhythm.

- 2) Learning by ear individually.
- 3) Solo performances.
- 4) Composition as individuals, using instruments or software.
- 5) Improvisation, where individuals are encouraged to explore by themselves whilst accompanied by cyclic rhythms, chords, and/or melodies.
- 6) Active listening, where individual perceptions and references are encouraged prior to group discussion.
- 7) Body percussion, where individuals are encouraged to develop cyclic patterns to push themselves according to their ability.

Cultural meaning can be established when a wider relevance to an activity is perceived, outside of the school (Dillon, 2006). This can be achieved through external performances, or by pupils' gaining an understanding of the cultural meanings inherent in many musical examples. The latter was described in relation to active listening activities which explored the meanings of songs and considered the reasons for the creation, as well as creative activities such as improvisation, composition, and using sequencing software. As children create using instruments, their voice, or with computers, the consideration of how their chosen attributes relate to music outside the classroom can enable their construction of both cultural and personal meaning (Dillon, 2006).

Further ways that teachers can ensure meaning-making and resulting experiences of engagement in their Key Stage 2 music classrooms are discussed in the next and final Chapter (9), on the implications and conclusions of this research.

CHAPTER EIGHT: LYRICAL ATTRIBUTES

8.1 Chapter Introduction

This chapter is concerned with the lyrical content present in musical examples provided by participants. Several themes were established during the coding process, as follows:

- 1) Positivity, in the forms of both optimism and certainty, or presence over absence,
- 2) Personal, social, and cultural relevance and related meaning-making,
- 3) Lyrical silliness,
- 4) Repetition including forms of alliteration, and
- 5) The use of verbs and action-based lyrical prosody.

Throughout this chapter, each of these themes are explored in relation to existing literature and with reference to responses given in research interviews. Theories of mirror neurons and emotional contagion, embodied music cognition, and social and emotional learning are considered, before all ideas are combined and interrelated to precede the presentation of this work's constructivist grounded theory of how the identified attributes of lyrical content can contribute to experiences of engagement in 7- to 11-year-olds.

Positivity

The Oxford Dictionary defines positivity in the following two ways:

- 1. the practice of being or tendency to be positive or optimistic in attitude.*
- 2. the presence rather than absence of a certain substance, condition, or feature.*

In this chapter, for the purpose of clarity, these are referred to as *optimism* and *certainty*, both of which have been previously used as variables in lyrical content analysis research by Adrian North *et al.* (2017). Both types are present within lyrical examples given by teachers, with optimism evident in words such as ‘love’, ‘happy’, and ‘good’, whilst certainty is evident in statements such as ‘I will’, ‘I am’, and ‘I feel’.

Below are four examples of these types of positivity within lyrical examples taken from this study’s data. All four of the examples contain both optimism and certainty.

“Because I’m happy...” (referenced by Teacher B)

Optimism is present here in the statement of ‘happiness’, whilst certainty presents itself in the directness of the declaration.

“I feel good!” (referenced by Teacher 1)

Similarly to the previous example, optimism is present in the expression of ‘feeling good’, whilst certainty exists in the directness of the declaration. Of ‘I Feel Good’, Teacher 1 said the following:

The words are (...) about positive wellbeing. So, the whole vibe and message of it is (...) very suitable. – Teacher 1

“How I love that Cherry Pie” (referenced by Teacher 2)

Here, optimism is present in the word ‘love’, whilst certainty again presents itself as directness.

“We will rock you” (referenced by Teacher A)

In this example, optimism relates to the general confidence and optimism of the statement, whilst certainty is in the statement ‘we will’. Also contributing to the positivity of this lyric is the presence of ‘rocking’, rather than the absence of an opposite (e.g. ‘we won’t bore you’).

“Every little thing gonna be alright” (referenced by Teacher A)

Similarly to the previous example, optimism is now present here in the expression of everything turning out ‘alright’, whilst certainty presents itself in the directness of the declaration.

Optimism is of interest in relation to engagement due to its association with mood. Psychological research (Adachi and Trehub, 2004; Morton and Trehub, 2007) has shown that 5-10-year-old children perceive emotion in sung musical examples according to lyrical content, more so than purely musical emotional cues. This follows a similar study involving college students, which demonstrated that musical examples with emotional lyrics are more capable of invoking changes in mood than wordless musical extracts (Stratton and Zalanowski, 1994). By utilising lyrics which are emotionally positive, teachers are enabling an emotional form of engagement in their pupils which, as well as being of value in itself, can also lead to both behavioural and cognitive forms of engagement (Johnston, 2018).

Certainty is characterised by confidence: we *will*, I *am* ... as well as directness. The use of lyrics that are easy to understand is associated with popular music (Werner, 2021) and commercial success (Goyak *et al.*, 2021). For 7- to 11-year-olds, the directness of certain statements removes a portion of the room for interpretation that many lyrics present and increases the likelihood of their engagement and united experiences, beginning on an emotional level. This relates to the ‘no effort’ theory discussed in Chapter 6 (Korsakova-Kreyn, 2018), as well as theories of relevance and meaning-making discussed throughout this thesis (Dillon, 2006, 2009; O’Neill, 2015).

Returning to the optimism associated with words such as ‘happy’, ‘love’, and ‘good’, neuroscientific research suggests that the imitation of optimism could be due to the mirror neuron phenomenon. Mirror neurons are a phenomenon that has been suggested by psychological and neuroscientific scholars as something which allows ‘an individual to understand the meaning and intention of a communicative signal by evoking a representation of that signal in the perceiver’s own brain’ (Molnar-Szakacs & Overy, 2006, p. 235). Whilst signals can take the form of other attributes present in musical material, such as melodic motion, the extent to which lyrical content can contribute towards the ‘emotional contagion’ (Giuliana and Hamilton, 2016) in music listening experiences requires further research. However, existing research with university students does suggest that hearing optimism within lyrics can contribute to personal experiences of optimism (Hu *et al.*, 2021).

Further experimental research (Sanchez *et al.*, 2014) has shown that the presence of lyrics can have a limited positive impact upon cycling behaviour in exercising listeners, whilst further research has demonstrated a greater emotional response to themes of sadness in lyrics over positive lyrical messages (Barradas and Sakka, 2022). Goncalo Barradas and Laura Sakka also highlight how cultural differences can influence emotional responses to music and lyrics, using a cross-cultural sample of Swedish and Portuguese participants. Embodied cognition has also been related to the emotional contagion of music (Cespedes-Guevara and Dibben, 2022), in a way that has implications for the processing of, and responses to, lyrical content. Julian Cespedes-Guevara and Nicola Dibben (2022) argue that by mimicking the movements of singers, such as vocal expressions, whilst singing along, an understanding of emotional content can be achieved. Whilst lyrics are not explicitly mentioned in Cespedes-Guevara and Dibben’s (2022) research, it follows that the imitation of lyrics with positive messages could result in an experience of emotional contagion in the participant, particularly when accompanied by further musical attributes which complement identical or related emotions.

Each of the considerations regarding positivity in lyrics are associated with the idea that they can influence primarily emotional (or affective) forms of engagement. The argument has also been made that emotional engagement(s) can facilitate behavioural and cognitive forms of engagement (Fredricks, Blumenfeld and Paris, 2004). To return to Brown's (2015) modes of creative engagement, the use of both optimism and certainty in lyrical content are most obviously related to appreciative engagement. Teacher-led reflections can also encourage evaluative engagement, whilst participation involves embodied and directive engagement. Whilst it was not explicitly referenced in the data, the use of positivity within lyrics and the identification of positive words also has the potential to facilitate explorative engagement via creative activities wherein children create lyrics within an easy-to-understand theme.

8.2. Personal, Social, and Cultural Relevance and Meaning-Making

As well as reactions, reflections, and responses relating to positive lyrical messages, there are further ways that lyrical content can engage children through the establishment of personal, social, and cultural relevance.

Scott Edgar (2012) has highlighted how popular music lyrics often contain content which can be reflected upon in the classroom to promote self-awareness, empathy, and emotional development in children of primary and secondary-school ages. Edgar (2012) uses examples of songs which deal with societal issues including abortion, addiction, death, domestic violence, gender, mental illness, and race. He highlights how the use of these songs in the classroom can be accompanied by analytical activities which consider social issues, context, the effect of the song, and how the song impacted the pupil as an individual (Edgar, 2012). Edgar and Bob Morrison (2021) have also highlighted how lyrical analysis enables pupils to emotionally connect with musical examples.

Whilst Edgar (2012) and Edgar and Morrison's (2021) work is primarily concerned with how the analysis of lyrical content and other musical activities can promote social and emotional learning, the importance of engagement and the relationship between social emotional learning and engagement is implied throughout his work, as he states that a focus on social emotional learning can make 'classroom management, social interactions, self-motivation to practise, and peer leadership' easier (Edgar, 2012, pp. 18-19). As with the previous section, the emotional engagement achieved due to lyrical content, as well as being an end in itself, provides a pathway to behavioural and cognitive forms of engagement, such as the peer leadership and motivation to practise mentioned by Edgar (2012).

In this study, examples given by teachers of lyrics with the potential for personal, social, and cultural meaning-making are present in the forms of lyrics which offer an opportunity to learn other languages, lyrics which create a chance to learn about emotion, and lyrics which offer cultural insight. Four teachers mentioned the use of languages other than English in lyrics, four teachers referenced lyrics which had clear content relating to positive emotions, whilst three teachers discussed lyrical content that could enable the reflection on cultural norms and values.

As discussed in Chapter 2, personal, social, and cultural meaning-making can be differentiated as follows:

1. Personal meaning is achieved through intrinsic enjoyment, achieved through a perceived relationship to musical attributes or the lyrical narrative (Dillon, 2006),
2. Social meaning is achieved when a musical experience connects a pupil with others (Dillon, 2006),
3. Cultural meaning can be achieved when a musical experience is considered valuable to, or within, the child's community (Dillon, 2006).

Whilst personal meaning and the intrinsic enjoyment is most readily related to appreciative engagement (Brown, 2015), social and cultural meaning-making indicate the presence of *evaluative* engagement as well as a reliance on some degree of *directive* engagement (Brown, 2015), as children self-direct through reflections which are inherently individual (Dewey, 1986; Latasha, 2020).

Within data collected for this study, cultural meaning-making appeared to be of particular interest to teachers when fostering engagement in the KS2 classroom. The interview extracts below show Teachers 4, B, and J describing the use of lyrics with the intention to construct cultural meaning amongst pupils:

We've written a cultural cantata for the city of culture – Coventry's about to become city of culture. So we've done 10 songs. There's one about the Blitz, there's one about the car industry, there's one about James Starlee, (...) Lady Godiva, of course. (...) And all the questions that are coming in from 9-10 year olds; 'So what happened, did Coventry get bombed?'

– Teacher 4

'Polish Christmas Carol' (...) we have Polish speaking children, but they can't necessarily read Polish. And of course, our English-speaking children have no chance. So that has to be broken down (...) phonetically. (...) I do the minimal interferences possible, (...) I think you'll get much more from it if we're just going to sing through it. And we'll just get better at it each time.

– Teacher B

Some of the kids already know (...) the film is popular in Bollywood culture. We (...) get them to sing the actual words for it, (...) but also really incorporate the Bollywood dancing into it as well. (...) It's making it quite silly, but enjoyable, but respecting the culture, (...) imitating the dancing and things like that, to make them feel like they're a part of it. (...) A lot of explanation comes through (...) saying (...) what Bollywood is, you know, where they make Bollywood films, and dancing is a huge part of it. – Teacher J

Whilst Teacher 4's example describes a collection of songs which directly relate to all of the pupils' wider culture, as it addresses the area they live in, Teachers B and J use examples relating to cultural backgrounds that are familiar to some but not all class members, in an attempt to increase diversity. Teacher 4's extract demonstrates children asking questions which are unrelated to musical content, whilst Teachers B and J show active musical participation with, as Teacher B puts it, 'minimal interferences possible'.

This data suggests that the use of cultural lyrical material which relates to only some members can encourage immediate active engagement, whilst the use of lyrical material that relates to all pupils' direct culture can first foster emotional forms of engagement. The use of lyrics to teach social or emotional 'messages' to children is increasingly documented (Pasiali and Clark, 2018; Hallam, 2022). Studies concerning the use of lyrical content to inspire social or emotional reflection has shown an increase in social and emotional *competencies* (Edgar, 2012) in middle childhood as well as in adolescence (Pasiali and Clark, 2018; Millar *et al.*, 2020; Hallam, 2022). However, in order to encourage active engagement with music-making, activities involving lyrical analysis must also be combined with those characterised by directive or explorative engagement (Brown, 2015), such as singing or lyric-writing.

8.3. Lyrical Silliness

Whilst personal, social, and cultural relevance and meaning-making can encourage engagement through considered emotional and cognitive responses, the use of lyrical silliness – or nonsense – was a further theme present in the analysis of engaging lyrical attributes.

‘Silliness’ has been defined as ‘childlike behaviour’ (Pinchover, 2017), which has a strong relation to playfulness (Pinchover, 2017). As has been discussed in previous chapters, the idea of ‘play’ in the music classroom is associated with high levels of emotional, active, and cognitive engagement due to the willingness it instils in children to participate and the enjoyment they experience in doing so (Beegle, 2022; Campbell, 2010; Piaget, 2005).

Four participants suggested that lyrics containing meaning which could be considered silly or playful encouraged behavioural engagement in pupils across the Key Stage 2 age group, whilst two expressed surprise at the older children’s requests to sing material that they learnt at a much younger age.

In the interview extracts below, Teachers 3, P, and C offer examples of 7- to 11-year-olds actively and emotionally engaging with lyrics that are or could be described as ‘silly’:

It goes, ‘you’ve got to have bones to hang your body on (...) and the last line goes, ‘If you didn’t have bones to hang your body on, you’d be a big blob of jelly on the floor’ (...) they love that. – Teacher 3

Silly (...) song called spring chicken. Which is just hilariously stupid (...) it's supposed to be a key stage one song. And year six will request it. (...) You say, Well, what do you want to sing and they go, 'Can we sing spring chicken?' (...) It's the simplest song and it's silly. – Teacher 3

I've written silly words for it. So, you know, they enjoy seeing the silly words as well. –

Teacher P

We get them to sing, 'I like grapes. I like pomegranates. I like grapes. I like pomegranates.'
Then the violins go, 'I like to eat bananas, apples or mangoes, too.' And (...) the chorus, where they (...) shout out, 'Tequila!', they love that. – **Teacher P**

[I] just make up silly words, because it really helps with rhythm – Teacher C

One explanation for children's desire to sing and show enjoyment in singing silly lyrics is that it can enable a reduction in anxiety related to authority figures (Pazdziora, 2021). John Patrick Pazdziora (2021) argues that when adults behave in a playful or silly manner, for example by singing silly songs, they create experiences for children that are nonthreatening and inverting the authority relationship between the adult and the child. Whilst Pazdziora's (2021) work is concerned with pre-school and younger elementary children, the concept of inverting authority through silliness is present in the examples given by teachers above, relating to older Key Stage 2 children.

Teacher 3 described 10-11-year-old pupils requesting to sing a song with silly lyrics, that they remember from their younger school years. If Pazdziora's (2021) theoretical understanding of inverted authority is accurate, a part of the motivation for 10-11-year-olds' requesting the song could be to create a similarly nonthreatening environment, where pupils and teachers alike share a level of control and an ability for involvement. Older children requesting to sing lyrics which they remember

from their younger years could also involve experiences of nostalgia, which has been associated with increased optimism through the social connectedness and increase in self-esteem that it can invoke (Cheung, Wildschut, and Vingerhoets, 2013).

As well as levelling out pupils and teachers' apparent authority, and potentially offering experiences of nostalgia, the use of 'silly' lyrics in the Key Stage 2 classroom – particularly towards the end of Key Stage 2 – demonstrates the prioritising of 'fun'. Fun experiences are associated with neurological rewards (Koelsch, 2010), as well as experiences of behavioural engagement in adults (Plester and Hutchison, 2016). Whilst 'fun' is most commonly considered desirable in younger children's lessons (Mann, 1989), this research suggests that further investigation is required into its impact on engagement at late Key Stage 2 and beyond.

The apparent levelling phenomenon and enjoyability present when singing 'silly' lyrics can immediately be related to directive and appreciative engagement. However, further forms of engagement can also be reached via the use of this attribute, as are shown in Figure 24 below:

Figure 24: Lyrical Silliness and Modes of Engagement

Mode of Engagement	Activation through Lyrical Silliness
Appreciative	Achieved through the enjoyment of listening to and singing songs with 'silly' lyrics
Evaluative	Can be achieved through reflective activities of how a song made an individual – or might make others – feel
Directive	Achieved through the active participation in singing tasks
Explorative	Can be achieved due to the confidence inspired by levelling and the positioning of the child in a place of control or authority

	(Rosen, 2018)
Embodied	Achieved through participation as well as involuntarily via forms of repetition in 'silly' lyrics, explored further in part 5 of this chapter

8.4. Censoring and Rewriting Pop Lyrics

Another theme which arose during data analysis was the importance of either censoring or rewriting lyrics. Teacher A suggested tweaking 'suspect' lyrics present in popular songs, whilst Teacher C described an educational song about Henry the Eighth, with gruesome lyrics that could upset some children and be modified according to the personalities in the classroom, to teach lessons about rhythm with the aid of words. These participants' comments are shown in the interview extracts below:

'Hey, Baby!' (...) I've rewritten the verses to (...) 'I want to know if you'll sing my song'. (...)

When it's a slightly suspect lyric, I do just tweak the lyrics a little bit, you know? – Teacher A

Henry the Eighth one (...) has something about him chopping off his wife's head (...) that depends on the children. If you want, (...) you have the nasty lyrics, or the nice, (...)

uncontentious cups of tea, food, biscuits, you can't get into any issues with that. (...) It's accessible as well. – Teacher C

In Teacher A's extract, the lyrics are edited in order to be more appropriate in terms of alignment with the lesson's content ('sing my song') as well as the removal of content which could be considered inappropriate for the developmental stage of 7- to 11-year-olds ('be my girl'). Teacher C's

comment demonstrated the consideration of engagement according to personality-types in the classroom; whilst some groups would relish lyrics about chopping heads off, the teacher deemed it better to 'play it safe' with other groups, by swapping the lyrical topic to 'tea and biscuits'.

The practice of modifying lyrics for use in the classroom is documented in literature. Pedagogical purposes such as teaching first or second languages (Rohmah and Indah, 2021; Werner and Tegge, 2020), maths times-tables (Bauleke and Herrmann, 2010) or tense (Karlina *et al.*, 2017) are common, whilst encouraging creative activity through activities in which children change the lyrics is also understood to be engaging for primary school children (Adachi, 2013). The issue of inappropriateness in popular music lyrics has also been highlighted in a music education context (Kruse, 2016; Kallio, 2017). Adam Kruse (2016) addresses this in the context of hip-hop lyrics, emphasising how they can be multi-layered and easily misunderstood. Kruse (2016) suggests that teachers encourage pupils to compose their own rap lyrics which speak to social issues, along with instrumental versions of existing rap songs. This practice adheres to Green's (2017b) authenticity of musical learning, whilst avoiding the issue of potentially harmful content.

Whilst the example given by Teacher A is not overtly sexual, it is well-documented that many pop songs contain both sexual and violent content which can negatively impact upon children's behaviour and development (Anderson *et al.*, 2003; Fischer and Greitemeyer, 2006). Studies have shown that as children enter adolescence, listening to lyrics which contain misogynistic messages can negatively affect young males' attitudes towards girls and women (Council on Communications and Media, 2009). There is also a correlation between the exposure to violent lyrics and aggressive thoughts and feelings (Anderson *et al.*, 2003). Recent research has shown that children are being exposed to sexual and sexist lyrical content at an increasingly young age and concern has been expressed for the potential impact this could have on growing children's attitudes and behaviour (Fernandez, Fernandez, and Lopez-Chao, 2020).

By either censoring or editing lyrics themselves in order to make them more appropriate for 7- to 11-year-olds, or encouraging pupils to create their own lyrics, teachers are not only preventing potential damage, but also cultivating the opportunity for meaning-making in the classroom. By changing the lyrics 'be my girl' to 'sing my song', Teacher A offered an experience of personal-meaning-making (Dillon, 2005) to pupils, as they were able to make sense of what they were singing according to their own actions in the moment as well as something familiar to them (singing). The lyrics 'I wanna know if you'll sing my song' are also presented as a question with a potential action response. The use of verbs and action responses are considered further in Part 7 of this chapter.

The modes of engagement made accessible by the rewriting of lyrics to make them child-friendly are shown in Figure 25 below:

Figure 25

Mode of Engagement	Explanation
Appreciative	As has been established throughout this research, appreciative engagement can stem from participation, which the use of modified lyrics is designed to achieve
Directive	Directive engagement can be achieved as children are invited to lead singing activities, made possible by the use of appropriate lyrics
Evaluative	Evaluative engagement can be activated through reflective activities which analyse relevant lyrical content
Explorative	Explorative engagement can be achieved through creative activities which involve either the rewriting or new writing of lyrics
Embodied	Embodied engagement can be achieved when lyrics are related to actions. This is explored more in Part 7 of this chapter.

8.5. Repetition, Rhyme, and Lyrical Memorisation

The use of repetition, concept of catchiness and the impact of rhythmic patterns within lyrics were also highlighted during the focused coding process. Repetition has shown itself as a recurring theme throughout this study and it is crucial to note that lyrical, rhythmic, and melodic cyclicity often occur simultaneously. For this reason, further research would be required to decipher whether any one of these attributes are more or less responsible for the experiences of engagement they contribute towards. Catchiness is also closely linked to repetition, particularly when considering lyrics, as well as conversational properties (Werner, 2021). Rhythmic patterns within lyrics relates to poetic techniques such as assonance, consonance, and stressed syllabic units – which can also relate to prosody. Each of these concepts are considered in the paragraphs below.

It's (...) keeping a simple statement, (...) very repetitive, but (...) change (...) key elements. And also, those little changes, (...) you really emphasise. – Teacher A

With year three (...) we do a song called 'Crazy Little Train.' And the song is just dead repetitive. It's (...) just going, 'This little train goes along the track, keep looking forward – don't look back.' Basically, that's it. But (...) every time they sing it, it gets faster. – Teacher J

Repetition is understood to be crucial to musical training, in order for the same neural areas to be activated over and over, which as well as improving skills can contribute to greater attention (Patel, 2011). Research has demonstrated that repetition can improve singing outcomes (Racette and Peretz, 2007). The use of repetition in music-teaching has also been documented as effective when working with children who have autism and other learning difficulties (Gerrity *et al.*, 2013; Hallam

and Himonides, 2022). When used in the lyrics of a song, repetition can also contribute to the perception of words as music, as rhythmic and timbral patterns are established (Simons, 2023).

When lyrical repetition is combined with active singing along, memorisation of the song is encouraged. Amélie Racette and Isabelle Peretz (2007) discovered through experimental research that when extracts of songs were learnt aurally and sung back, accuracy was greater than when songs were learnt aurally but lyrics were just spoken back. This has implications for the importance of melody, which is discussed in Chapter 6, as well as singing as an activity, discussed in Chapter 7. Racette and Peretz (2007) emphasise how the task repetition of singing lyrics improved singing outcomes, whilst the repeated speaking of lyrics did not.

Repetition in the forms of assonance, consonance, and alliteration can also contribute to the rhythmic and timbral perception of words within songs. Assonance is concerned with similar vowel sounds, anywhere within a word, consonance refers to matching consonants throughout words and sentences, and alliteration can refer to either vowels or consonants but usually at the start of a word (Blain, 1987). However, all three effects be described as alliteration (Blain, 1987), which, for the purpose of this study, which aims to reach a broad but novel understanding of how various musical and lyrical attributes relate to experiences of engagement, is efficient and sufficient. Alliteration has been associated with memorisation, with Rachel Atchley and Mary Hare (2013) describing it as a ‘successful memory cue’ (p. 3) based on experimental research. Alliteration has also been shown to have mild mnemonic effects (Boers, Lindstromberg, and Eyckmans, 2013).

Rhyme is another form of repetition, although research suggests that rhyme itself does not contribute to children’s memory for songs (Morrongiello and Roes, 1990). However, rhyme is understood to contribute to the perceived musicality of text, particularly when it exists in appropriate rhythmic placements (Yang, 2017). The perception of musicality and awareness of

rhythm that rhymes can invoke could be considered as both evaluative and embodied forms of engagement, as motor responses occur due to rhythmic patterns (Molinari *et al.*, 2007) and evaluation can be encouraged with regard to perceived musicality (Brown, 2015).

The rhythmic and timbral attributes of lyrical content, constructed through the use of repetition and forms of alliteration, rhyme, and as factors such as phrase length and accent placement, discussed in Chapter 4, can be related to voluntary and involuntary bodily responses. As well as enabling directive engagement by encouraging pupils to sing along, subtler forms of embodied engagement can relate to the perception of rhyme and repetition. In Chapter 4, the idea of listeners ‘latching on’ (Krueger, 2014) to rhythmic features was related to involuntary tapping and imagined motor processes (Windsor and Bezenac, 2012). Whilst examples in Chapter 4 were largely concerned with wordless attributes, the rhythmic component related to motor responses can also be present within sung or spoken elements of musical material.

8.6. The Use of Verbs, Prosody, and Active Responses

The use of verbs within lyrics, as well as action lyrics which match the sounds made/heard (prosody) were further features of song content which teachers identified as conducive to, in particular, active forms of engagement. In the extracts below, Teachers B and J describe musical extracts which contain action-words at the same time as matching timbral elements:

‘Clap along...’ (referenced by **Teacher B**)

I go, ‘clap, clap, clap like that!’ (...) *‘stamp, stamp, hands in the air!’*, and they say that thing –

Teacher J

Prosody has been defined as an alignment between lyrical and musical content (Bishop, 2012). It is commonly related to emotional elements within music (Palmer and Hutchins, 2006). However, research has shown that, when lyrics are present, children of Key Stage 2 age establish emotional meaning from lyrical – rather than musical – content, regardless of the presence or absence of prosody (Morton and Trehub, 2007).

The prosodic element of Interest In ‘Happy’ (Williams, 2013) is the marriage of the clapping sound – or timbre – with the lyric ‘clap along’. This was also present in Teacher J’s example of teacher-improvised lyrics and movement in the classroom. In both cases, depending on the media used for the introduction of ‘Happy’ (Williams, 2013) to the pupils, there is the potential for the influence of visual as well as aural perception on experiences of engagement.

Action-based lyrics with less obvious prosody were also referenced in interviews, by Teachers F, J, and A:

‘Do the Mambo...’ (referenced by Teachers F and J)

‘Get up, get down, and move it all around...’ (referenced, and written by, Teacher A)

In the extracts above, lyrics refer to movements, yet the use of prosody is more subtle than the previous examples. In Teachers F and J’s ‘mambo’ example, the lyrical content invites the listener to ‘do’, even if it is unknown what the ‘mambo’ is. The musical content adheres to ‘danceable’ factors discussed in Chapter 4, including syncopation and short and cyclic rhythmic patterns (Leman, 2019), which acts as prosody as the lyrics ask the listener to dance. In Teacher A’s example, although he was referring to height, there was limited pitch-based prosody. All three statements: ‘get up’, ‘get down’, and ‘move it all around’ ascended, using just two notes a tone apart. However, Teacher A sang it with

a liveliness attributed to an upbeat tempo – approximately 120 BPM – and an enthusiastic vocal owing to high clarity, pitch, and volume (Viegas and Alikhani, 2021), that made an experience of prosody possible and the associated physical alignment achievable (Perlovsky, 2015).

As discussed in Chapter 7, the use of actions in musical learning can also act as a ‘leveller’ for Key Stage 2 children. Teacher J described movement-based activities as ‘communal’ due to children of mixed abilities’ opportunity to do the same thing. As well as encouraging participation – or *behavioural* engagement – this can have a positive emotional impact upon pupils as they experience the ‘I can do it’ thought process that is crucial to self-esteem and continued engagement (Erickson, 1968). Furthermore, social meaning-making is facilitated through movement-based activities as pupils move in unison and are thus offered the opportunity to connect with one another (Dillon, 2006). The act of levelling out activities, through the use of skills and competencies that are not necessarily achieved through formal learning, has been associated with engagement in the classroom – particularly with disadvantaged students – and a constructivist approach to learning (Elliott, 2014).

Research has shown that the more parts of the brain are activated during learning, the more effective that learning is; particularly when the parts of the brain which control our movements are involved (Heald, 2004). Chris Heald (2004) relates movement to the child’s natural ability to learn; echoing Abril (2011) and Campbell’s (2000) argument that motor activity acts as an organic part of musical learning in children of primary school age. Action-based lyrics within songs have also been related to meaning-making in a case study with a 4-year-old child, including the consideration of others’ perceptions of actions performed (Barrett, 2007). Whilst the present study is concerned with 7- to 11-year-old pupils, the existing knowledge provided by Margaret Barrett (2007) regarding younger children’s experiences of meaning-making through action-based lyrics has implications for children at a later stage of musical learning. Furthermore, the consideration of others’ perceptions is

more readily associated with children in the 7- to 11 age bracket, according to Piaget’s (2005) theory of cognitive development as discussed in Chapter 7.

Once again, theories of embodied cognition, mirror neurons, and emotional contagion are crucial to the relationship between this attribute and experiences of engagement. Whilst hearing the lyric, “Clap along if you know what happiness is to you,” combined with the sound of clapping, listeners are on one level encouraged, through the lyric, to pay attention to the clapping sound present in the song. This in turn enables the listener to have a physical response to the sound, in the form of either imagined or actual clapping, which can be accompanied by a conscious or subconscious consideration of the meaning of a clapping sound (Wallmark, 2022). On another level, the instruction, “clap along,” encourages physical participation, whilst the explicit expression of happiness enables listeners to experience a matching emotion as they ‘mirror’ the one they perceive, resulting in their own positive emotion (Molnar-Szakacs & Overy, 2006).

Through the movement-based activities they provoke, action-based lyrics, particularly when combined with timbral prosody, can encourage all five of Brown’s (2015) modes of creative engagement. Figure 24 below demonstrates this:

Figure 24 – Action-based Lyrics and Modes of Engagement

Mode of Engagement	Activation by Action-based Lyrics
Appreciative	Pleasure in participation
Evaluative	Reflection on how moving to music can shape a listening experience
Directive	Ownership of movement-based activities in response to lyrics
Explorative	Discovery of how bodily movements can relate to sounds heard
Embodied	Immediate physical responses to either suggestions for movement or

8.7. Chapter Summary

Throughout this chapter, the importance of embodied cognition has continued to be emphasised.

The data demonstrated that movements can be encouraged through the prosody of lyrics with timbral or rhythmic features, or through the phenomena of emotional contagion and mirror neurons.

The association between meaning-making and engagement has also been further emphasised, echoing previous arguments by Dillon (2006, 2009) and O’Neill (2015).

Positivity within lyrical content, in the forms of optimism and certainty, have been related to mood-based responses due to the potential influences of mirror neurons and emotional contagion (Giuliana and Hamilton, 2016). This, again, relates to embodied music cognition, as the imagined or actual acts of singing or speaking optimistic or certain words prompt empathy; Leman’s (2019) highest level of embodied music cognition.

Personal, social, and cultural meaning-making (Dillon, 2006, 2009) were emphasised within lyrics as emotional responses to lyrical content were related to personal relevance, whilst inclusive singing activities invited social meaning-making. Cultural meaning-making was particularly evident in this research, as lyrics which related to children’s broader culture encouraged cognitive and behavioural engagement through an interest that was external to the music itself.

Irrelevance, in the form of silliness, was linked to behavioural, as well as emotional engagement. This could be due to its ability to construct both an appearance of inverted authority – and therefore willing participation –, and a fun learning environment, characterised in part by the perceived

presence of a reward. Nostalgia also appears to have played a part in the success of using ‘silly’ lyrics with older Key Stage 2 children, which is understood to relate to optimism and therefore experiences of emotional engagement.

Lyrics rewritten in order to be age-appropriate offer further opportunities for personal and social meaning-making, as well an opportunity for inserting silliness. As well as this, censored lyrics reduce the risks of behaviours associated with popular music lyrics that are associated with poorer educational outcomes and engagement in general. These include negative emotional engagements such as aggression and discriminately hostile attitudes (Fernandez, Fernandez, and Lopez-Chao, 2020).

Finally, the use of verbs, prosody, and action-based lyrics related to embodied responses to musical examples through the use of both timbral alignment and actions that were visually consistent with lyrical content. Lyrical prosody strengthened the meaning of action-words such as ‘clap’ and enabled both imagined and actual action-responses during timbral perception (Wallmark, 2022). Further examples such as ‘do the mambo’ are reliant on teacher-led actions to align with the lyrics, but have the potential to foster social meaning-making through united pupil activity and cultural meaning through the reflection on the origins of the lyrical content (Brown, 2015; Edgar, 2012).

This reinforcement of embodied music cognition and meaning-making as routes to engagement helps to shape the conclusion and implications of this research that are detailed in Chapter 9.

CHAPTER NINE: CONCLUSION AND IMPLICATIONS

9.1. Chapter Introduction

This chapter offers a further summary and clarification of the research project as a whole and determines the constructivist grounded theory that the data collection and analysis has enabled. The theory that emerged as a result of this research involves the exploration of hypothetically isolated attributes within repertoire and how they can contribute to experiences of engagement in the Key Stage 2 music classroom. As the research question has been tackled, it has become evident that movement is a key component and that the theory of embodied music cognition is a crucial part of understanding experiences of engagement, as well as a tool that can be utilised in the planning and delivery of music lessons.

Following the summary of primary school music teachers' perceptions of the relationship between attributes and experiences of engagement, the implications of the research are explored. This primarily involves the implications for educators of the researched age group (7- to 11). However, there are also implications relating to music education more broadly, as well as music psychology. This is due to the thematic presence throughout this study of theories of motor cognition and its relationship to engagement with musical attributes.

The strengths and limitations of the research are also considered In this chapter, followed by final words and suggestions for further research.

9.2. Musical Attributes Identified as Engaging

9.2.1. The Presentation of Attributes Identified as Engaging

In chapters 4-8, an explanation of how the identified attributes relate to Brown's (2016) modes of engagement has been provided. In Figure 25, below, each of these are compiled to supply an infographic of the musical attributes that primary school music teachers have identified as engaging. Figure 25 draws together the findings with clarity and precision. Due to repeated relationships to engagement, some of the attributes that were separated in their associated chapters have been compressed. Teacher and pupil-led improvisation, body percussion, and dynamic variation are not separated below as they correlate consistently with modes of engagement. However, further details of how these attributes and activities differ in terms of their specific relationships with, and weighting of, modes of engagement are provided in the results of the data. Generally, the data evidences that explorative engagement is more achievable in pupil-led activities, and evaluative engagement is more often reliant on the teacher's lead.

Figure 25: Presentation of Findings

	Appreciative	Evaluative	Explorative	Directive	Embodied
Duration	Natural Tempo Tempo Changes Syncopation Cyclic Rhythms Rhythmic Simplicity	Natural Tempo Tempo Changes Syncopation Cyclic Rhythms Rhythmic Simplicity	Natural Tempo Tempo Changes Syncopation Cyclic Rhythms Rhythmic Simplicity	Natural Tempo Tempo Changes Syncopation Cyclic Rhythms Rhythmic Simplicity	Natural Tempo Tempo Changes Syncopation Cyclic Rhythms Rhythmic Simplicity
Timbre and Loudness	Body Percussion Known Instruments Percussive Timbre Dynamic Variation Cyclic Accents Contextual Loudness	Known Instruments Dynamic Variation Contextual Loudness	Body Percussion Dynamic Variation Contextual Loudness	Body Percussion Known Instruments Percussive Timbre Dynamic Variation Cyclic Accents Contextual Loudness	Body Percussion Known Instruments Percussive Timbre Dynamic Variation Cyclic Accents Contextual Loudness
Pitch and Tonality	Small Intervals Conjunct Motion Pentatonic Phrases Pitch Range < Octave Simple Pitch Patterns Simple Chord Patterns			Small Intervals Conjunct Motion Pentatonic Phrases Pitch Range < Octave Simple Pitch Patterns Simple Chord Patterns	Small Intervals Conjunct Motion Pentatonic Phrases Pitch Range < Octave Simple Pitch Patterns Simple Chord Patterns
Activities	Improvisation Composition Sequencing (loops) Co-ordinated Movements Singing Playing Instruments Learning by Ear Performing Active Listening	Composition Sequencing (loops) Performing Active Listening	Improvisation Composition Sequencing (loops) Co-ordinated Movements Learning by Ear Performing	Improvisation Composition Sequencing (loops) Co-ordinated Movements Singing Playing Instruments Learning by Ear Performing Active Listening	Improvisation Composition Sequencing (loops) Co-ordinated Movements Singing Playing Instruments Learning by Ear Performing Active Listening
Lyrics	Positivity Relevance Silliness Use of Verbs Action-based Prosody Repetition	Positivity Relevance		Positivity Relevance Silliness Use of Verbs Action-based Prosody Repetition	Positivity Relevance Silliness Use of Verbs Action-based Prosody Repetition

9.2.2. Attributes which Afford Embodied and Directive Engagement

A key finding is the importance of movement-based participation as a contributor to, and indicator of engagement in the Key Stage 2 music classroom. Each of the explored musical attributes: rhythm, timbre and loudness, pitch and tonality, activities, and lyrics, provided evidence relating primary school music teachers' perception of engagement as the relationship between musical attribute and physical response.

Figure 25 demonstrates how each of the attributes identified as engaging does so in terms of 'embodied' engagement. Whilst rhythm-based attributes are commonly associated with movement due to concepts such as 'danceability' (Cox, 2016) and 'groove' (Witek *et al.*, 2014), this research offers further clarification into what 'danceable' and 'groove' can mean to 7- to 11-year-olds. It is established that syncopation can encourage spontaneous embodied engagement and that simplicity and repetition of rhythmic parts can foster active, directive musical engagement in primary school pupils.

Furthermore, changes in tempo are identified as something which is understood by pupils via their movement-based responses, suggesting that music cognition is an embodied experience in children. There is the suggestion that the role of embodied music cognition could be higher in children's musical perception than adults', based on the presence of movement within children's music lessons, evidenced in this research as well as existing music education research (Ferguson, 2005; Abril, 2011). Whilst more advanced musical learning can often become theoretical (Philpott, 2004), early musical understandings appear to be reliant on associated motor responses (Abril, 2011).

Timbre and loudness are also established as musical features which are interpreted through physical interpretations in this research (see Chapter 5). Wallmark's (2022) research was utilised in combination with teacher's comments to theorise how physical familiarity can enable embodied engagement as children gain musical understanding via real or imagined movement-based responses to sounds. Percussive timbre was found to be particularly effective for immediate engagement, due to 7- to 11-year-olds' experience in making percussive sounds and the associated meanings – such as excitement – that spontaneous percussive sound-making can possess.

Physical responses to pitch and tonality are largely related to singing in this study. However, they could also concern the playing of instruments on which heard melodies are achievable 'by ear'. In a

similar way to timbral engagement, prior experience was crucial to children's embodied engagement with musical attributes as already achieved motor responses were able to be reactivated in a way that could in turn enable appreciative, evaluative, or explorative engagement.¹⁷

It is possible to conclude from the combination of examples given by teachers and written literature concerning embodied music cognition (Cox, 2016; Leman, 2019) that children's cognitive responses to music are rooted in the motor-concerned regions of the brain. This suggests that musical affordances and the consideration of attributes' *invitations* ought to be a crucial part of educators' planning as they seek to engage their pupils.

9.2.3. Attributes which Inspire Appreciative, Explorative and Evaluative

Engagement

Appreciative, explorative, and evaluative engagement are the remaining five modes of musical engagement (Brown, 2016). Appreciation can be classed as emotional engagement (Fredricks, Blumenfeld and Paris, 2004)), whilst exploration and evaluation are both related to behavioural and cognitive engagement.

In Chapter 4, each of the attributes of rhythm identified within the evidence related to appreciative engagement in 7- to 11-year-old learners. Specifically, tempo increases related to excitement, cyclic grooves are linked to participation, and syncopation is related to spontaneous pulse-based movements. Effort and evaluation are also related to these attributes within music-making activities, as cyclic patterns act as bases to be developed and simple rhythms invited the inclusion of further syncopation. This can then be reflected on under the guidance of the teacher.

¹⁷ These physical responses relate to embodied cognition and embodied attuning (Leman, 2019)

Timbre and loudness are related to appreciation as the cognition of timbral and dynamic attributes are linked to subvocalization and the imitation of the source of sound (Wallmark, 2022). Findings of this research identifies how percussive timbre can relate to an excited hitting movement by inviting the imagined action that could create it and also highlight how the perception of loudness can relate to the subvocalization of loudness which accompanies excited emotions (Wallmark, 2022). These could then be evaluated upon in relation to their emotional meaning, again, under the teacher's guidance.

Attributes of pitch and tonality relate to appreciation primarily with regard to simplicity and accessibility. Each of the melodic attributes – such as the use of limited pitch ranges and small intervals – as well as tonal attributes like simple chord patterns and structures, were found to be engaging due to the speed with which embodied and directive engagement could be achieved. For example, the playing of major triads on a keyboard, within repetitive, simple chord progressions to devise accompaniment for popular songs is highlighted in Chapter 6 as a source of engagement, including appreciation, within lessons.

Exploration and evaluation can be logically placed after appreciation when considering an experience of engagement, as the desire to learn or progress is followed by its execution and then a teacher-guided reflection on that. Throughout chapters 4-8, *explorative* engagement is found to relate to each of the attributes of rhythm and some attributes of timbre (body percussion, dynamic variation, and contextual loudness). Activities such as improvising and composing – which are made achievable through particular tonal attributes such as the use of the pentatonic scale (Brophy, 2005; Ashley, 2009), relate to explorative engagement. Learning by ear and preparing for performance also enabled explorative engagement as they allow students to learn independently. These activities are

made possible and achievable through attributes of tonality such as a limited pitch range and simple chord progressions, as well as cyclic rhythms and rhythmic simplicity.

Evaluative engagement is related to the relevance that drives many experiences of engagement (O'Neill, 2015). Once again, every attribute of rhythm relates to this form of engagement as they are connected to bodily movements and can therefore be considered in relation to the meaning of these movements. Concerning timbre and loudness, the use of physically familiar instruments relates to evaluation – due to another opportunity for meaning-making in relation to prior experiences – whilst dynamic variation and contextual loudness opened opportunities for the consideration of musical expression. The activities of composing, sequencing, performing and active listening offer opportunities for evaluative engagement as they present further opportunities for personal, social, and cultural meaning-making (O'Neill, 2015), whilst positivity and relevance within lyrics could be used as tools for evaluation through reflection.

To summarise, there are themes which present themselves throughout the identified attributes which inspire *appreciative, explorative, and evaluative engagement*. These are as follows:

1. Appreciative engagement:
 - Ease of participation,
 - Lyrical relevance or themes of positivity,
 - Relation to prior experience.

2. Evaluative engagement
 - Musical variation for expressive effect,
 - Relatable lyrical content,
 - Teacher-led opportunities for reflection.

3. Explorative engagement
 - Repetition and simplicity of rhythm, pitch and tonality

This is clarified using the example of loops, as in Dillon and Butler's (2009, 2006) research, wherein sequenced loops prompt creative exploration.

9.2.4. Attributes which Encourage Emotional Responses

Whilst appreciation, discussed above, can be defined as an emotional response (Brown, 2015), there are other emotional responses ranging from sadness to excitement that are detailed by research participants in relation to children's engagement with music in the classroom.

One teacher describes children's cognitive and evaluative engagement in response to a particularly sad piece of music. Teacher 3 identifies a piece from the soundtrack to *Schindler's List* (1993), which contains a lot of stringed instruments and was based in a minor key signature, and describes a situation where pupils commented on the 'sadness' of the music. A similar situation is articulated by Teacher K, in response to the song 'Seven Years' (2015), with Teacher K highlighting an instance where a student got upset in response to listening to the music. Each of these responses are examples of emotional engagement which highlight the potential for utilising varied emotional experiences within music lessons. This emotional engagement could, in turn, facilitate evaluative engagement and, as a result, explorative and directive engagement. Musically, this evaluative engagement also presents an opportunity for children to learn about tonal relationships and how they, as well as timbral qualities, relate to emotional expression in music.

It was also identified, within Chapter 8, how positive lyrical content encouraged a positive emotional response in children and active engagement because of this emotional engagement. Songs with positive lyrical content in the forms of *optimism* and *certainty* were related to behavioural, emotional, and cognitive engagement as they encouraged pleasurable participations and their reflections.

Additional attributes are commonly associated with positive emotions (Juntunen, 2020; Meng *et al.*, 2020), such as the upbeat tempos and tempo increases discussed in Chapter 4, whilst the pleasure of musical participation (Witek, 2017) has also been identified throughout this thesis as a facilitator of

emotional engagement. The results of this research have established that this can also be achieved through sounds which have achievable and easy-to-comprehend movement-based responses, which either mimic the sounds heard, 'fill in the gaps' (Witek, 2017) in the case of syncopation, or relate to a cultural association.

It is also important to note how, as with embodied engagement, each of the identified attributes fall into the 'appreciative' category. This is due to the pleasure of participation highlighted by Witek (2017). Each embodied response, conscious or subconscious, is related to a participatory activity. This means that if a musical attribute can inspire a 7- to 11-year-old to physically move, it can also inspire them to be emotionally moved and thus emotionally engaged. What makes the movements associated to the highlighted attributes conducive to pleasurable participation is a combination of their achievability and opportunities for growth, which relates to Custodero's (2005, 2022) theories of achieving flow in the music classroom.

9.3. Distinguishing Between Musical and Extra-Musical Features

One of the sub-questions of this research was if and how social and cultural features of musical material can be distinguished from purely musical features as factors in perceived experiences of engagement. The emphasis on movement as a response to attributes such as rhythm and timbre, in a way that attempts to mimic the sound, partially demonstrates how musical material can be isolated from its extramusical context or connotation. However, this is complicated by the consideration of how responses, such as an air guitar action in response to an electric guitar sound (Souza, 2017) are informed by cultural context.

In this research, the attributes identified as engaging have been purely musical, except for lyrics which are discussed in isolation in Chapter 8. Whilst it is possible that cultural connotations also

influence the experiences of engagement discussed (Brown, 2015; O'Neill, 2015), there are robust explanations concerned with the musical content alone regarding movement-based, emotional, and evaluative responses. Due to the nature of music as a multimodal and contextual artform (McKerrell and Way, 2017), the complete separation of musical and extra-musical features would be phenomenologically unsound. However, for the purpose of this research, and in response to the sub-question, arguments for engagement based on purely musical attributes can exist independently of further context.

Examples which have informed this conclusion are littered throughout this thesis and include the following three salient illustrations:

1. Cyclic Rhythms

Cyclic rhythms are identified as an attribute. As with all the attributes of rhythm, it is found to have the potential to activate all five of Brown's (2016) modes of musical engagement. This is a feature that is purely musical but that quickly gains both social and cultural relevance through its inherent repetition. Each time a rhythm repeats, entrainment becomes more likely (Krueger, 2014), which has been shown to enhance the social connection between music students (Krueger, 2014; Stupacher *et al.*, 2017). The swift mastery that is made possible through rhythmic cyclicity (Johnson, 2017), as well as the opportunities for creative exploration that it presents (Johnson, 2017) could also encourage cultural meaning-making (O'Neill, 2016) as the confidence to perform music to external audiences increases.

2. Known Instruments

The use of known instruments presents a complexity due to its being contextual by nature. However, in response to the question of *whether purely musical features can be distinguished from social or*

cultural elements, timbral features remain, by definition, musical features. The embodied process that relates to engagement is based on the prior experiences of the individual, rather than associated with social or cultural aspects of the musical material (Leman, 2019). This reliance on prior experience is a running theme throughout identified timbral attributes, as body percussion could engage due to the immediate physical comprehension (and imitation) of the source of sound.

3. Pentatonic Phrases

The use of pentatonic phrases also presents a potential issue when considering the separation from social and cultural context, due to how many of the arguments for its ability to engage rely on examples of its use in social contexts (Evans, 2014; Choksy, 1974; Spitz, 2019). However, as with timbral elements, it is self-evident that the use of pentatonic passages is a musical feature as opposed to a co-occurring social or cultural element existing within or around the material. This consideration further enforces the argument that purely musical elements can be separated from social or cultural features as criteria for engaging attributes.

Whilst the examples above strengthen the argument for musical attributes being separable from co-occurring social or cultural context, further research would be required to explore this question in greater depth. This could involve investigation into children's responses to heard sounds, including the recording of real-time comments made by listeners to illustrate what they are engaging with and whether there are patterns of social or cultural elements which consistently co-occur with identified attributes.

9.4. Implications for Teachers

The purpose of this research was to both enhance music education practice and develop scholarly research concerning the relationship between musical attributes and experiences of engagement in a primary school education context. There are implications of the findings which concern primary school music teachers during curriculum development, lesson planning, and lesson delivery. These are detailed in the sections to follow.

9.4.1. Utilising Engaging Attributes for Curriculum Development

Repertoire has been argued to be what is most important within a music curriculum (Bennett, 2020; Reynolds, 2000) and documents such as the ‘Model Music Curriculum’ (DfE, 2021) and responses to that (Anderson, 2024; Young, 2023) suggest that this is a shared opinion amongst education professionals. The findings from this research could be used to help form a new music curriculum for Key Stage 2, wherein attributes of rhythm, timbre and loudness and pitch and tonality are considered in a way that is both progressive and filled with opportunities to engage.

Based on the information in Figure 25 and the progression of the existing ‘Model Music Curriculum’, below are some examples of repertoire that could be chosen based on the findings of this research, with explanations of their attributes and potential for engagement:

1. ‘We Will Rock You’ (Queen, 1977)

Discussed in Chapters 4 and 5, ‘We Will Rock You’ (Queen, 1977) features a cyclic groove and body percussion which make it instantly copyable. Vocally, the chorus also features a conjunct motion melody and limited vocal range, both of which were identified as attributes which engage in Chapter 6. This song has the potential to engage learners in the following ways, via the following attributes:

Appreciative Engagement: Activated via the pleasure of participating with body percussion and singing, as well as the positivity of the lyrics.

Evaluative Engagement: Following musical participation, teachers can lead reflective discussion about elements of emotional expression in the music.

Directive Engagement: Directive engagement occurs in the participation of body percussion and singing.

Explorative Engagement: Explorative engagement can occur through encouraging lyrical changes with personal relevance to the pupils. This was highlighted by Teacher 1.

Embodied Engagement: Due to the simplicity of the stamping and clapping, the body percussion in this piece can encourage spontaneous embodied engagement.

2. 'Happy' (Williams, 2013)

'Happy' (Williams, 2013) was discussed in Chapter 4, due to its use of syncopation and cyclic rhythms, in Chapter 5, owing to its use of body percussion, and in Chapter 8 relating to the presence of positivity within its lyrics. This song has the potential to engage learners in the following ways, via the following attributes:

Appreciative Engagement: Appreciation can be activated through both the pleasure of participation with body percussion and singing, and the positivity of the lyrics.

Evaluative Engagement: Teacher-led reflection regarding how 'happiness' is expressed through this song can enable evaluative engagement.

Directive Engagement: Directive engagement is activated during the 'clapping along' as well as the singing. There is also an opportunity for body percussion improvisation during the bridge.

Explorative Engagement: The bridge which invites body percussion improvisation enables explorative engagement.

Embodied Engagement: Embodied engagement is made possible through the invitation to ‘clap along’ with this song as well as other movements which are afforded by the syncopated drum beat (Witek et al., 2014).

3. ‘Seven Nation Army’ (The White Stripes, 2003)

‘Seven Nation Army’ (The White Stripes, 2003) wasn’t mentioned by teachers in this study. However, personal professional experience has increased my awareness of this song and its potential to engage. This study has enabled an understanding into how its attributes can contribute to experiences of engagement. This song has the potential to engage learners in the following ways, via the following attributes:

Appreciative Engagement: The participation in singing, playing melodic instruments, and playing percussive instruments can lead to appreciative engagement via participation.

Evaluative Engagement: There is potential to discuss the emotional or energetic qualities within this song.

Directive Engagement: During singing or playing, directive engagement is activated.

Explorative Engagement: Lyrics can be changed with or without teacher guidance.

Embodied Engagement: The ease of rhythmic attuning (Leman, 2019) enables immediate embodied engagement with this music.

4. ‘In The Hall of the Mountain King’ (Grieg, 1875)

This piece was mentioned within this study due mainly to its tempo increase and the embodied and appreciative engagement it can encourage. It has the potential to engage learners in the following ways, via the following attributes:

Appreciative Engagement: The excitement induced by the tempo increase can encourage appreciative engagement.

Evaluative Engagement: There is the potential for a teacher-led discussion about the effect the tempo increase has on the emotional meaning of the music.

Directive Engagement: Directive engagement can be activated through the rhythmic participation that this piece affords.

Explorative Engagement: Explorative engagement can be achieved with this music through teacher-encouraged creative responses.

Embodied Engagement: Embodied engagement occurs naturally because of the tempo increase and its impact upon the body (Juntunen, 2016).

5. 'Knocking on Heaven's Door' (Dylan, 1973)

As with 'Seven Nation Army' (The White Stripes, 2003), this song is one I am aware of due to professional experience. Following the findings of this study, an analysis of how the attributes can engage 7- to 11-year-olds has become possible. This song has the potential to engage learners in the following ways, via the following attributes:

Appreciative Engagement: The small vocal range and repetition of chord patterns, lyrics, and percussive rhythms make pleasure through participation possible.

Evaluative Engagement: There is some potential for teacher-led reflection on the emotional expression within the music.

Directive Engagement: The repetitive, simple chord progression and simple drum beat makes directive engagement achievable.

Explorative Engagement: There is the potential for explorative engagement through the alteration of lyrics or the addition of dynamics in a performance.

Embodied Engagement: The action-based lyric 'knock-knock-knocking' affords an embodied response.

There are many other examples which could be included here. The creation of an extensive list of repertoire with details about which attributes within it have the potential to engage is a professional task which could be undertaken using the findings from this research. The intention of this study is to empower specialists and non-specialists alike with the knowledge required to analyse musical examples in a way that identifies attributes which engage. The five examples above illustrate how this process could be approached by educators.

9.4.2. Attributes which Engage and Lesson Planning

The combination of Brown's (2015) modes of engagement, O'Neill's (2015) types of meaning, and the musical attributes identified within this study can be considered during lesson-planning stages. This will enable teachers to produce lesson plans which contain content that can encourage engagement amongst their students.

By including an 'engagement types' category within lesson plans, teachers afford themselves the opportunity to consider and reflect upon the ways their lessons engage students, alongside in-depth considerations of the subject matter and how pedagogical tools can enable students to grasp it (Shen *et al.*, 2007). Lesson planning with engagement in mind has been previously considered by Sarah A. Nagro *et al.* (2018), who emphasised how preparing to engage can make lessons run more efficiently and effectively as behaviour management becomes less of a requirement. For visiting music teachers, who are understood to have challenges with behaviour (Hallam *et al.*, 2009; Hennessy, 2017), this could enable the smoother running of their lessons. By reflecting on the types of engagement that are being activated within lessons, teachers can also make a deliberate effort to ensure the 'well-rounded' music education experience that Brown (2016) argues can be achieved as a result of prioritising all five of them.

In terms of differentiation, learning styles are often included in lesson plans (Rasuli, 2020) in order for teachers to ensure that they're catering for different kinds or types of learners. This can include Peter Honey and Alan Mumford's (2000) and Neil Fleming's (1987) learning styles as well as considerations of formal and informal learning (Green, 2017b). Whilst it is not clear whether or not some forms of engagement are more suited to certain learners over others – this is something which could be explored in further research – the inclusion of as many as possible does offer more opportunities for the perception and retrieval of the affordances (Clarke, 2005; Krueger, 2014) discussed throughout chapters 4-8. Similarly, the consideration of how personal, social, and cultural meaning-making (O'Neill, 2016) could be accessed throughout musical learning experiences, during the planning stage, gives the teacher a greater chance of achieving a greater amount and variety of them.

With artificial intelligence playing an increasingly large role in lesson planning (Rougeaux and Sharp, 2023), it is possible that, based on this research, some software could be created, aimed at music teachers, to speed up the process of identifying musical attributes within repertoire and mapping them with modes of engagement.

9.4.3. How this Research Can Influence Lesson Delivery

Regarding the delivery of lessons (and the repertoire within them), this research has highlighted the importance of movement and making social and/or cultural connections, whilst also suggesting that the teacher's role can be considered as facilitator (Green, 2017b).

Lucy Green's (2017b) informal learning approach has continued to gain prevalence in primary school music education over the past decade (Mariguddi and Shirley, 2023). As discussed in Chapter 1, there are musical attributes associated with this approach, such as repetitive rhythms, small melodic

intervals, as well as structures that are associated with popular music (Green, 2017b). This research has highlighted how these attributes, as well as all the others identified, lend themselves to active engagement. This is by its nature directive (Brown, 2015) and therefore student-led to varying degrees, dependent on ability.

Chapter 7 presented an identification of the music-making activities, associated with identified attributes, which can contribute to experiences of engagement in the Key Stage 2 music classroom. Improvisation, composition (including using sequencers or body percussion), and active listening (including to learn by ear) were included. Every activity described was largely student-led and inclusive of directive engagement. This places an emphasis on the importance of students' 'owning' the learning experience and a progressive/experiential approach to musical learning (Dewey, 1938). It also highlights the requirement of the teacher to let go of their own control as discussed by Green (2017a, 2017b), to facilitate meaning-making and an in-depth learning experience, characterised by the presence of opportunities for the five modes of engagement (Brown, 2016) and indicators of flow (Custodero, 2005).

9.5. Strengths and Limitations

Strengths of this research include its originality, the large qualitative sample size, its relevance to education professionals and the consistent and in-depth engagement with literature to establish theory. The thesis has positioned itself within embodied music cognition and music education research and has achieved this position inductively through the analysis of data. It has clearly presented the musical attributes of repertoire and associated activities that primary school music teachers have found to be engaging and has explored and explained why and how the experiences of engagement have occurred. Each exploration and explanation is transferable to other examples of repertoire, making this a piece of research with the potential for timeless and transcendent utility.

The limitations of this research are that the interviews were conducted via video call and were also conducted according to a schedule that could only be informed to a limited degree by prior research, owing to the novelty of the project. There is also a lack of student voice, the inclusion of which was beyond the scope of this research but which would enrich this topic and could be explored in subsequent research in the area. Whilst video interviews were the most appropriate due to the practicalities of collecting data in 2021, face to face interviews would have allowed for the more complete collection of teachers' body language and possibly allowed both the teacher and myself as an interviewer to proceed with more relaxation and spontaneity. This would have facilitated greater creativity and the potential for an even more in-depth insight than the research has achieved.

9.6. Final Words and Suggestions for Further Research

This research has been conducted from the perspective of a musician and music educator. Novel theories have emerged, and existing theories have been considered in wider contexts than in previous research (Brown, 2015; Campbell, 2010; Leman, 2019). For example, the embodied cognition of timbre in relation to primary school music education, and Brown's (2016) modes of engagement in relation to musical attributes, are contributions to the musicological and music educational field.

However, this research has also illuminated potential research which could be undertaken in music psychology and neuroscientific fields. Future research in these fields could include the investigation into 7- to 11-year-olds' brain activity when responding to a range of musical attributes, particularly those which have been identified as engaging throughout this research in contrast to attributes which could be considered their opposites. Familiar and unfamiliar timbres, small and large intervals within melodies, and 2-bar and 8-bar rhythmic patterns would be potential examples of contrasting musical features to analyse children's neurological responses to.

In musicological research, the concept of embodiment continues to develop (Dell'Anna, Leman, and Berti, 2021). Much of the existing musicological research considers how embodied understanding can be achieved by humans broadly, whilst this thesis is concerned with the specific age group of 7- to 11-year-olds. Future musicological research could harness the findings and methodology from this study, to examine how age and stages of development can determine the details of music cognition and conclusions about musical meaning.

Finally, in the field of music education – with which this research most coherently aligns – there are several ways this study has paved the way for further research. Firstly, whilst this study was concerned with teachers of 7- to 11 year-olds, it would be beneficial to conduct similar studies with additional age groups or with a more specific age (e.g. 7-8 year-olds), in order to gain a more concrete understanding about what works for whom (and why). Secondly, the voice of the pupils themselves could be explored in a way similar to research undertaken by Campbell (2020) and Green (2017b). This would enable further insight into student's perspectives of musical material and their responses to different musical attributes within repertoire.

The findings of this research can also now act as a starting point for new music education research, in which specific attributes – which have been highlighted as engaging by teachers within this study – are explored in relation to engagement. The research deliberately focused on music of a variety of genres. Future research could explore how attributes within specific genres can engage pupils; particularly in genres – such as Western art music – which teachers deem important to teach but for which engagement can be a struggle (Green, 2008).

Whilst this study took the form of constructivist grounded theory, due to its originality and the tackling of unknowns, subsequent research could utilise the features identified within a research

instrument such as an interview schedule, survey, or questionnaire. This might enable a more in-depth understanding of individual attributes and how they can be chosen or manipulated to foster engagement types in varying contexts.

This thesis was conducted between the years of 2020 and 2024. During this time, developments in Key Stage 2 music education included an increase in the use of artificial intelligence by teachers and students alike (Rougeaux and Sharp, 2023), which has impacted upon planning, learning goals, and assessment. This time has also seen the development of the *Model Music Curriculum* (DfE, 2021) and *National Plan for Music Education* (DfE, 2022), both of which encouraged discussions about the privileging of Western art music (Anderson, 2024) and issues of inclusivity (Bacchi, 2023), as well as an increasing consideration of the purpose of primary school music education (Huang, 2023; Swanwick, 2023). Current literature makes it clear that the period during which this study was completed has been a time of both concern and development in music education (Anderson, 2024; Swanwick, 2023). The findings of this thesis and the clarity of their presentation provides the potential to assist in the development of primary school music teachers' confidence and expertise, during a time where the importance of doing so is professionally and academically illuminated.

BIBLIOGRAPHY

- Abril, C.R. (2011) 'Music, movement, and learning', *MENC handbook of research on music learning*, 2, pp. 92–129.
- Abril, C.R. and Gault, B.M. (2016) *Teaching general music: Approaches, issues, and viewpoints*. Oxford University Press.
- Adachi, M. (2013) 'The nature of music nurturing in Japanese preschools', *The Oxford handbook of children's musical cultures*, pp. 449–465.
- Adachi, M., Trehub, S.E. and ABE, J. (2004) 'Perceiving emotion in children's songs across age and culture 1', *Japanese Psychological Research*, 46(4), pp. 322–336.
- Ali, M.M. and Hassan, N. (2018) 'Defining concepts of student engagement and factors contributing to their engagement in schools', *Creative Education*, 9(14), pp. 2161–2170.
- Alperson, R. (1995) *A qualitative study of Dalcroze eurhythmics classes for adults*. New York University.
- Anderson, C.A., Carnagey, N.L. and Eubanks, J. (2003) 'Exposure to violent media: the effects of songs with violent lyrics on aggressive thoughts and feelings.', *Journal of personality and social psychology*, 84(5), pp. 960.
- Anderson, J.D. (2021) 'Children's song acquisition: An examination of current research and theories', *Visions of Research in Music Education*, 16(2), pp. 37.
- Anderson, S. and Kraus, N. (2011) *Neural encoding of speech and music: implications for hearing speech in noise*. © Thieme Medical Publishers, pp. 129.
- Anderson, W.T. (2012) 'The Dalcroze approach to music education: Theory and applications', *General Music Today*, 26(1), pp. 27–33.
- Andrew, D.P., Pederson, P.M. and McEvoy, C.D. (2011) 'Research Methods and Design in Sport', *Management: Human Kinetics Publishers*, .
- Antonopoulou, K., Chaidemenou, A. and Kouvava, S. (2019) 'Peer acceptance and friendships among primary school pupils: Associations with loneliness, self-esteem and school engagement', *Educational Psychology in Practice*, 35(3), pp. 339–351.
- Apfelstadt, H. (2000) 'First things first selecting repertoire: Finding quality, teachable repertoire appropriate to the context, compatible with the National Standards, and interesting to play is an achievable goal', *Music Educators Journal*, 87(1), pp. 19–46.
- Apfelstadt, H. (1988) 'What makes children sing well?', *Update: Applications of Research in Music Education*, 7(1), pp. 27–32.
- Ashley, R. (2009) 'Musical improvisation', *The Oxford handbook of music psychology*, , pp. 413–420.
- Atchley, R.M. and Hare, M.L. (2013) 'Memory for poetry: More than meaning?', *International journal of cognitive linguistics*, 4(1), pp. 35.
- Atkinson, R. (2018) 'The pedagogy of primary music teaching: talking about not talking', *Music Education Research*, 20(3), pp. 267–276.
- Attas, R. (2015) 'Form as Process: The buildup introduction in popular music', *Music Theory Spectrum*, 37(2), pp. 275–296.
- Atterbury, B.W. and Richardson, C.P. (1995) *The experience of teaching general music*. McGraw-Hill.
- Axelson, R.D. and Flick, A. (2010a) 'Defining student engagement', *Change: The magazine of higher learning*, 43(1), pp. 38–43.
- Axelson, R.D. and Flick, A. (2010b) 'Defining student engagement', *Change: The magazine of higher learning*, 43(1), pp. 38–43.

- Baker, T.L. (1994) 'Doing Social Research. New York: McGraw-Hill Inc', .
- Bakker, D.R. and Martin, F.H. (2015) 'Musical chords and emotion: Major and minor triads are processed for emotion', *Cognitive, Affective, & Behavioral Neuroscience*, 15, pp. 15–31.
- Balwant, P.T. (2017) Stay close! leader distance, transformational leadership, engagement, and performance in teams. In *Academy of Management Proceedings* (Vol. 2017, No. 1, p. 10785). Briarcliff Manor, NY 10510: Academy of Management.
- Banik, B.J. (1993) 'Applying triangulation in nursing research', *Applied Nursing Research*, 6(1), pp. 47–52. Available at: doi: 10.1016/S0897-1897(05)80042-4.
- Barghaus, K., Fantuzzo, J., LeBoeuf, W., Henderson, C., Li, F. and McDermott, P. (2017) 'Problems in classroom engagement: validation of an assessment for district-wide use in the early primary grades', *Early Education and Development*, 28(2), pp. 154–166.
- Barradas, G.T. and Sakka, L.S. (2022) 'When words matter: A cross-cultural perspective on lyrics and their relationship to musical emotions', *Psychology of Music*, 50(2), pp. 650–669.
- Barrett, J.R. (2014) 'Case study in music education', *The Oxford*.
- Bath, N., Daubney, A., Mackrill, D. and Spruce, G. (2020) 'The declining place of music education in schools in England', *Children & Society*, 34(5), pp. 443–457.
- Bauleke, D.S. and Herrmann, K.E. (2010) 'Reaching the “iBored”', *Middle School Journal*, 41(3), pp. 33–38.
- Beatty, R.J. (2013) 'Something to sing about! A selection and analysis of unison Canadian choral compositions for schools', *The Phenomenon of Singing*, 2, pp. 24–42.
- Bechtold, T.A., Curry, B. and Witek, M. (2024) 'The perceived catchiness of music affects the experience of groove', *Plos one*, 19(5), pp. e0303309.
- Beegle, A. and Bond, J. (2016) 'Orff Schulwerk', *Teaching general music: Approaches, issues, and viewpoints*. Oxford University Press.
- Beegle, A. (2022) 'Playing with Orff and classroom instruments', *General music: Dimensions of practice*, , pp. 38–55.
- Bennett, P.D. (2016) 'Questioning the unmusical ways we teach children music', *Teaching general music: Approaches, issues, and viewpoints*, , pp. 286–307.
- Benson, F. (2012) "'Thrown in the deep end": Informal learning in a primary music classroom', .
- Ben-Tovim, A. and Boyd, D. (2012) *The right instrument for your child*. Hachette UK.
- Bhattacharya, K. (2017) *Fundamentals of qualitative research: A practical guide*. Routledge.
- Biamonte, N. (2014) 'Formal Functions of Metric Dissonance in Rock Music', *Music Theory Online*, 20(2).
- Biamonte, N. (2010) 'Triadic modal and pentatonic patterns in rock music', *Music Theory Spectrum*, 32(2), pp. 95–110.
- Bishop, D.R. (2012) 'Perfect shark music: How can the principle of prosody be used in contemporary song-writing?' (Doctoral dissertation, Wintec).
- Blain, D.R. (1987) 'A mathematical model for alliteration', *Style*, pp. 607–625.
- Boers, F., Lindstromberg, S. and Eyckmans, J. (2014) 'Is alliteration mnemonic without awareness-raising?', *Language Awareness*, 23(4), pp. 291–303.
- Bondurant-Koehler, S. and Koehler, W.K. (1998) 'Orff schulwerk and Kodaly in beginning group and private string education', *American String Teacher*, 48(1), pp. 65–68.

- Bosacki, S., Francis-Murray, N., Pollon, D.E. and Elliott, A. (2006) 'Sounds good to me': Canadian children's perceptions of popular music', *Music Education Research*, 8(3), pp. 369–385.
- Bourke, B. (2014) 'Positionality: Reflecting on the research process', *The qualitative report*, 19(33), pp. 1–9.
- Bowman, W. (2004) 'Cognition and the body: Perspectives from music education' *Knowing bodies, moving minds* Springer, pp. 29–50.
- Boyce, C. and Neale, P. (2006) 'Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input' (Vol. 2). Watertown, MA: Pathfinder international.
- Brent, W. (2010) *A timbre analysis and classification toolkit for pure data*. In ICMC (Vol. 2010, pp. 224–229).
- Bresler, L. (2008) 'The music lesson', *Handbook of the arts in qualitative research*, pp. 225–237.
- Bresler, L. and Stake, R.E. (2017) 'Qualitative research methodology in music education', *Critical essays in music education*, pp. 113–128.
- Brophy, T.S. (2005) 'A longitudinal study of selected characteristics of children's melodic improvisations', *Journal of Research in Music Education*, 53(2), pp. 120–133.
- Brown, A. (2001) 'Modes of compositional engagement', *Mikropolyphonie*.
- Brown, A.R. (2015) 'Engaging in a sound musicianship', *The Child as Musician: A handbook of musical development*, pp. 208–220.
- Brown, A.R. and Dillon, S. (2016) 'Meaningful engagement with music composition' *The act of musical composition* Routledge, pp. 103–134.
- Brown, A.R. (2003) 'Music Composition and the Computer: An examination of the work practices of five experienced composers', .
- Brown, R.M. (2014) *From EDM to math rock: Metrical dissonance in the music of battles*. Princeton University.
- Bruce Morton, J. and Trehub, S.E. (2007) 'Children's judgements of emotion in song', *Psychology of Music*, 35(4), pp. 629–639.
- Bruner, J. (1973) *The relevance of education*. WW Norton & Company.
- Burger, B., Thompson, M.R., Luck, G., Saarikallio, S. and Toiviainen, P. (2013) 'Influences of rhythm-and timbre-related musical features on characteristics of music-induced movement', *Frontiers in psychology*, 4, pp. 183.
- Burgoyne, J.A., Bountouridis, D., Van Balen, J. and Honing, H. (2013) *Hooked: a game for discovering what makes music catchy*.
- Burić, I. and Moe, A. (2020) 'What makes teachers enthusiastic: The interplay of positive affect, self-efficacy and job satisfaction', *Teaching and Teacher Education*, 89, pp. 103008.
- Burton, R. (2015) *The elements of music: what are they, and who cares*.
- Butler, M.J. (2006) *Unlocking the groove: Rhythm, meter, and musical design in electronic dance music*. Indiana University Press.
- Butterworth, J. (2011) *Dance studies: The basics*. Routledge.
- Buxó-Lugo, A. and Slevc, L.R. (2020) 'Do minor thirds characterize the prosody of sad speech?', *Auditory Perception & Cognition*, 3(4), pp. 189–200.

- Cabanac, A., Perlovsky, L., Bonniot-Cabanac, M. and Cabanac, M. (2013) 'Music and academic performance', *Behavioural brain research*, 256, pp. 257–260.
- Callaghan, J. (2002) *Grounded theory methodology in music education research*. pp. 39.
- Campbell, P. (2010) *Songs in their heads: Music and its meaning in children's lives*. Oxford University Press.
- Campbell, P.S. (2005) 'Deep listening to the musical world', *Music Educators Journal*, 92(1), pp. 30–36.
- Campbell, P.S. (2000) 'What Music Really Means to Children: Music plays a prominent role in the daily lives of children, whose statements about its purpose and value can help music teachers design meaningful school programs', *Music Educators Journal*, 86(5), pp. 32–36. Available at: doi: 10.2307/3399634.
- Cano, R.L. (2006) *What kind of affordances are musical affordances? A semiotic approach*. pp. 25.
- Capuzzo, G. (2009) 'A Pedagogical Approach to Minor Pentatonic Riffs in Rock Music', *Journal of Music Theory Pedagogy*, 23(1), pp. 3.
- Cazden, N. (1958) 'The principle of direction in the motion of similar tonal harmonies', *Journal of Music Theory*, 2(2), pp. 162–192.
- Cespedes-Guevara, J. and Dibben, N. (2022) 'The role of embodied simulation and visual imagery in emotional contagion with music', *Music & Science*, 5, pp. 20592043221093836.
- Chao-Fernández, A., Chao-Fernández, R. and López-Chao, C. (2020a) 'Sexism in lyrics of children's songs in school and family environment', *Education Sciences*, 10(11), pp. 300.
- Chao-Fernández, A., Chao-Fernández, R. and López-Chao, C. (2020b) 'Sexism in lyrics of children's songs in school and family environment', *Education Sciences*, 10(11), pp. 300.
- Chapman, E. (2003) 'Alternative approaches to assessing student engagement rates', *Practical assessment, research & evaluation*, 8(13), pp. 1–10.
- Charmaz, K. (2014) *Constructing grounded theory*. sage.
- Charmaz, K. (2006) *Constructing grounded theory: A practical guide through qualitative analysis*. sage.
- Charmaz, K. (2000) 'Grounded Theory: Objectivist and Constructivist Methods. IN DENZIN, N. & LINCOLN, Y.(Eds.) Handbook of Qualitative Research', *Thousand Oaks, California: Sage*, , pp. 509–535.
- Cheung, W., Wildschut, T., Sedikides, C., Hepper, E.G., Arndt, J. and Vingerhoets, A.J. (2013) 'Back to the future: Nostalgia increases optimism', *Personality and Social Psychology Bulletin*, 39(11), pp. 1484–1496.
- Cho, E., Habibi, A. and Ilari, B. (2020) "'What is Your Favorite Song?": Musical Preferences and Taste in School-aged Children over Five Years' *The Routledge Companion to Interdisciplinary Studies in Singing* Routledge, pp. 384–395.
- Choksy, L. (1974a) *The Kodály method: Comprehensive music education from infant to adult*. Prentice-Hall Englewood Cliffs, NJ.
- Choksy, L. (1974b) *The Kodály method: Comprehensive music education from infant to adult*. Prentice-Hall Englewood Cliffs, NJ.
- Christie, W. (2018) *An Investigation of Parents' and Children's Perceptions of Applying "Orff-Schulwerk" Approaches to Children's Private Piano Lessons*, (Doctoral dissertation, The University of Waikato).
- Chun Tie, Y., Birks, M. and Francis, K. (2019) 'Grounded theory research: A design framework for novice researchers', *SAGE open medicine*, 7, pp. 2050312118822927.

- Clarke, E. (2005) *Ways of listening: An ecological approach to the perception of musical meaning*. Oxford University Press.
- Clauhs, M., Powell, B. and Clements, A.C. (2020) *Popular music pedagogies: A practical guide for music teachers*. Routledge.
- Clayton, M., Jakubowski, K., Eerola, T., Keller, P.E., Camurri, A., Volpe, G. and Alborno, P. (2020) 'Interpersonal entrainment in music performance: theory, method, and model', *Music Perception: An Interdisciplinary Journal*, 38(2), pp. 136–194.
- Cochrane, T., Fantini, B. and Scherer, K.R. (2013) *The emotional power of music: Multidisciplinary perspectives on musical arousal, expression, and social control*. OUP Oxford.
- Cohen, A.J. and Ilari, B. (2020) 'Conclusion: Singing development: The importance of research on the development of singing' *The Routledge Companion to Interdisciplinary Studies in Singing, Volume I: Development* Routledge, pp. 435–451.
- Coker, J. (2010) *Improvising jazz*. Simon and Schuster.
- Connelly, L.M. (2008) 'Pilot studies', *Medsurg nursing*, 17(6), pp. 411.
- Conway, C.M. (2014) *The Oxford handbook of qualitative research in American music education*. Oxford University Press.
- Cooke, D. (1959) 'The language of music', .
- Cooper, B. (2019) 'Primary Colours: The decline of arts education in primary schools and how it can be reversed', *Fabian Policy Report, London*, .
- Cope, D.G. (2014) *Methods and meanings: credibility and trustworthiness of qualitative research*.
- Corbin, J.M. and Strauss, A. (1990) 'Grounded theory research: Procedures, canons, and evaluative criteria', *Qualitative sociology*, 13(1), pp. 3–21.
- Corbin, J. and Morse, J.M. (2003) 'The unstructured interactive interview: Issues of reciprocity and risks when dealing with sensitive topics', *Qualitative inquiry*, 9(3), pp. 335–354.
- Coss, R.G. (2019) 'Creative thinking in music: Student-centered strategies for implementing exploration into the music classroom', *General Music Today*, 33(1), pp. 29–37.
- Costa, M. and Nese, M. (2020) 'Perceived tension, movement, and pleasantness in harmonic musical intervals and noises', *Music Perception*, 37(4), pp. 298–322.
- Costa-Giomi, E. (2012) 'Music education and intellectual development in children: Historical, research, and educational perspectives', *Anais do SIMPOM*, (2).
- Council on Communications and Media (2009) 'Impact of music, music lyrics, and music videos on children and youth', *Pediatrics*, 124(5), pp. 1488–1494.
- Cox, A. (2016) *Music and embodied cognition: Listening, moving, feeling, and thinking*. Indiana University Press.
- Creswell, J.W. and Creswell, J.D. (2017) *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Creswell, J.W. and Miller, D.L. (2000) 'Determining validity in qualitative inquiry', *Theory into practice*, 39(3), pp. 124–130.
- Crocker, E. (2000) 'Choosing Music for Middle School Choirs: How can choir directors identify appropriate, challenging, singable works for young choirs, many of whose members will be undergoing voice changes?', *Music Educators Journal*, 86(4), pp. 33–37.

- Csikszentmihalyi, M. and Csikszentmihaly, M. (1990) *Flow: The psychology of optimal experience*. Harper & Row New York.
- Curtis, M.E. and Bharucha, J.J. (2010) 'The minor third communicates sadness in speech, mirroring its use in music.', *Emotion*, 10(3), pp. 335.
- Custodero, L.A. (2005) 'Observable indicators of flow experience: A developmental perspective on musical engagement in young children from infancy to school age', *Music education research*, 7(2), pp. 185–209.
- Custodero, L.A. (2002) 'Seeking challenge, finding skill: Flow experience and music education', *Arts education policy review*, 103(3), pp. 3–9.
- Daubney, A., Spruce, G. and Annetts, D. (2019a) *Music Education: State of the Nation: Report by the All-Party Parliamentary Group for Music Education, the Incorporated Society of Musicians and the University of Sussex*. All Party Parliamentary Group for Music Education, University of Sussex
- Daubney, A., Spruce, G. and Annetts, D. (2019b) *Music Education: State of the Nation: Report by the All-Party Parliamentary Group for Music Education, the Incorporated Society of Musicians and the University of Sussex*. All Party Parliamentary Group for Music Education, University of Sussex
- Davis, S. (2013) 'Informal learning processes in an elementary music classroom', *Bulletin of the Council for Research in Music Education*, (198), pp. 23–50.
- Dell'Anna, A., Leman, M. and Berti, A. (2021) 'Musical Interaction Reveals Music as Embodied Language', *Frontiers in Neuroscience*, , pp. 818.
- DeNora, T. (2000) *Music in everyday life*. Cambridge University Press.
- Denzin, N.K. (1978) 'The logic of naturalistic inquiry in NK Denzin (Ed.) *Sociological methods: A sourcebook*', .
- Denzin, N.K. (2010) 'Moments, mixed methods, and paradigm dialogs', *Qualitative inquiry*, 16(6), pp. 419–427.
- Devaney, K. and Nenadic, E. (2021) 'Music Teaching Provision in Primary Schools: Key Findings 2019', .
- DeVries, P. (2001) 'Reevaluating common Kodály practices', *Music Educators Journal*, 88(3), pp. 24–27.
- Dewey, J. (1986) *Experience and education*. Taylor & Francis, pp. 241.
- DeWitt, L.A. and Crowder, R.G. (1987) 'Tonal fusion of consonant musical intervals: The oomph in Stumpf', *Perception & psychophysics*, 41(1), pp. 73–84.
- DiCienzo, A., 2019. *A comparison of the middle C and the mixed intervallic reading approaches on music reading among beginner piano students* (Doctoral dissertation, Université d'Ottawa/University of Ottawa).
- Dillon, S. (2009) *Music, meaning and transformation: Meaningful music making for life*. Cambridge Scholars Publishing.
- Dillon, S. (2006) 'Assessing the positive influence of music activities in community development programs', *Music Education Research*, 8(2), pp. 267–280.
- Dillon, S., Adkins, B., Brown, A. and Hirche, K. (2009) 'Communities of sound: Examining meaningful engagement with generative music making and virtual ensembles', *International Journal of Community Music*, 1(3), pp. 357–374.
- Dobszay, L. (1972) 'The Kodály Method and Its Musical Basis', *Studia Musicologica Academiae Scientiarum Hungaricae*, 14(1), pp. 15–33. Available at: doi: 10.2307/901863.

- Dogru, M. and Kalender, S. (2007) 'Applying the Subject " Cell" through Constructivist Approach during Science Lessons and the Teacher's View.', *Online Submission*, 2(1), pp. 3–13.
- Dons, K. (2019) 'Musician, friend and muse: an ethnographic exploration of emerging practices of musicians devising co-creative musicking with elderly people', .
- Dowling, W.J. (1984) 'Development of musical schemata in children's spontaneous singing'*Advances in Psychology* Elsevier, pp. 145–163.
- Dunbar-Hall, P. and Wemyss, K. (2000a) 'The effects of the study of popular music on music education', *International Journal of Music Education*, (1), pp. 23–34.
- Dunbar-Hall, P. and Wemyss, K. (2000b) 'Popular music and music teacher education: Relationships between course content and course design', *Research Studies in Music Education*, 15(1), pp. 50–57.
- Dunne, C. (2011) 'The place of the literature review in grounded theory research', *International journal of social research methodology*, 14(2), pp. 111–124.
- Dylan, S., Gareth, Warren, G. and Kenrick, W. (2019) 'Music education for social change in the United States: Towards artistic citizenship through Little Kids Rock', *International Journal of Pedagogy, Innovation and New Technologies*, (5 (2), pp. 11–21.
- Eccles, J. and Wang, M. (2012) 'Part I commentary: So what is student engagement anyway?'*Handbook of research on student engagement* Springer, pp. 133–145.
- Edgar, S.N. (2017) *Music education and social emotional learning: The heart of teaching music*. GIA Publications.
- Edgar, S.N. and Morrison, B. (2021) 'A vision for social emotional learning and arts education policy', *Arts Education Policy Review*, 122(3), pp. 145–150.
- Eitan, Z. (2013) 'How pitch and loudness shape musical space and motion', *The psychology of music in multimedia*, , pp. 165–191.
- El Hussein, M.T., Kennedy, A. and Oliver, B. (2017) 'Grounded theory and the conundrum of literature review: Framework for novice researchers', *The Qualitative Report*, 22(4), pp. 1199.
- Elfrank, M. (2008) 'A Critical Analysis of the Little Kids Rock Curriculum', .
- Elliott, R. (2014) *Do students like the flipped classroom? An investigation of student reaction to a flipped undergraduate IT course*. IEEE, pp. 1.
- Elmer, S.S. (2011) 'Human singing: Towards a developmental theory.', *Psychomusicology: Music, Mind and Brain*, 21(1-2), pp. 13.
- Emmel, N. (2013) 'Purposeful sampling', *Sampling and choosing cases in qualitative research: A realist approach*, , pp. 33–45.
- Erickson, J. (2012) 'Tension/release and the production of time in performance'*Archaeologies of Presence* Routledge, pp. 82–99.
- Erikson, E.H. (1968) 'Identity: youth and crisis.', .
- Erikson, E.H. (1963) *Childhood and society*. Norton New York.
- Evans, R.J. (2014) *Using popular music to teach music literacy to 5 th and 6 th grade students in general or Kodály music classes*. Silver Lake College.
- Fabiani, M. and Friberg, A. (2011) 'Influence of pitch, loudness, and timbre on the perception of instrument dynamics', *The Journal of the Acoustical Society of America*, 130(4), pp. EL193–EL199.

- Fabra-Brell, E. and Romero-Naranjo, F.J. (2017) 'Social competence between equals through body percussion according to method BAPNE in secondary students', *Procedia-Social and Behavioral Sciences*, 237, pp. 829–836.
- Felzmann, H. (2009) *Ethical issues in school-based research*.
- Fillips, A.M. (2005) 'Fusing Kodály, Orff, and Dalcroze techniques for general elementary music classrooms', .
- Findlay, E. (1995) *Rhythm and movement: Applications of Dalcroze eurhythmics*. Alfred Music.
- Fischer, P. and Greitemeyer, T. (2006) 'Music and aggression: The impact of sexual-aggressive song lyrics on aggression-related thoughts, emotions, and behavior toward the same and the opposite sex', *Personality and Social Psychology Bulletin*, 32(9), pp. 1165–1176.
- Fitch, W.T. (2016) 'Dance, music, meter and groove: a forgotten partnership', *Frontiers in human neuroscience*, 10, pp. 64.
- Fleming, N.D. and Mills, C. (1992) 'Not another inventory, rather a catalyst for reflection', *To improve the academy*, 11(1), pp. 137–155.
- Flick, U. (2019) 'From intuition to reflexive construction: Research design and triangulation in grounded theory research', *The SAGE handbook of current developments in grounded theory*, , pp. 125–144.
- Florentine, M. (2010) 'Loudness' *Loudness* Springer, pp. 1–15.
- Fouka, G. and Mantzorou, M. (2011) 'What are the major ethical issues in conducting research? Is there a conflict between the research ethics and the nature of nursing?', *Health science journal*, 5(1), pp. 3.
- Franěk, M., van Noorden, L. and Režný, L. (2014) 'Tempo and walking speed with music in the urban context', *Frontiers in psychology*, 5, pp. 1361.
- Frazee, J. and Kreuter, K. (1987) *Discovering Orff: A curriculum for music teachers*. Schott & Company Limited.
- Fredricks, J.A., Blumenfeld, P.C. and Paris, A.H. (2004a) 'School engagement: Potential of the concept, state of the evidence', *Review of educational research*, 74(1), pp. 59–109.
- Fredricks, J.A., Blumenfeld, P.C. and Paris, A.H. (2004b) 'School engagement: Potential of the concept, state of the evidence', *Review of educational research*, 74(1), pp. 59–109.
- Fredricks, J.A. and McColskey, W. (2012) 'The measurement of student engagement: A comparative analysis of various methods and student self-report instruments' *Handbook of research on student engagement* Springer, pp. 763–782.
- Frith, S. (2004) *Popular music: Critical concepts in media and cultural studies*. Psychology Press.
- Fung, C.V. and GROMKO, J.E. (2001) 'Effects of active versus passive listening on the quality of children's invented notations and preferences for two pieces from an unfamiliar culture', *Psychology of Music*, 29(2), pp. 128–138.
- Fusch, P., Fusch, G.E. and Ness, L.R. (2018) 'Denzin's paradigm shift: Revisiting triangulation in qualitative research', *Journal of social change*, 10(1), pp. 2.
- Gabrielsson, A. and Juslin, P.N. (2003) *Emotional expression in music*. Oxford University Press.
- Gault, B. (2005) 'Music learning through all the channels: Combining aural, visual, and kinesthetic strategies to develop musical understanding', *General Music Today*, 19(1), pp. 7–9.
- GAULT, B.M. (2016) 'Kodály-Inspired Teaching', *Teaching general music: Approaches, issues, and viewpoints*, .

- Gebauer, L., Kringelbach, M.L. and Vuust, P. (2012) 'Ever-changing cycles of musical pleasure: The role of dopamine and anticipation.', *Psychomusicology: Music, Mind, and Brain*, 22(2), pp. 152.
- Geen, W.A. (1970) 'Orff-Schulwerk', *Australian Journal of Music Education*, (6), pp. 23–26.
- Geertz, C. (1973) 'Thick Description: Toward an Interpretive Theory of Culture 1973', .
- Geist, K., Geist, E.A. and Kuznik, K. (2012) 'The patterns of music', *Young Children*, 2, pp. 75.
- Gembris, H. and Schellberg, G. (2003) *Musical preferences of elementary school children*. pp. 13.
- Gerrity, K.W., Hourigan, R.M. and Horton, P.W. (2013) 'Conditions that facilitate music learning among students with special needs: A mixed-methods inquiry', *Journal of Research in Music Education*, 61(2), pp. 144–159.
- Getz, R.P. (1963) *The influence of familiarity through repetition in determining optimum response of seventh grade children to certain types of serious music*. The Pennsylvania State University.
- Gibson, J.J. and Carmichael, L. (1966) *The senses considered as perceptual systems*. Houghton Mifflin Boston.
- Giddings, S. (2022) *Technology for unleashing creativity: Practical tips and tools for music educators*. Oxford University Press.
- Giles, A.M. and Frego, R.D. (2004) 'An inventory of music activities used by elementary classroom teachers: An exploratory study', *Update: Applications of Research in Music Education*, 22(2), pp. 13–22.
- Gill, P., Stewart, K., Treasure, E. and Chadwick, B. (2008) 'Methods of data collection in qualitative research: interviews and focus groups', *British dental journal*, 204(6), pp. 291–295.
- Glaser, B.G. (1999) 'The future of grounded theory', *Qualitative health research*, 9(6), pp. 836–845.
- Glaser, B.G. (1998) *Doing grounded theory: Issues and discussions*. Sociology Press.
- Glaser, B.G. (1978a) *Theoretical sensitivity*. University of California,.
- Glaser, B.G. (1978b) *Theoretical sensitivity*. University of California,.
- Glaser, B.G., Strauss, A.L. and Strutzel, E. (1968) 'The discovery of grounded theory; strategies for qualitative research', *Nursing research*, 17(4), pp. 364.
- Godøy, R.I. (2018) 'Sonic object cognition', *Springer handbook of systematic musicology*, , pp. 761–777.
- Gomez, P. and Danuser, B. (2007) 'Relationships between musical structure and psychophysiological measures of emotion.', *Emotion*, 7(2), pp. 377.
- Gomez, P. and Danuser, B. (2004) 'Affective and physiological responses to environmental noises and music', *International Journal of psychophysiology*, 53(2), pp. 91–103.
- Gonzalez, A.L. (2016) 'Music and language development: Traits of nursery rhymes and their impact on children's language development', .
- Good, A. and Russo, F.A. (2016) 'Singing promotes cooperation in a diverse group of children', *Social psychology*, .
- Goolsby, T.W. (1984) 'Music education as aesthetic education: Concepts and skills for the appreciation of music', *Journal of Aesthetic Education*, 18(4), pp. 15–33.
- Goyak, F., Muhammad, M.M., Mohd Khaja, F.N., Zaini, M.F. and Mohammad, G. (2021) 'Conversational mental verbs in english song lyrics: a corpus-driven analysis', *Asian Journal of University Education (AJUE)*, 7(1), pp. 222–239.

- Green, A.C., Bærentsen, K.B., Stødkilde-Jørgensen, H., Wallentin, M., Roepstorff, A. and Vuust, P. (2008) 'Music in minor activates limbic structures: a relationship with dissonance?', *Neuroreport*, 19(7), pp. 711–715.
- Green, L. (2017a) *How popular musicians learn: A way ahead for music education*. Routledge.
- Green, L. (2017b) *How popular musicians learn: A way ahead for music education*. Routledge.
- Green, L. (2017c) *Music, informal learning and the school: A new classroom pedagogy*. Routledge.
- Green, L. and Lucy, G. (1997) *Music, gender, education*. Cambridge University Press.
- Green, L. and Smart, T. (2017) 'Learning Music: Informal Processes and Their Outcomes' *The Routledge Companion to Music Cognition* Routledge, pp. 427–439.
- Grevler, K., 2019. 'What makes songs catchy': *A cognitive analysis of melodic hooks in twenty-first century popular music* (Doctoral dissertation, 修士論文, University of South Africa).
- Grube, M. and Griffiths, T.D. (2009) 'Metricity-enhanced temporal encoding and the subjective perception of rhythmic sequences', *Cortex*, 45(1), pp. 72–79.
- Guanti, G. (2016) 'A friendly reminder: get used to the unheard not to end up devoured', *Nuove Musiche: 1, 2016*, , pp. 35–51.
- Guba, E.G. and Lincoln, Y.S. (1994) 'Competing paradigms in qualitative research', *Handbook of qualitative research*, 2(163-194), pp. 105.
- Hall, D. (1960) 'Orff–Schulwerk: Teacher's Manual', *New York: Schott Music*, .
- Hallam, S. (2015) *The power of music*. International Music Education Research Centre (Imerc) Press.
- Hallam, S. (2010) 'The power of music: Its impact on the intellectual, social and personal development of children and young people', *International journal of music education*, 28(3), pp. 269–289.
- Hallam, S., Burnard, P., Robertson, A., Saleh, C., Davies, V., Rogers, L. and Kokatsaki, D. (2009) 'Trainee primary-school teachers' perceptions of their effectiveness in teaching music', *Music education research*, 11(2), pp. 221–240.
- Hallam, S., Creech, A. and McQueen, H. (2017) 'Teachers' perceptions of the impact on students of the Musical Futures approach', *Music Education Research*, 19(3), pp. 263–275.
- Hallam, S. and Himonides, E. (2022) *The power of music: An exploration of the evidence*. Open Book Publishers.
- Halliday, J. (2017) 'How to improve the school results: Not extra maths but music, loads of it', *The Guardian*, 3.
- Hargreaves, D.J. (1982) 'The development of aesthetic reactions to music.', *Psychology of Music*, .
- Hargreaves, D.J. and Bonneville-Roussy, A. (2018) 'What is 'open-earedness', and how can it be measured?', *Musicae Scientiae*, 22(2), pp. 161–174.
- Hart, A.M. (2018) *A constructivist approach to developing interactive digital technology for musical learning*. University of Salford (United Kingdom).
- Heald, C. (2004a) 'Dancing on the ceiling!', *Practical Pre-School*, 2004(43), pp. 30.
- Heald, C. (2004b) 'The value of action songs and rhymes', *Practical Pre-School*, 2004(45), pp. 1–2.
- Heidegger, M. (1927) 'Heidegger, Martin', *Being and Time*, .
- Heimonen, M. (2006) 'Justifying the right to music education', *Philosophy of Music Education Review*, 14(2), pp. 119–141.

- Hennessey, S. (2013) 'Closing the Gap. The generalist teachers's role in Music Education', *Vugt, de.A, Malmberg, I. European Perspectives on Music Education: Artistry. Helbling, .*
- Hennessey, S. (2017) 'Approaches to increasing the competence and confidence of student teachers to teach music in primary schools', *Education 3-13*, 45(6), pp. 689–700.
- Hess, J. (2020) 'Finding the "both/and": Balancing informal and formal music learning', *International Journal of Music Education*, 38(3), pp. 441–455.
- Hickey, G. (1997) 'The use of literature in grounded theory', *NT research*, 2(5), pp. 371–378.
- Hodges, D.A. and O'connell, D.S. (2005) 'The impact of music education on academic achievement', *The University of North Carolina at Greensboro. Retrieved August, 20*, pp. 2010.
- Holden, H. and Button, S. (2006) 'The teaching of music in the primary school by the non-music specialist', *British Journal of Music Education*, 23(1), pp. 23–38.
- Hollander, F.M. and Juhrs, P.D. (1974) 'Orff-Schulwerk, an Effective Treatment Tool with Autistic Children.', *Journal of music therapy*, 11(1).
- Holochwost, S.J., Propper, C.B., Wolf, D.P., Willoughby, M.T., Fisher, K.R., Kolacz, J., Volpe, V.V. and Jaffee, S.R. (2017) 'Music education, academic achievement, and executive functions.', *Psychology of Aesthetics, Creativity, and the Arts*, 11(2), pp. 147.
- Honey, P. and Mumford, A. (2000) 'The learning styles helper's guide', .
- Horner, S.D. (2000) 'Using focus group methods with middle school children', *Research in nursing & health*, 23(6), pp. 510–517.
- Houlahan, M. and Tacka, P. (2015) *Kodály today: A cognitive approach to elementary music education*. Oxford University Press.
- Houtsma, A.J. (1997) 'Pitch and timbre: Definition, meaning and use', *Journal of New Music Research*, 26(2), pp. 104–115.
- Howard, P.M. (1996) 'Kodaly Strategies for Instrumental Teachers: When the Kodály method is extended to string and other instrumental instruction, it offers opportunities for enhancing student musicianship', *Music Educators Journal*, 82(5), pp. 27–33.
- Howell, K.E. (2012) *An introduction to the philosophy of methodology*. Sage.
- Hu, X., Chen, J. and Wang, Y. (2021) 'University students' use of music for learning and well-being: A qualitative study and design implications', *Information Processing & Management*, 58(1), pp. 102409.
- Husserl, E. (1999) *The essential Husserl: Basic writings in transcendental phenomenology*. Indiana University Press.
- Hutchinson, S.A., Wilson, M.E. and Wilson, H.S. (1994) 'Benefits of participating in research interviews', *Image: The Journal of Nursing Scholarship*, 26(2), pp. 161–166.
- Ilari, B., Fesjian, C. and Habibi, A. (2018) 'Entrainment, theory of mind, and prosociality in child musicians', *Music & Science*, 1, pp. 2059204317753153.
- Ilari, B. and Habibi, A. (2015) 'Favorite songs, melodic elements, and a familiar tune: Performance of children from Brazil and the United States on components of the ATBSS', *Musicae Scientiae*, 19(3), pp. 265–281.
- Indah, R.N. and Rohmah, G.N. (2021) 'Indonesian local wisdom: State of the art', .
- Isabella, G. and Carvalho, H.C. (2016) 'Emotional contagion and socialization: Reflection on virtual interaction' *Emotions, technology, and behaviors* Elsevier, pp. 63–82.

- Jacobi, B.S. (2012) 'The first formal Dalcroze instruction in the United States: Placido de Montoliu and his work at the Phebe Anna Thorne Model School', *Journal of Historical Research in Music Education*, 33(2), pp. 99–127.
- Jacobs, J.E., Vernon, M.K. and Eccles, J.S. (2005) 'Activity choices in middle childhood: The roles of gender, self-beliefs, and parents' influence' *Organized activities as contexts of development* Psychology Press, pp. 247–266.
- Janata, P. (2015) 'Neural basis of music perception', *Handbook of clinical neurology*, 129, pp. 187–205.
- Janghorban, R., Latifnejad Roudsari, R. and Taghipour, A. (2014) 'Pilot study in qualitative research: The roles and values', *Journal of hayat*, 19(4), pp. 1–5.
- Jaques-Dalcroze, E. (1921) *Rhythm, music and education*. London.
- Jaschke, A.C., Honing, H. and Scherder, E.J. (2018) 'Longitudinal analysis of music education on executive functions in primary school children', *Frontiers in neuroscience*, , pp. 103.
- Jeanneret, N. (2011) 'Musical Futures: The Victorian Pilot', *Making sound waves: Diversity, unity, equity*, , pp. 157.
- Jenkins, P. (2011) 'Formal and informal music educational practices', *Philosophy of Music Education Review*, 19(2), pp. 179–197.
- Jensen, E. (2008) *Brain-based learning: The new paradigm of teaching*. Corwin Press.
- Jimerson, S.R., Campos, E. and Greif, J.L. (2003) 'Toward an understanding of definitions and measures of school engagement and related terms', *The California School Psychologist*, 8(1), pp. 7–27.
- Johnson, D. (2017) 'How orff is your schulwerk?', *Musicworks: Journal of the Australian Council of Orff Schulwerk*, 22, pp. 9–14.
- Johnston, K.A. (2018a) 'Engagement', *The international encyclopedia of strategic communication*, , pp. 1–9.
- Johnston, K.A. (2018b) 'Engagement', *The international encyclopedia of strategic communication*, , pp. 1–9.
- Julien, O. and Levaux, C. (2018) *Over and Over: Exploring Repetition in Popular Music*. Bloomsbury Publishing USA.
- Juntunen, M. (2020) 'Ways to enhance embodied learning in Dalcroze-inspired music education', *International Journal of Music in Early Childhood*, 15(1), pp. 39–59.
- Juntunen, M. (2016) 'The Dalcroze Approach', *Teaching General Music: Approaches, Issues, and Viewpoints*, , pp. 141–168.
- Juslin, P.N. and Sloboda, J.A. (2001) 'Music and emotion', *D.DEUTSCH (Org.)*, .
- Juslin, P.N. and Västfjäll, D. (2008) 'Emotional responses to music: The need to consider underlying mechanisms', *Behavioral and brain sciences*, 31(5), pp. 559–575.
- Kallio, A.A. (2017) 'Popular “problems”: Deviantization and teachers' curation of popular music', *International Journal of Music Education*, 35(3), pp. 319–332.
- Kampmeier, V. (2007) 'Intuitive improvisation', *The American Music Teacher*, 57(3), pp. 22.
- Karlina, H., Raja, P. and Suka, R.G., 2017. *Teaching tense through modified song lyrics for junior high school* (Doctoral dissertation, Lampung University).
- Kastner, M.P. and Crowder, R.G. (1990) 'Perception of the major/minor distinction: IV. Emotional connotations in young children', *Music Perception*, 8(2), pp. 189–201.

- Kelly, M.L., Yeigh, T., Hudson, S., Willis, R. and Lee, M. (2023) 'Secondary teachers' perceptions of the importance of pedagogical approaches to support students' behavioural, emotional and cognitive engagement', *The Australian Educational Researcher*, 50(4), pp. 1025–1047. Available at: doi: 10.1007/s13384-022-00540-5.
- Kelly-McHale, J. (2013) 'The influence of music teacher beliefs and practices on the expression of musical identity in an elementary general music classroom', *Journal of Research in Music Education*, 61(2), pp. 195–216.
- Kenny, M. and Fourie, R. (2015) 'Contrasting classic, Straussian, and constructivist grounded theory: Methodological and philosophical conflicts', *The Qualitative Report*, 20(8), pp. 1270–1289.
- King, F. (2018) 'Music activities delivered by primary school generalist teachers in Victoria: Informing teaching practice', *Australian Journal of Teacher Education (Online)*, 43(5), pp. 48–59.
- King, N., Horrocks, C. and Brooks, J. (2018) *Interviews in qualitative research*. sage.
- Kivunja, C. and Kuyini, A.B. (2017) 'Understanding and applying research paradigms in educational contexts.', *International Journal of higher education*, 6(5), pp. 26–41.
- Klem, A.M. and Connell, J.P. (2004) 'Relationships matter: Linking teacher support to student engagement and achievement', *Journal of school health*, 74(7), pp. 262–273.
- Koelsch, S. (2010) 'Towards a neural basis of music-evoked emotions', *Trends in cognitive sciences*, 14(3), pp. 131–137.
- Kolinski, M. (1962) 'Consonance and dissonance', *Ethnomusicology*, 6(2), pp. 66–74.
- Koops, L.H. (2018) 'Musical tweens: Child and parent views on musical engagement in middle childhood', *Music Education Research*, 20(4), pp. 412–426.
- Korsakova-Kreyn, M. (2018) 'Two-level model of embodied cognition in music.', *Psychomusicology: Music, Mind, and Brain*, 28(4), pp. 240.
- Koutsoupidou, T. (2005) 'Improvisation in the English primary music classroom: Teachers' perceptions and practices', *Music Education Research*, 7(3), pp. 363–381.
- Kramer, L., 2001. *Musical meaning: Toward a critical history*. Univ of California Press.
- Kratus, J. (2013) 'Characterization of the compositional strategies used by children to compose a melody', *Visions of Research in Music Education*, 23(1), pp. 6.
- Kratus, J. (2001) 'Effect of available tonality and pitch options on children's compositional processes and products', *Journal of Research in Music Education*, 49(4), pp. 294–306.
- Kratus, J. (1989) 'A time analysis of the compositional processes used by children ages 7 to 11', *Journal of Research in music Education*, 37(1), pp. 5–20.
- Krueger, J. (2014a) 'Affordances and the musically extended mind', *Frontiers in psychology*, 4, pp. 1003.
- Krueger, J. (2014b) 'Affordances and the musically extended mind', *Frontiers in psychology*, 4, pp. 1003.
- Krumhansl, C.L. (1979) 'The psychological representation of musical pitch in a tonal context', *Cognitive psychology*, 11(3), pp. 346–374.
- Kruse, A.J. (2016) 'Toward hip-hop pedagogies for music education', *International Journal of Music Education*, 34(2), pp. 247–260.
- Lamb, R., Dolloff, L. and Howe, S.W. (2002) *Feminism, feminist research and gender research in music education*. Oxford University Press, pp. 648.

- Lane, J.S. (2006) 'Undergraduate instrumental music education majors' approaches to score study in various musical contexts', *Journal of Research in Music Education*, 54(3), pp. 215–230.
- Lange, D.M. (2005) *Together in harmony: Combining Orff Schulwerk and music learning theory*. GIA Publications.
- Larson, S. (2005) 'Composition versus improvisation?', *Journal of Music Theory*, 49(2), pp. 241–275.
- LaRue, J. (2011) *Guidelines for Style Analysis: With Models for Style Analysis, a Companion Text*. Expanded Second edn. Harmonie Park Press.
- Latasha, H. (2020) 'John Dewey: A look at his contributions to curriculum', *Academicus International Scientific Journal*, 11(21), pp. 142–150.
- Lave, J. and Wenger, E. (2001) 'Legitimate peripheral participation in communities of practice in *Supporting lifelong learning* Routledge, pp. 121–136.
- Lave, J. and Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge university press.
- Leavy, P. (2017) *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. Guilford Publications.
- LeBlanc, A., 1991, March. Effect of maturation/aging on music listening preference: A review of the literature. In *Ninth National Symposium on Research in Music Behavior*, Cannon Beach, OR.
- Lee, H.K., 2009. *A theory of adults' motivations for learning the African drums in Hong Kong* (Doctoral dissertation, University of Nottingham).
- Leman, M. (2019) *Embodied Music Cognition and Mediation Technology*. Cambridge: The MIT Press.
- Leman, M. (2010) 'Music, gesture, and the formation of embodied meaning' *Musical Gestures* Routledge, pp. 138–165.
- Leman, M., Buhmann, J. and Van Dyck, E. (2017) 'The empowering effects of being locked into the beat of the music' *Body, sound and space in music and beyond: Multimodal explorations* Routledge, pp. 11–28.
- Leonhard, C. and House, R. (1972) 'Foundations and Principals of Music Education. Revised ed'.
- Li, Y. and Lerner, R.M. (2013a) 'Interrelations of behavioral, emotional, and cognitive school engagement in high school students', *Journal of Youth and Adolescence*, 42(1), pp. 20–32.
- Li, Y. and Lerner, R.M. (2013b) 'Interrelations of behavioral, emotional, and cognitive school engagement in high school students', *Journal of Youth and Adolescence*, 42(1), pp. 20–32.
- Limb, C.J. (2006) 'Structural and functional neural correlates of music perception', *The Anatomical Record Part A: Discoveries in Molecular, Cellular, and Evolutionary Biology: An Official Publication of the American Association of Anatomists*, 288(4), pp. 435–446.
- Littleton, D. (2015) *When music goes to school: Perspectives on learning and teaching*. Rowman & Littlefield.
- Lovink, G. (2016) 'Dancing to the Loop: Repetition in Contemporary Music: An Interview with Tilman Baumgärtel', *Dancecult: Journal of Electronic Dance Music Culture*, 8(1).
- LUKENCHUK, A. (2017) 'CHAPTER FIVE: Methodology: Choosing among Paradigms and Research Designs', *Counterpoints*, 428, pp. 57–85.
- Lum, C. (2008) 'Beyond music lessons: subject teachers' use of music in the classroom', *Research Studies in Music Education*, 30(2), pp. 139–158.

- Lum, C. and Shehan Campbell, P. (2007) 'The sonic surrounds of an elementary school', *Journal of Research in Music Education*, 55(1), pp. 31–47.
- MacDonald, R., Kreutz, G. and Mitchell, L. (2013) *Music, health, and wellbeing*. Oxford University Press.
- Machin, D. (2010) *Analysing popular music: Image, sound and text*. SAGE publications.
- Madison, G. (2009) 'Transcendental phenomenology as practical philosophy', *Santalka: Filologija, Edukologija*, 17(3), pp. 17–28.
- Mak, P. (2006) 'Learning music in formal, non-formal and informal contexts', .
- Makina, B. (2009) 'Rhythm, rhyme and songfulness: The role of Shona children's gamesongs in education', *Muziki*, 6(1), pp. 49–57.
- Mamluk, D. (2017) 'Active listening, music education, and society' *Oxford Research Encyclopedia of Education*.
- Mann, R. (1989) 'Why Should Elementary Students Have All the Fun?', *Music Educators Journal*, 76(1), pp. 39–42.
- Marks, H.M. (2000a) 'Student engagement in instructional activity: Patterns in the elementary, middle, and high school years', *American educational research journal*, 37(1), pp. 153–184.
- Marks, H.M. (2000b) 'Student engagement in instructional activity: Patterns in the elementary, middle, and high school years', *American educational research journal*, 37(1), pp. 153–184.
- Marsh, K. (2008) *The musical playground: Global tradition and change in children's songs and games*. OUP USA.
- Maršik, L. (2016) 'Analysing Musical Pieces Using harmony-analyser. org Tools', *Databases, Texts*, , pp. 55.
- Martin, P.J. (2006) 'Music, identity, and social control', *Music and Manipulation. On the Social Uses and Social Control of Music*. New York/Oxford, , pp. 57–73.
- Martino, S.C., Collins, R.L., Elliott, M.N., Strachman, A., Kanouse, D.E. and Berry, S.H. (2006) 'Exposure to degrading versus nondegrading music lyrics and sexual behavior among youth', *Pediatrics*, 118(2), pp. e430–e441.
- Maslow, A. (2013) *A theory of human motivation*. Lulu. com.
- Mawby, S.L. (2018) *Music in schools for children with special educational needs: A whole school perspective*, (Doctoral dissertation, University of Leeds).
- McCord, K. (2013) 'Universal design for learning: Special educators integrating the Orff approach into their teaching', *Approaches: Music Therapy & Special Music Education*, 5(2), pp. 188–193.
- McKernon, P.E. (1979) 'The development of first songs in young children', *New directions for child and adolescent development*, 1979(3), pp. 43–58.
- McKinnon, C.A. (2010) 'Louder than hell: Power, volume and the brain' *Heavy Fundamentals: Music, Metal and Politics* Brill, pp. 111–126.
- McPherson, G.E. and McCormick, J. (2006) 'Self-efficacy and music performance', *Psychology of music*, 34(3), pp. 322–336.
- Mead, V.H. (1986) 'More than mere movement: Dalcroze Eurhythmics', *Music Educators Journal*, 72(6), pp. 42–46.
- Mendes, D.C.G. (2021) *Symphony Alleviating Depression Symptoms Through Science Based Video Gaming*, (Master's Thesis, Universidade da Madeira (Portugal)).

- Meng, Q., Jiang, J., Liu, F. and Xu, X. (2020) 'Effects of the Musical Sound Environment on Communicating Emotion', *International Journal of Environmental Research and Public Health*, 17(7). Available at: doi: 10.3390/ijerph17072499.
- Merriam, S.B. (2002) 'Introduction to qualitative research', *Qualitative research in practice: Examples for discussion and analysis*, 1(1), pp. 1–17.
- Middleton, R. (1993a) 'Popular music analysis and musicology: bridging the gap', *Popular music*, 12(2), pp. 177–190.
- Middleton, R. (1993b) 'Popular music analysis and musicology: bridging the gap', *Popular music*, 12(2), pp. 177–190.
- Middleton, R. (1990) *Studying popular music*. McGraw-Hill Education (UK).
- Millar, S.R., Steiner, A., Caló, F. and Teasdale, S. (2020) 'COOL Music: a 'bottom-up' music intervention for hard-to-reach young people in Scotland', *British Journal of Music Education*, 37(1), pp. 87–98.
- Miller, D.L. (2018) 'Sustainable and unsustainable semi-professionalism: Grassroots music careers in folk and metal', *Popular Music and Society*, 41(1), pp. 71–88.
- Miller, S.M. (2007) 'English teacher learning for new times: Digital video composing as multimodal literacy practice', *English Education*, 40(1), pp. 61–83.
- Mills, J., Bonner, A. and Francis, K. (2006) 'The development of constructivist grounded theory', *International journal of qualitative methods*, 5(1), pp. 25–35.
- Mills, J. (2005) *Music in the School*. Oxford University Press, USA.
- Mizener, C.P. (2008) 'Our singing children: Developing singing accuracy', *General Music Today*, 21(3), pp. 18–24.
- Molina-Azorin, J.F. (2016) 'Mixed methods research: An opportunity to improve our studies and our research skills', .
- Molinari, M., Leggio, M.G. and Thaut, M.H. (2007) 'The cerebellum and neural networks for rhythmic sensorimotor synchronization in the human brain', *The Cerebellum*, 6, pp. 18–23.
- Molnar-Szakacs, I. and Overy, K. (2006a) 'Music and mirror neurons: from motion to 'e'motion', *Social cognitive and affective neuroscience*, 1(3), pp. 235–241.
- Molnar-Szakacs, I. and Overy, K. (2006b) 'Music and mirror neurons: from motion to 'e'motion', *Social cognitive and affective neuroscience*, 1(3), pp. 235–241.
- Moon, L.S., 2020. *Kodaly Teachers' Perception on Aural and Musicianship Training in Malaysia* (Master's thesis, University of Malaya (Malaysia)).
- Moore, A.F. (2016) *Song means: Analysing and interpreting recorded popular song*. Routledge.
- Moore, G. (2019) 'Musical Futures in Ireland: Findings from a pilot study in primary and secondary schools', *Music Education Research*, 21(3), pp. 243–256.
- Moore, R.S., Brotons, M., Fyk, J. and Castillo, A. (1997) 'Effects of culture, age, gender, and repeated trials on rote song learning skills of children 6-9 years old from England, Panama, Poland, Spain, and the United States', *Bulletin of the Council for Research in Music Education*, , pp. 83–88.
- Morrongiello, B.A. and Roes, C.L. (1990) 'Children's memory for new songs: integration or independent storage of words and tunes?', *Journal of experimental child psychology*, 50(1), pp. 25–38.
- Nagro, S.A., Fraser, D.W. and Hooks, S.D. (2019) 'Lesson planning with engagement in mind: Proactive classroom management strategies for curriculum instruction', *Intervention in School and Clinic*, 54(3), pp. 131–140.

- Naranjo, F.J.R. (2013) 'Science & art of body percussion: a review', *Journal of human sport and exercise*, 8(2), pp. 442–457.
- Neubauer, B.E., Witkop, C.T. and Varpio, L. (2019) 'How phenomenology can help us learn from the experiences of others', *Perspectives on medical education*, 8(2), pp. 90–97.
- Nijs, L. and Bremmer, M. (2019) 'Embodiment in early childhood music education' *Music in early childhood: Multi-disciplinary perspectives and inter-disciplinary exchanges* Springer, pp. 87–102.
- Nkosi, D.A. and van Niekerk, C. (2017) 'Modern African classical drumming: Contemporary African drumming practice for a multicultural music curriculum', *Muziki*, 14(1), pp. 123–139.
- O'Neill, S.A. (2015) 'Youth empowerment and transformative music engagement', *The Oxford handbook of social justice in music education*, , pp. 388–405.
- O'Herron, P. (2006) 'The Orff practitioner as language arts teacher', *The Orff Echo*, 38(2), pp. 22–25.
- Orff, C. (1978) 'Carl Orff-The Schulwerk', *New York: Schott Music Corp*, .
- Orff, C. (1963) 'The Schulwerk: Its origin and aims', *Music Educators Journal*, 49(5), pp. 69–74.
- Pagán, J.E. (2018) *Behavioral, Affective, and Cognitive Engagement of High School Music Students: Relation to Academic Achievement and Ensemble Performance Ratings*. University of South Florida.
- Paiva, R.P., Mendes, T. and Cardoso, A. (2006) 'Melody Detection in Polyphonic Musical Signals Exploiting Perceptual Rules, Note Saliency, and Melodic Smoothness', *Computer Music Journal*, , pp. 80–98.
- Parncutt, R. and Hair, G. (2011) 'Consonance and dissonance in music theory and psychology: Disentangling dissonant dichotomies.', *Journal of interdisciplinary music studies*, 5(2).
- Pasiali, V. and Clark, C. (2018) 'Evaluation of a music therapy social skills development program for youth with limited resources', *Journal of music therapy*, 55(3), pp. 280–308.
- Patel, A.D. (2011) 'Why would musical training benefit the neural encoding of speech? The OPERA hypothesis', *Frontiers in psychology*, 2, pp. 10773.
- Patton, M.Q. (2002) 'Two decades of developments in qualitative inquiry: A personal, experiential perspective', *Qualitative social work*, 1(3), pp. 261–283.
- Pazdziora, J.P. and Pazdziora, E. (2021) 'The Anxious Laughter of Silly Songs', *Jeunesse: Young People, Texts, Cultures*, 13(1), pp. 80–113.
- Peirce, C.S. (1955) *Philosophical writings of Peirce*. Courier Corporation.
- Perdue, M.M. and Campbell, P.S. (2020) 'The songs children sing: Music-theoretic analysis in the context of children's and classroom cultures' *The Routledge Companion to Interdisciplinary Studies in Singing, Volume II: Education* Routledge, pp. 61–72.
- Perlovsky, L. (2015) 'Origin of music and embodied cognition', *Frontiers in Psychology*, 6, pp. 138662.
- Persellin, D.C. (2016) 'Nurturing the Musical" Open-Earedness" of Seven-year-olds', .
- Pfleiderer, M. (2019) 'Beyond Major and Minor? The Tonality of Popular Music after 1960', .
- Philbeck, N.K., 2005. *Remediating the Transient Music Student Using Hypermedia and Finale Performance Assessment™: A Recorder Based Model* (Master's thesis, East Tennessee State University).
- Phillips-Silver, J. and Trainor, L.J. (2005) 'Feeling the beat: movement influences infant rhythm perception', *Science*, 308(5727), pp. 1430.

- Philpott, C. (2004) '6 The body and musical literacy: Some historical reflections' *Issues in music teaching* Routledge, pp. 79–91.
- Piaget, J. (2005) *The psychology of intelligence*. Routledge.
- Pinchover, S. (2017) 'The relation between teachers' and children's playfulness: A pilot study', *Frontiers in psychology*, 8, pp. 308989.
- Plester, B. and Hutchison, A. (2016) 'Fun times: The relationship between fun and workplace engagement', *Employee Relations*, 38(3), pp. 332–350.
- Popović, A. and Karl, B.G. (2021) 'Games with body percussion elements worldwide', *FACULTY OF EDUCATION JOSIP JURAJ STROSSMAYER UNIVERSITY OF OSIJEK*, , pp. 330.
- Powell, B. and Burstein, S. (2017) 'Popular music and modern band principles' *The Routledge research companion to popular music education* Routledge, pp. 243–254.
- Primack, B.A., Douglas, E.L., Fine, M.J. and Dalton, M.A. (2009a) 'Exposure to sexual lyrics and sexual experience among urban adolescents', *American Journal of Preventive Medicine*, 36(4), pp. 317–323.
- Primack, B.A., Douglas, E.L., Fine, M.J. and Dalton, M.A. (2009b) 'Exposure to sexual lyrics and sexual experience among urban adolescents', *American Journal of Preventive Medicine*, 36(4), pp. 317–323.
- Pruitt, T.A., Halpern, A.R. and Pfordresher, P.Q. (2019) 'Covert singing in anticipatory auditory imagery', *Psychophysiology*, 56(3), pp. e13297.
- Przybysz, A.L., Corassa, R., Dos Santos, C.L. and Silla, C.N. (2015) *Latin music mood classification using cifras*. IEEE, pp. 1682.
- Putter, K.C., Krause, A.E., Vidas, D. and North, A.C. (2023) 'Examining the Lyrical Content and Musical Features of a Crowd-Sourced, Australian Pandemic Playlist', *Music & Science*, 6, pp. 20592043231215632.
- Racette, A. and Peretz, I. (2007) 'Learning lyrics: to sing or not to sing?', *Memory & cognition*, 35(2), pp. 242–253.
- Radocy, R.E. and Boyle, J.D. (2003) 'Psychological foundations of musical behavior. Charles C', *Thomas, Springfield, IL*, .
- Ramalho, R., Adams, P., Huggard, P. and Hoare, K. (2015a) *Literature review and constructivist grounded theory methodology*. Freie Universität Berlin, pp. 1.
- Ramalho, R., Adams, P., Huggard, P. and Hoare, K. (2015b) *Literature review and constructivist grounded theory methodology*. Freie Universität Berlin, pp. 1.
- Reifinger, J.L. (2018) 'The Relationship of Pitch Sight-Singing Skills With Tonal Discrimination, Language Reading Skills, and Academic Ability in Children', *Journal of Research in Music Education*, 66(1), pp. 71–91.
- Reimer, B. (1989) 'Music education as aesthetic education: Toward the future', *Music Educators Journal*, 75(7), pp. 26–32.
- Richmond, J., McLachlan, N.M., Ainley, M. and Osborne, M. (2016) 'Engagement and skill development through an innovative classroom music program', *International Journal of Music Education*, 34(2), pp. 143–160.
- Rimmer, M. (2017) 'Music, middle childhood and agency: The value of an interactional–relational approach', *Childhood*, 24(4), pp. 559–573.
- Rings, S. (2011) *Tonality and transformation*. Oxford University Press.

- Risset, J. and Wessel, D.L. (1999) 'Exploration of Timbre by Analysis and Synthesis', in Deutch, D. (ed.) *The Psychology of Music USA: Academic Press*, pp. 113–169.
- Rodger, M., Stapleton, P., Van Walstijn, M., Ortiz, M. and Pardue, L. (2020) *What makes a good musical instrument? a matter of processes, ecologies and specificities*. pp. 484.
- Rolf Inge Godøy (2003) 'Motor-Mimetic Music Cognition', *Leonardo*, 36(4), pp. 317–319.
- Rorty, R. (1979) 'Transcendental arguments, self-reference, and pragmatism' *Transcendental arguments and science* Springer, pp. 77–103.
- Roulston, K. (2006) 'Mapping the possibilities of qualitative research in music education: a primer', *Music Education Research*, 8(2), pp. 153–173.
- Rubin, H.J. and Rubin, I.S. (2005) 'The first phase of analysis: Preparing transcripts and coding data', *Qualitative interviewing: The art of hearing data*, , pp. 201–223.
- Salakka, I., Pitkämäki, A., Pentikäinen, E., Mikkonen, K., Saari, P., Toiviainen, P. and Särkämö, T. (2021a) 'What makes music memorable? Relationships between acoustic musical features and music-evoked emotions and memories in older adults', *PLoS one*, 16(5), pp. e0251692.
- Salakka, I., Pitkämäki, A., Pentikäinen, E., Mikkonen, K., Saari, P., Toiviainen, P. and Särkämö, T. (2021b) 'What makes music memorable? Relationships between acoustic musical features and music-evoked emotions and memories in older adults', *PLoS one*, 16(5), pp. e0251692.
- Saldaña, J. (2021) *The coding manual for qualitative researchers*. Sage publications.
- Salvador, K., Paetz, A.M. and Tippetts, M.M. (2020) "'We All Have a Little More Homework to Do.': A Constructivist Grounded Theory of Transformative Learning Processes for Practicing Music Teachers Encountering Social Justice', *Journal of Research in Music Education*, 68(2), pp. 193–215.
- Sanchez, X., Moss, S.L., Twist, C. and Karageorghis, C.I. (2014) 'On the role of lyrics in the music–exercise performance relationship', *Psychology of Sport and Exercise*, 15(1), pp. 132–138.
- Sandelowski, M. (1986) 'The problem of rigor in qualitative research.', *Advances in nursing science*, .
- Sansom, M.J. (2005) *Understanding musical meaning: Interpretative phenomenological analysis and improvisation*. Citeseer, .
- Sarath, E. (2010) 'Jazz, Creativity, and Consciousness', *Integral education: New directions for higher learning*, , pp. 169.
- Saunders, B., Kitzinger, J. and Kitzinger, C. (2015) 'Anonymising interview data: Challenges and compromise in practice', *Qualitative Research*, 15(5), pp. 616–632.
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H. and Jinks, C. (2018) 'Saturation in qualitative research: exploring its conceptualization and operationalization', *Quality & quantity*, 52(4), pp. 1893–1907.
- Saunders, M., Lewis, P. and Thornhill, A. (2019) 'Research Methods for Business Students Eight Edition', *QualitativeMarket Research: An International Journal*, .
- Savage, J. and Barnard, D. (2019) 'The state of play: A review of music education in England 2019', *The Musicians' Union*.
- Saville, K. (2011) 'Strategies for using repetition as a powerful teaching tool', *Music Educators Journal*, 98(1), pp. 69–75.
- Schade, K.B. (1976) *AN ANALYSIS OF THE MELODIC CHARACTERISTICS OF PENTATONIC MUSIC IN SELECTED AMERICAN FOLK SONG COLLECTIONS AND RECOMMENDATIONS FOR THEIR USE WITH THE KODALY APPROACH*. The Pennsylvania State University.

- Scruggs, B. (2009) 'Constructivist practices to increase student engagement in the orchestra classroom', *Music Educators Journal*, 95(4), pp. 53–59.
- Shayer, M. and Adey, P. (1981) 'Towards a science of science teaching: Cognitive development and curriculum demand'.
- Shen, J., Poppink, S., Cui, Y. and Fan, G. (2007) 'Lesson planning: A practice of professional responsibility and development', *Educational horizons*, 85(4), pp. 248–258.
- Sheridan, S. and George, S.E. (2004) *Defacing music scores for improved recognition*. Citeseer, pp. 1.
- Shih, H., Narayanan, S.S. and Kuo, C.J. (2001) *A Dictionary Approach To Repetitive Pattern Finding In Music*.
- Shuler, S.C. (2012) 'Music education for life: Core music education: Students' civil right', *Music Educators Journal*, 98(4), pp. 7–11.
- Sidnell, R.G. (1986) 'Motor learning in music education.', *Psychomusicology: A Journal of Research in Music Cognition*, 6(1-2), pp. 7.
- Simon, J. (2023) 'A Blues Aesthetic: Performance Practice, Politics, and History', *Journal of Comparative Literature and Aesthetics*, 46(1), pp. 114–123.
- Simons, P. (2019) 'The Ontology of Rhythm', *The Philosophy of Rhythm: Aesthetics, Music, Poetics*, , pp. 62–75.
- Sloan, A. and Bowe, B. (2014) 'Phenomenology and hermeneutic phenomenology: The philosophy, the methodologies, and using hermeneutic phenomenology to investigate lecturers' experiences of curriculum design', *Quality & Quantity*, 48(3), pp. 1291–1303.
- Soh, K. (2017) 'Fostering student creativity through teacher behaviors', *Thinking Skills and creativity*, 23, pp. 58–66.
- Southcott, J. and Cosaitis, W. (2015) 'Drawing'Music and Me': Children's images of musical engagement', *Australian Journal of Music Education*, (2), pp. 78–90.
- Spitz, E. (2019) 'From Idea to Institution: The Development and Dissemination of the Orff-Schulwerk from Germany to the United States', *Current Musicology*, (104).
- Spruce, G. (2013) "'The national music plan" and the taming of English music education', *Arts Education Policy Review*, 114(3), pp. 112–118.
- Stern, P.N. (1994) 'Eroding grounded theory', *Critical issues in qualitative research methods*, , pp. 212–223. Sage publications.
- Stern, P.N. (1980) 'Grounded theory methodology: Its uses and processes', *Image*, 12(1), pp. 20–23.
- Stratton, V.N. and Zalanowski, A.H. (1994) 'Affective impact of music vs. lyrics', *Empirical studies of the arts*, 12(2), pp. 173–184.
- Strauss, A. and Corbin, J. (1998) *Basics of qualitative research techniques*. Sage publications.
- Strauss, A. and Corbin, J. (1994) 'Grounded theory methodology: An overview.', *Handbook of Qualitative Research*. Sage publications.
- Strauss, A. and Corbin, J. (1990) *Basics of qualitative research*. Sage publications.
- Svalina, V. and Sukop, I. (2021) 'Listening to music as a teaching area in Croatian primary schools: the teacher's perspective', *Music Education Research*, 23(3), pp. 321–334.
- Tagg, P. (2013) 'Music's meanings', *A modern musicology for non-musos*, Mass Media's Scholar's Press.

- Tagg, P. (2000) 'Analysing popular music: theory, method, and practice', *Reading pop: Approaches to textual analysis in popular music*, 1982, pp. 71.
- Taherdoost, H. (2017) 'Determining sample size; how to calculate survey sample size', *International Journal of Economics and Management Systems*, 2.
- Teachout, D.J. (2005) 'The impact of music education on a child's growth and development', *Sounds of learning*. Carlsbad, CA: International Foundation for Music Research, .
- Temperley, D. (2018) *The musical language of rock*. Oxford University Press.
- Temperley, D. (2007) *Music and probability*. MIT Press.
- Thaut, M.H. (2005) 'Rhythm, human temporality', *Musical communication*, , pp. 171.
- Thomas, G. (2014) 'Research methodology, methods and design' *Researching the Police in the 21st Century* Springer, pp. 83–116.
- Thomson, S.B. (2010) 'Sample size and grounded theory', *Thomson, SB (2010). Grounded Theory-Sample Size. Journal of Administration and Governance*, 5(1), pp. 45–52.
- Thornberg, R. (2012) 'Informed grounded theory', *Scandinavian journal of educational research*, 56(3), pp. 243–259.
- Thornberg, R. and Dunne, C. (2019) 'Literature review in grounded theory', *The Sage handbook of current developments in grounded theory*, , pp. 206–221.
- Thurmond, V.A. (2001) 'The point of triangulation', *Journal of nursing scholarship*, 33(3), pp. 253–258.
- Tidmarsh, B. 'Clap Along if You Feel Like a Genre without a Roof: Genre Remediation and Social Justice in Pharrell Williams's "Happy"', *Grassroots Writing Research Journal*, 9(1), pp. 21–34.
- Tseng, L., Lin, T., Shuai, H., Huang, J. and Chang, W. (2024) 'A Dataset and Baselines for Measuring and Predicting the Music Piece Memorability', *arXiv preprint arXiv:2405.12847*, .
- Turner, P. and Turner, S. (2009) 'Triangulation in practice', *Virtual reality*, 13(3), pp. 171–181.
- Turrell, A.S., Halpern, A.R. and Javadi, A. (2021) 'Wait For It: An EEG Exploration Of Excitement In Dance Music', *Music Perception: An Interdisciplinary Journal*, 38(4), pp. 345–359.
- Upitis, R. (1987) 'A Child's Development of Music Notation through Composition: A Case Study.', .
- Vaillancourt, J. (2010) 'L'enseignement de la musique au primaire: sélection d'un répertoire chanté', *Recherche en éducation musicale*, 28, pp. 105–117.
- Van Elferen, I. (2020) *Timbre: paradox, materialism, vibrational aesthetics*. Bloomsbury Publishing USA.
- Van Nort, D. (2018) 'Conducting the in-between: improvisation and intersubjective engagement in soundpainted electro-acoustic ensemble performance', *Digital Creativity*, 29(1), pp. 68–81.
- Van Teijlingen, E.R. and Hundley, V. (2001) 'The importance of pilot studies'. *Social research update*, (35), pp.1-4.
- Varpio, L., Martimianakis, M.A. and Mylopoulos, M. (2015) 'Qualitative research methodologies: embracing methodological borrowing, shifting and importing', *Researching medical education*, , pp. 245–256.
- Vasil, M. (2019a) 'Integrating popular music and informal music learning practices: A multiple case study of secondary school music teachers enacting change in music education', *International Journal of Music Education*, 37(2), pp. 298–310.

- Vasil, M. (2019b) 'Nonformal teaching and informal learning: popular music education and orff schulwerk', *The Bloomsbury Handbook of Popular Music Education: Perspectives and Practices*, , pp. 249.
- Viegas, C. and Alikhani, M. (2021) *Entheos: A multimodal dataset for studying enthusiasm*. pp. 2047.
- Virtala, P. and Tervaniemi, M. (2017) 'Neurocognition of major-minor and consonance-dissonance', *Music Perception: An Interdisciplinary Journal*, 34(4), pp. 387–404.
- Von Hippel, P. (2002) *Melodic-expectation rules as learned heuristics*.
- Vygotsky, L.S. and Cole, M. (1978) *Mind in society: Development of higher psychological processes*. Harvard university press.
- Wallmark, Z. (2022) *Nothing but Noise: Timbre and Musical Meaning at the Edge*. Oxford University Press.
- Walter, A. (1961) 'Carl Orff's music for children', *Music Journal*, 19(2), pp. 34.
- Walter, D.J. and Walter, J.S. (2015) 'Skill development: How brain research can inform music teaching', *Music Educators Journal*, 101(4), pp. 49–55.
- Wang, Y. (2021) *A Pedagogical Analysis of Henglu Yao's Microkosmos from Chinese Nationalities*, (Doctoral dissertation, University of South Carolina).
- Waterhouse, C. (2002) 'Kodály approach tunes into the early years', *Early Years Educator*, 3(10), pp. 38–41.
- Way, L.C. and McKerrell, S. (2017) *Music as multimodal discourse: Semiotics, power and protest*. Bloomsbury Publishing.
- Welch, D. and Fremaux, G. (2017) *Understanding why people enjoy loud sound*. Thieme Medical Publishers, pp. 348.
- Werner, V. (2021) 'Catchy and conversational? A register analysis of pop lyrics', *Corpora*, 16(2), pp. 237–270.
- Werner, V. and Tegge, F. (2020) 'Introduction: Learning languages through pop culture/learning about pop culture through language education' *Pop Culture in Language Education* Routledge, pp. 1–30.
- Wertz, F.J. (2011) *Five ways of doing qualitative analysis: Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry*. Guilford Press.
- Westerlund, H. (2008) 'Justifying music education: A view from here-and-now value experience', *Philosophy of music education review*, , pp. 79–95.
- Wigfield, A., Eccles, J.S., Yoon, K.S., Harold, R.D., Arbretton, A.J., Freedman-Doan, C. and Blumenfeld, P.C. (1997) 'Change in children's competence beliefs and subjective task values across the elementary school years: A 3-year study.', *Journal of educational psychology*, 89(3), pp. 451.
- Willemin, T., Litchke, L.G., Liu, T. and Ekins, C. (2018) 'Social Emotional Effects of Drumtastic®: A Dyadic within-Group Drumming Pilot Program for Children with Autism Spectrum Disorder.', *International Journal of Special Education*, 33(1), pp. 94–103.
- Willett, R. (2011) 'An ethnographic study of preteen girls' play with popular music on a school playground in the UK', *Journal of Children and Media*, 5(4), pp. 341–357.
- Wilson, D. and Sperber, D., 2002. Relevance theory: A tutorial. In *Proceedings of the third Tokyo conference on psycholinguistics* (pp. 45-70). Hituzi Shobo Tokyo.
- Windsor, W.L. and De Bézenac, C. (2012) 'Music and affordances', *Musicae scientiae*, 16(1), pp. 102–120.
- Wisker, G. (2008) *The Post-graduate Research Handbook*. Hound mills.

- Witek, M.A. (2017) 'Filling in: Syncopation, pleasure and distributed embodiment in groove', *Music Analysis*, 36(1), pp. 138–160.
- Witek, M.A., Clarke, E.F., Wallentin, M., Kringelbach, M.L. and Vuust, P. (2014) 'Syncopation, body-movement and pleasure in groove music', *PloS one*, 9(4), pp. e94446.
- Woody, R.H. and Fredrickson, J.M. (2000) 'A partnership project: Integrating computer technology and Orff-Schulwerk', *General Music Today*, 13(2), pp. 8–11.
- Wright, R. (2016) *21st century music education: Informal learning and non-formal teaching*. Canadian Music Educators' Association.
- Wright, R. and Kanellopoulos, P. (2010) 'Informal music learning, improvisation and teacher education', *British journal of music education*, 27(1), pp. 71–87.
- Yang, J. (2016) 'Korean Black music and its culture: Soul, funk, and hip-hop' *Made in Korea* Routledge, pp. 109–120.
- Yang, M. (2017) 'Musicality' *The Completion of a Poem* Brill, pp. 99–110.
- Young, S. and Glover, J. (1998) *Music in the early years*. Routledge.
- Zachopoulou, E., Derri, V., Chatzopoulos, D. and Ellinoudis, T. (2003) 'Application of Orff and Dalcroze activities in preschool children: Do they affect the level of rhythmic ability?', *Physical Educator*, 60(2), pp. 50–56.
- Zagorski-Thomas, S. (2018) 'Analysing the product of recorded musical activity', *The Routledge Companion to Popular Music Analysis: Expanding Approaches*, , pp. 117–132.
- Zbikowski, L.M. (2004) 'Modelling the groove: Conceptual structure and popular music', *Journal of the Royal Musical Association*, 129(2), pp. 272–297.
- Zeserson, K., Saunders, J.A., Burn, S. and Himonides, E. (2014) 'Inspiring music for all: next steps in innovation, improvement and integration'.
- Zhang, M. (2021) *An Integration of Chinese Compositional Techniques with Western Musical Elements: A Stylistic Analysis of Huang An-Lun's Selected Works* (Doctoral dissertation, George Mason University).

APPENDICES

Item 1: Letter of Consent



This project, entitled: **They Like it Like That: An Analysis of the Musical Attributes of Repertoire and Music-Making Activities that are Identified as Engaging by Primary Music Teachers** is being undertaken by Rosalind Bruce at London College of Music, University of West London, under the supervision of Dr Liz Pipe.

Its purpose is to develop an in-depth understanding of the attributes of musical repertoire and music-making activities that are identified as engaging by primary music teachers. This will inform a catalogue of musical attributes with the potential to engage 7- to 11-year-olds, alongside each of the musical skills to which they align.

Teachers will also be asked to partake in semi-structured, conversational interviews. These will be recorded, subject to consent. Participants are free to withdraw their consent at any time, with or without reason.

Should you wish to withdraw from the research, or raise any concerns about the conduct of the research at any time, please contact Rosalind Bruce: 21456954@student.uwl.ac.uk, or Dr Liz Pipe: liz.pipe@uwl.ac.uk. Any participants who do wish to withdraw can rest assured that all unprocessed data supplied by or related to them will also be removed from the study.

All data will be collected and stored confidentially, with interview transcripts being kept as encrypted files on a pin-protected laptop, as well as backed up in a safe and appropriate data repository. No real names or identifying features will be recorded at any point, and all data will be destroyed 5 years after the completion of the study.

Should you have any questions, please don't hesitate to contact the main researcher, Rosalind Bruce 21456954@student.uwl.ac.uk, 07342046201, or her supervisor, Dr Liz Pipe liz.pipe@uwl.ac.uk.

Thank you for taking the time to read this letter. If you consent to participate, please sign below:

I, _____ (name here), am fully willing to participate in the study: **They Like it Like That: An**

Analysis of the Musical Attributes of Repertoire and Music-Making Activities that are Identified as

Engaging by Primary Music Teachers, researched by Rosalind Bruce as part of a PhD study at the University of West London.

Signed _____ Date _____

Item 2: Data Management Statement

Written Data

Confidentiality will be carefully maintained throughout written data collection and analysis. Word documents containing interview notes will exclude real names or any other potentially identifying information, such as locational or highly individual details. During analysis, notes and transcripts will also be coded within NVivo: the standard software to assist with analysis and storage of qualitative data.

All files containing qualitative data will be encrypted, saved on a PIN-protected laptop, and backed up in a secure and appropriate data repository. Access to this will be limited to the student and the supervisors, for the purposes of sorting, analysing and assessing the quality of the data only.

This data will be kept for 3-5 years, after which it will be destroyed.

Audio and Video Recordings

Should a teacher request that their interview is recorded by audio only, it will be saved as a .WAV file. .WAV files are widely regarded as stable, high quality and compatible with a wide range of audio software. Video recordings will be saved as .MP4 files, also due to their wide compatibility, with both software and hardware.

These files will be encrypted and saved on a pin-protected laptop, with any hard copies (for example, tapes or memory cards) stored in a locked filing cabinet.

Although transcriptions will be kept following the data collection, audio and video files will be deleted following the completion of the study.