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Investigating the relationship between empirical evidence and teacher practice in the use of songs in early years settings and primary school education in the UK.

Catherine Hamilton

Department of Education

University of Oxford

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Dissertation submitted in part-fulfilment of the requirements for the degree of Master of Science in Applied Linguistics and Second Language Acquisition.

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Abstract

Songs are a ubiquitous feature of early education, with recent surveys reporting that teachers use songs every day or often in UK and international primary school settings. However, there is little rigorously-gathered empirical evidence of songs' pedagogical benefits. The stark mismatch between carefully-controlled research and teacher intuition lead to this mixed-methods investigation into how UK early years and primary teachers use songs. An online questionnaire (n=103 participants) explored teachers' self-reported purposes for using songs and planning behaviours. This was followed up by seven semi-structured interviews to explore teacher practice and thought processes regarding songs' educational value more deeply. In particular, how song use varies across age groups taught within early years and primary school, teachers' attitudes towards singing as a pedagogical tool, and their belief in songs' educational value were investigated quantitatively through the questionnaire and qualitatively through the interview phases. Participants also suggested research they would like to see regarding song use in education. The discussion brings together research literature and teacher practice (as evidenced by participants' self-report in this study) and suggests future research directions that might guide pedagogy.

This study's findings indicate that teachers use songs less frequently after KS1, and less for behaviour or social purposes than for teaching content as children grow older. Despite scant research evidence, respondents report strong beliefs in the pedagogical effectiveness of songs. Key areas emerging for future research were songs' effectiveness as mnemonics and for vocabulary acquisition. This study provides evidence that future transdisciplinary research into songs' educational value needs to be rigorously controlled and more widely (and reliably) disseminated to practitioners.

Keywords: Songs, primary education, early years, young learners, language teaching, music, ESL, EFL, MFL, pedagogy

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1. Introduction

Songs are prevalent features of early childhood education (ECE) and popular primary classroom resources worldwide (Linse, 2006; Davis, 2017), particularly in language lessons (Garton, Copland & Burns, 2011; Şevik, 2011). Young children regularly engage with songs through singing in assembly, in circle time, as part of learning about new or revisiting old topics, or with background music whilst working. However, there is generally very little evidence-based justification for using songs with young learners, possibly because songs are ubiquitous in ECE and primary schools or because the area lacks empirical research (Lonie, 2010; Engh, 2013a; Davis, 2017).

Teachers share 'good practice' of song use online, where there is a wealth of 'grey literature' (i.e. not empirical, peer-reviewed studies) about the purposes of using songs with young learners and the mnemonic, social, linguistic, cognitive and emotional benefits of music and songs (Schoepp, 2001; Walker, 2006; Davanellos, 1999). There is a distinct mismatch between the rigour and quality of scientific evidence in the peer-reviewed research literature into songs' transferable benefits and evidence provided in the 'grey literature,' which is written directly to support teachers as well as (sometimes conflictingly) selling song resources to them (Griffee, 1992; Thain, 2021; Ex Cathedra, 2021). A key issue is the overwhelming positive 'spin' put on evidence to support song use in the 'grey literature' compared to the more equivocal evidence of song-use benefits that is slowly accumulating from a trickle of well-controlled empirical studies in educational and linguistic research. Also writing about song use with young learners are teachers-turned-researchers (some of whom are musicians), who often advocate using songs based on their positive experiences of using them in different educational contexts such as English as a second or foreign language (ESL/EFL; Thain, 2016; Fonseca-Mora, 2000; Murphey, 1990; Engh, 2013b), English as an additional language (EAL; Davis, 2013) or foreign language lessons (FL; Ludke, 2021). It is into this third category that I fall as a languages teacher-turned-researcher.

Using songs is a time-honoured tradition in ECE and primary schools, and teachers intuitively feel that there are benefits to song use (Forster, 2006; Davanellos, 1999). They may therefore be more accepting of less rigorous research evidence to support their choice of songs as pedagogy, since they have seen the putative benefits 'in action' themselves. Indeed, as a secondary school French teacher I often played music in class and subsequently, as an ECE languages teacher, I devised an approach to introducing FL based entirely on singing. In my decade teaching this multilingual music approach to families and at educational settings, parents and practitioners regularly commented that singing is a 'natural' and fun way to learn languages. However, when I sought empirical evidence that singing was a valid approach in languages education with measurable benefits, I found only enthusiastic assertion and intuition that singing was just something humans do naturally. It was accepted wisdom that songs 'worked' in educational contexts, with little supporting data other than personal experience.

Certainly, I have seen children (from birth to age seven) engage enthusiastically with songs in ten different languages whilst singing with me, notwithstanding their predominantly English upbringings. Many master the words and remember them for years: several parents of former attendees have informed me their children still sing the songs at primary school, sometimes teaching them to peers. Parents and teachers found my singing approach infectious, telling me

they had never been good at languages until singing these songs. I found this positive attitude shift encouraging, especially in the UK climate of reluctance to engage with FL and declining languages take-up in post-14 education (Lanvers, 2017).

This mismatch between the dearth of accessible empirical evidence from controlled studies and strong positive pedagogical intuition on my own and other practitioners' part sparked a deep curiosity about exactly what songs' pedagogical benefits might be. I believe education should be evidence based because both empirical and experiential evidence can inform practitioners' decision-making about the best approaches to take for their young learners as part of their reflective teaching practice. As Paran (2017) argues, there is no dichotomy between 'intuition' and 'research'; they are not competing foundations upon which teachers should base their practice. Both experiential and empirical knowledge are important to evolving teaching practice. Basing practice on intuition alone, however, may result in teaching becoming 'merely the transmission of self-perpetuating, unsupported beliefs and prejudices, based on experience that is never examined' (Paran, 2017:506).

Due to the 2020/21 Covid-19 pandemic it was impossible to run a classroom intervention study. However, as I read more of both the 'grey' and peer-reviewed research literature, I found a scattergun approach to research into using songs with young learners and an assumption that teachers will prioritise vocabulary acquisition over songs' other cognitive or affective benefits, prioritising transferable benefits of song use over the pure pleasure of music or singing for its own sake. The current study, then, seeks to discover UK ECE and primary educators' beliefs and practices about using songs and how this dovetails with empirical research, steering future research towards what matters to practitioners, keeping the pedagogy-research dialogue closely linked to current practice. Throughout this dissertation, the word 'songs' refers to music with lyrics to be sung, and 'music' includes both songs and instrumental music, unless otherwise stated. This study uses a mixed-methods approach to data collection, with an online questionnaire analysed quantitatively and semi-structured interviews analysed thematically, as befitting an area of exploratory research (Dörnyei, 2007; Galletta, 2013).

2. Literature Review

In this narrative review of selective literature, Section 2.1 outlines key issues arising from the 'grey literature' that arguably forms the foundations of many practitioners' knowledge about using songs due to their lack of time for or interest in reading empirical research studies about something they feel they intuitively understand (Borg, 2009). Section 2.2 examines how theories arising in the grey literature cross over into peer-reviewed journals and publications. Section 2.3 reviews existing empirical evidence for using songs with young learners. Section 2.4 explores song use in UK ECE and primary contexts. Section 2.5 outlines this study's research questions.

2.1. Song use advocation in teacher-oriented 'grey' literature

Publications aimed towards teachers periodically contain articles advocating for song use in education, particularly in language-learning contexts (Thagard, 2011; Madylus, 2020). Writing in *English Teaching Forum*, Linse (2006) calls songs a 'natural part of early childhood education in the United States' (Linse, 2006:5). She calls upon the experiential knowledge and intuition of parents and practitioners that songs are useful, engaging materials for teaching vocabulary as well as being popular with children, but offers no referenced data sources. Similarly, writing in *English Teaching Professional*, Walker (2006) asserts 'the use of songs in the classroom is a very powerful technique: vocabulary, grammar, listening, speaking, discussion – songs offer a world of language practice, as anybody who has used them will know' (Walker, 2006:19). Walker gives tips for using songs in EFL (e.g. teaching pronunciation). Thus emphasis is on songs' practical benefits and teachers' experiential confirmation of these. Walker provides no references or supporting evidence for his assertions other than describing personal experience, which seems common in practitioner-to-practitioner publications where teachers share knowledge of what 'works'.

Similarly, Davanellos (1999) states 'the majority of English language teachers all over the world use or have used songs for teaching purposes – and with good reason(s)' (Davanellos, 1999:13). He lists the advantages of songs as being memorable, motivating, fun, relaxing, providing meaningful repetition, bringing variety to lessons, and supporting group and classroom dynamics. The only difficulties Davanellos envisages are teachers feeling they are poor singers or advocating for song use when administrators, colleagues or students think songs are not a serious part of learning. Davanellos initiated a research-based non-profit project in Greece to empower practising teachers. He cites Murphey (1990, 1992b) to support his points about songs being powerful mnemonics and provides 40 activities for 'exploiting' songs (Davanellos, 1999). This again highlights the personal, practical nature of teachers writing for teachers, and the perceived transfer benefits of songs. It raises questions about which research is being cited to support claims made in the 'grey' literature which will then perhaps be the research that teachers are most familiar with since they typically lack the time, inclination, or library access to read original research papers (Borg, 2009).

2.1.1. 'Song stuck in my head' phenomenon and 'Din' hypothesis

As evidence of songs' strong mnemonic benefits, Davanellos (1999) cites the 'song-stuck-in-my-head' (SSIMH) phenomenon by Murphey (1990), frequently cited in both teacher-oriented 'grey' literature (Thain, 2010) and peer-reviewed journals (Degrave, 2019; Fonseca Mora, 2000). The SSIMH phenomenon arose when Murphey read Krashen's 'Din hypothesis', where FL words echo in learners' heads spontaneously after being set off by 'comprehensible input' (Krashen, 1983). Din reminded Murphey about experiencing involuntary mental song rehearsal and he sought to discover if it affected other people.

Accordingly, Murphey administered a pilot questionnaire to 49 participants in Switzerland (n=30 English speakers, n=19 other languages), with 100% responding that they had experienced 'the SSIMH in some language,' leading Murphey to state 'I have yet to meet someone who does not identify with the experience' (Murphey, 1990:59). Drawing on this personal experience, Murphey proposes that SSIMH is a strategy of the ineffable LAD (Language Acquisition Device; Krashen, 1985) and merits further research, particularly to investigate how it differs from Din. In particular, Din requires one or two hours of comprehensible input (Krashen, 1983), whereas SSIMH appears to happen more quickly (after one song), and without lyrics necessarily being understood, as testified by anecdotal evidence of adults remembering lyrics to childhood songs such as *Frère Jacques*, without understanding what the words mean. Importantly, Murphey tempers his educational claims, saying that SSIMH *may* prove to be advantageous for learning languages, not that it *is proven*. He calls for further research into an interesting phenomenon, repeating his call privately to Engh two decades later (Engh, 2013a). However, when Murphey (1990) gets cited, it is often as strong evidence of the power of using songs for language learning (Davanellos, 1999; Fonseca Mora, 2000), which is far from Murphey's original tone or recent implication that the theory lacks evidential foundations for use in language teaching (Engh, 2013a).

Problematically, Krashen (1983) based his Din hypothesis on just two anecdotes about experiencing spontaneous interior language repetition: his own self-report and an account by Barber (1980) of having 'a rising din of Russian in [her] head' (cited in Krashen, 1983:42), which prompted the name. Din has been followed up with self-report questionnaire studies confirming that participants identify with the phenomenon *after* they read a copy of Barber's account (Parr & Krashen, 1986), arguably leading participants to answer positively, and there is scant empirical data of its alleged 'real practical value' (Krashen, 1983: 44). There is little empirical data supporting SSIMH or Din and yet both Murphey (1990) and Krashen (1983) are cited as strong evidence that songs are of practical educational application, rather than interesting but untested hypotheses.

Cultural belief earmarks memory for songs as special and stronger than memory for faces or text without music, but this belief does not go unchallenged in psychological studies (Schulkind, 2009). Therefore caution should be applied in accepting that songs are remembered for longer or more clearly than other kinds of stimuli, such as recalling names of high-school friends when prompted by photographs. Yet, in 'grey' literature about educational song use, certainty that the

SSIMH and Din hypotheses predict better content memorisation prevails. Whilst it is certainly interesting that 'earworms' or involuntary musical imagery (as explored by Williamson, Jilka, Fry, Finkel, Müllensiefen & Stewart, 2012) exist, the fact of a phenomenon's existence does not make it practically applicable in education, nor better than another educational technique. Additional, convincing evidence is needed to base educational practices upon. The equivocal evidence for songs' superior mnemonic power is weighed up by Schulkind (2009), but the 'grey' literature tends to cite Murphey (1990) and Krashen (1983) instead of empirical studies, suggesting that because teacher intuition about song use is confirmed, with Murphey and Krashen providing 'relatable' anecdotal evidence, practitioners do not seek further evidence.

In summary, in the 'grey' literature, where practitioners share good ideas and practice, song use is linked strongly with their mnemonic value. There is no doubt that songs are a popular aide-mémoire (Levitin, 2019) or that they occasionally repeat involuntarily as earworms (Williamson et al., 2012). However, unanswered questions remain about how to harness the phenomenon in education (Engh, 2013a). Instead of presenting a balanced view of whether songs are *better* pedagogical tools for memorising material than other teaching techniques, some articles overstate the mnemonic benefits, citing untested hypotheses as definitive evidence because they chime with intuition and cultural beliefs about music's power.

2.1.2. Learning styles and multiple intelligences

As well as songs' mnemonic benefits being a popular refrain in teacher-facing publications, learning styles and multiple intelligences are frequently invoked as reasons for using songs. Fonseca-Mora (2000) writes in the *ELT Journal* that Gardner's (1983) theory of multiple intelligences includes musical intelligence and teachers 'should offer a varied gamut of activities to reach the different types of learners. All the intelligences of our learners should be addressed and developed in the classroom, including musical intelligence, which is highly relevant for language teaching' (Fonseca-Mora, 2000:146). She invokes learning styles and multiple intelligences simultaneously as reasons for using songs in language lessons, but with little supporting data.

Similarly, Ávila (2016) invokes learning styles theory as a way of language teachers creating bespoke presentations of content to meet learner preferences. Ávila justifies using music in language curriculum design by arguing that a 'common substratum that facilitates language learning' (Ávila, 2016:63) exists at the nexus of learning styles, motivation, cerebral dominance, and field dependence/independence. However, Ávila provides little substantiating data, instead signposting key findings in a complex synthesis, without definitions of constructs such as field dependence/independence to guide readers. The essay would arguably be difficult to interpret for anyone lacking substantial psychological, neurobiological and educational background knowledge, and as Borg (2009) found, teachers rarely have time to read original research papers. It would be easy to accept the idea that music plays a key role in language education without critically appraising Ávila's argument, since it chimes with cultural beliefs about song use and is published by Cambridge Scholars, appearing as a credible resource for teachers.

A frequently-cited *English Language Teaching* review paper by Engh (2013a) links learner preferences, strategies, multiple intelligences and motivation. Engh approaches studies journalistically rather than interrogating their claims about whether music is a useful learner-motivation tool thanks to its appeal to students who prefer auditory learning styles or possess alleged musical intelligence. Engh (2013a) cites Fonseca-Mora (2000) as evidence of applying Gardner's multiple intelligences to language teaching, but stops short of evaluating her argument's merit. This lack of critique is problematic because Engh (2013a) is freely available in the *ELT* archives on teacher-support website ccsenet.org, again potentially influencing teacher perceptions of the place of music in languages classrooms without scaffolding critical thinking around the topic for non-research-trained readers.

Critical appraisal of these arguments is important since research on learning styles and multiple intelligences is extensively problematised in the education and psychology literature. A systematic review of learning styles literature proclaimed learning styles research to be incoherent and lacking rigorous, replicated findings, as well as 'bedevilled by vested interests' (Coffield, Moseley, Hall and Ecclestone, 2004:138) since producers of learning styles inventories often conduct research on their own instruments. Similarly, Waterhouse (2006) found no validating empirical data whilst critically reviewing multiple intelligences research.

Furthermore, there is no consensus on how to measure learning styles or their pedagogical application, for example whether the detection of students' musical learning style preferences should be matched with musical pedagogies. Coffield et al. (2004) called for large-scale, longitudinal, randomised controlled trials testing whether empirical evidence unambiguously supports matching learner preference to pedagogy. Giving credence to song literature arguments that lean heavily on unsubstantiated learning styles literature is therefore difficult. Nevertheless, learning styles and multiple intelligences concepts are mainstream and influence teacher-facing publications. Learning styles and multiple intelligences folklore goes largely untried in publications teachers are likely to read, adding weight to the intuition that music is an effective language-learning strategy, even if neither argument is well supported with substantiating evidence in these publications.

2.1.3. Anthropological argument for using songs

A third popular refrain in the reasoning behind using songs for educational purposes is the argument that songs are what make humans *human*. The anthropological perspective is compelling, appearing to support intuitive notions that songs just 'work' because this is how humans evolved as social beings. Chen-Hafteck and Mang (2012) take music and language evolution studies as their first line of argument for their *Oxford Handbook of Music Education* chapter on using music in early childhood development and learning. However, anthropological evidence has caveats that need balancing before it is universally applied in education as justification for using songs with young learners.

A frequently-cited text in the adaptationist view of language and music evolution is *The Singing Neanderthals* (Mithen, 2005). Early Prehistorian Mithen proposes that music came before

language in human communicative systems' evolution, an argument drawing on Wray's (1998) theory of holistic protolanguage. Mithen argues that present-day apes' holistic calls are analogous with the calls of the ancestor that humans and apes shared 6 million years ago. These holistic calls are gestalt messages, rather than compositional constructions made from smaller lexical units bound by grammatical rules. They have music-like, multimodal 'Hmmmmm' forms involving melody, rhythm and body movements (like dancing) that invoke others' emotions and prompt action (e.g. signalling danger) rather than conveying new information through creative messages that require grammatical composition from smaller lexical items. According to adaptationist views, music is fundamental to human social organisation and reproduction, a popular argument with advocates of using songs in educational settings (Lamont, Daubey & Spruce, 2012; Chen-Hafteck & Mang, 2012).

However, the potential existence of adaptive instincts for singing does not translate directly into effective classroom practice. As part of their justification for using songs in ECE, Chen-Hafteck and Mang (2012) cite Mithen (2005) as *demonstrable* evidence of Neanderthals' semi-musical communication, but this line of argument is problematic. The evidence Mithen (2005) presents is speculative. After all, it is impossible to gather audio recordings of Early Humans, and available archeological and biological evidence is open to alternative interpretations. Whilst Mithen cites Blacking's (1973) case study of music's central role in African Venda culture as evidence that traditional societies prioritised music in children's education, again this is an unstable basis for setting pedagogical priorities in contemporary Western education systems.

Rejecting the adaptationist position, Pinker (1997) argues strongly that music is not central to evolution but designed by humans for pure pleasure. Taking more middle ground, Patel (2008) argues persuasively with clear empirical data against creating a false dichotomy between music as adaptation or frivolity, seeing music as a powerful and transformative human technology like fire or writing, which alter the way humans live and think without being evolutionary adaptations. Whilst extensive music practice can alter the brain's structure, such changes are not a prerequisite for normal development (Patel, 2008).

In summary, Patel's line of argument is balanced and perhaps more fruitful for education than Mithen or Pinker, since there is not (yet) definitive evidence for natural selection's direct role in music's evolution and nor can we dismiss music's enriching power as mere frivolity just because it may not be essential for normal development (Patel, 2008). Patel argues that humans invented the technology of music and wove it intimately into their lives and, like the internet, prefer life with it. Patel's position perhaps explains the intuition that music is natural and ubiquitous in early education, without overstating evidence for or against adaptationist perspectives in a false dichotomy or burdening teachers with justifying song use on anthropological grounds.

2.2. Evidence crossing from 'grey' into research literature

In their edited volume of essays entitled *Melodies, Rhythm and Cognition in Foreign Language Learning*, Fonseca-Mora and Gant (2016) bridged the gap between easily accessible but poorly evidenced 'grey' literature about using songs in education, and the less-accessible-to-teachers

research literature (Borg, 2009). Approaching the subject of music and language from a transdisciplinary perspective, their volume explores issues from neuroscience, psychology, musicology, health studies and education as well as applied linguistics. The argument for a transdisciplinary approach is that the evidence for the relationship between music and language and music's potential role in first and second language acquisition is only partially explored in each discipline. The whole picture will emerge from uniting the evidence across disciplines (Fonseca-Mora, 2016).

There are several positive advocations for using music in language classrooms in Fonseca-Mora and Gant (2016). Toscano-Fuentes (2016) explored the relationship between musical aptitude and language skills with Spanish EFL learners (n=49, aged 11–12 years) in a year-long musical intervention study. The reported finding that pupils benefitted from increased phonemic awareness is undermined by lack of experimental controls, especially given the confounding variable of maturation effects over a year.

Similarly, Gómez and Magán (2016) reflect on using poetry and music in FL learning and how children's first experiences of language are often the emotive, musical, infant-directed speech and songs of their parents. They mention anthropological arguments, which as discussed in 2.1.3, are speculative. They claim children's songs make excellent didactic resources by involving children directly in learning. Poetry and music are closely linked, with children's songs, rhymes, proverbs, riddles and skipping chants engaging children in enjoyable rhythmic combinations of words. However, while they argue for the benefits of music and singing on cognitive, affective, musical and cultural development, they offer no empirical evidence supporting claims that musical interventions positively influence children's phonological development in FL.

Likewise, Fleta and García Bermejo (2016) explore music's impact on creativity through classroom research and why teachers should include music as essential, engaging activities in lessons. They problematically cite Gardner's (1983) multiple intelligences as part of the rationale for including music in language education (see 2.1.2). To explore music's impact on vocabulary and grammar assimilation in young learners, they ran a classroom creativity and language intervention with 66 English learners (aged 6–7) at two Madrid bilingual schools. Participants listened to music and drew what they imagined, then described it orally in English. Thus music inspired their visualisations and oral story-building sequences. The authors claim that vocabulary and oral skills were improved through creative use of music, but since this experiment had neither control group nor vocabulary/language proficiency pre-tests, it is difficult to draw firm conclusions about music's role in the outcomes.

As a final example of experiential rather than experimental evidence from Fonseca-Mora and Gant (2016), Thain (2016) highlights how English stress-timing lends itself naturally to music and poetry. Thain, a musician-teacher-researcher who writes about composing music for young EFL learners, argues that English content words are stressed in speech and fall on the strong beat in music, making them more salient to listeners. Thain explores how children seek meaning and patterns to help them process new experiences and link them to existing knowledge, citing her own earlier (again experiential) paper as evidence (Thain, 2010). Thain (2010) concludes by stating

that the complex relationship between language and music is not fully understood, but 'I have seen enough to know that the benefits are real. Just like with gravity, I don't need to know how or why music works to evoke those benefits in the classroom' (Thain, 2010:414). This conclusion clearly indicates that teachers may rely more upon experience than experimental data when considering the benefits of using songs with young learners. Thain (2016) makes numerous claims for songs' benefits (scaffolding meaning, introducing single and multi-word lexical units, practising pronunciation, facilitating memorisation, engaging children), yet the evidential basis is biased towards personal experience and, notably, as a materials provider, Thain is potentially biased towards spinning song use in classrooms positively.

Overall, Fonseca-Mora and Gant's (2016) volume is insightful about transdisciplinary directions that researching song use in language learning might take. There is, however, scant empirical evidence of the effects that are claimed for music's role in classroom language-learning and several of the essays cite learning styles, multiple intelligences, anthropological reasoning and the SSIMH or Din hypotheses, which as explored in 2.1 do not provide firm foundations for classroom practice. This volume exemplifies the liminal space between purely research-led evidence and teacher-researcher-musician led studies of using songs in education, where evidence flows from classroom experience towards theory as well as from theory to classroom, arguably contributing more to confirming intuition about educational song use than unambiguous data-based evidence.

Similarly, Paquette and Rieg (2008) – writing in the *Early Childhood Education Journal* – state that music and song are a vital part of early childhood ESL literacy instruction. Music's benefits include supporting diverse learners to develop listening, speaking, reading and writing skills; transforming classrooms into emotionally, socially, academically thriving environments; encouraging strong social bonds; laying foundations for grammatical rules; introducing concepts and conventions of the printed word; lowering the affective filter (Krashen, 1982); developing spoken automaticity; preparing students to meet authentic language through song lyrics; extending vocabulary and comprehension; enhancing cultural awareness; practising pronunciation; memorising vocabulary; motivating learners; promoting critical thinking; and promoting classroom-community cohesion. This is a long list of benefits for any pedagogical tool. Can music and song really be the panacea for multitudinous classroom conundrums?

Again, scant empirical evidence supports these claims. In fact, Paquette and Rieg (2008) cite Schoepp (2001) – *The Internet TESL Journal* – about the lack of empirical evidence in ESL/EFL literature about using songs, restating his point that teachers' first-hand classroom experience is valuable and sufficient to establish cognitive, affective and linguistic strands of reasoning for using songs. Schoepp (2001) bases his 'affective' theoretical rationale argument on Krashen's (1982) Affective Filter hypothesis, which is untested and lacks empirical validity (Mitchell, Myles & Marsden, 2019). However, it appeals to teachers seeking explanations for students' varying motivation levels and wishing to create a positive classroom atmosphere (Schoepp, 2001). In turn, Schoepp (2001) cites Saricoban and Metin (2000), also from *The Internet TESL Journal*, who warmly advocate using songs as an alternative to routine activities in language classrooms, despite a lack of evidence.

Interestingly, Paquette and Rieg (2008) also cite Saricoban and Metin (2000) about 'international' songs such as *Old MacDonald Had a Farm* being the best ones to sing with primary EFL learners, with no justification given. Thus the peer-reviewed Paquette and Rieg (2008) article cites papers that have little solid evidence upon which their bold, positive statements about songs are based. Received wisdom about using songs with young learners gains credence through repetition but is not interrogated for its sources.

Similarly, Forster (2006) states that benefits of using songs and chants with young EFL learners include increased vocabulary; learning classroom routines; improved pronunciation, rhythm and intonation; memorisation of longer word strings; and laying foundations for grammatical analysis. On this last point, Forster explains that once words are in children's heads thanks to the song, they can be brought into active, analytic use later. Forster justifies this with a neurological argument that songs appeal to the brain's holistic processing of prosody in the right hemisphere (RH), and grammatical or semantic analysis appeals to the left hemisphere (LH), thus songs and chants engage children in learning implicitly (RH) before learning explicitly (LH). However, this argument is poorly substantiated with one reference (Nakano, Yoshida & Natsume, 2005) from the IATEFL Research SIG newsletter. It is testament, perhaps, to teachers' intuition that songs are useful that they find evidence from other practitioners or organisations disseminating relevant educational research findings, rather than looking directly to research papers. When it comes to supporting explanations of why songs and chants are useful, Forster (2006) provides minimal evidence.

Nonetheless, while exploring the effect of using songs and stories on 17 preschoolers' English vocabulary acquisition in a well-cited recent paper, Albaladejo, Coyle and Roca de Larios (2018) cited Forster (2006) as evidence of songs' 'multiple pedagogical benefits' (Albaladejo, 2018: 117) for educating young language learners. Albaladejo et al. (2018) also cite Murphey's (1992a) textbook on using songs as classroom resources as a credible reason for using songs with young learners. Yet Murphey (1992a) is written for secondary school FL teachers and may not apply to preschoolers. Many of the activities involve literacy skills beyond preschoolers' capabilities. It has no empirical basis, being based on Murphey's practitioner experience. The cycle of poorly substantiated, intuition-based claims for songs' pedagogical benefits is concretised in prestigious journals despite shaky evidential foundations.

To summarise, there is a liminal space between teacher-facing 'grey' literature and peer-reviewed research literature where experimental and experiential evidence is circulated without genuine critical interrogation. Overstatement, anecdotal evidence and enthusiasm triumph over carefully controlled and collected evidence. Yet 'grey' literature is cited in peer-reviewed journals and forms part of research foundations into song use with young learners, a worrying trend if experiential evidence is generalised across different age groups without empirical justification.

2.3. Empirical evidence for using songs with young learners

Given songs' popularity as a young-learner resource, there has been surprisingly little research examining songs' effectiveness as pedagogical tools, their design or implementation, or how they influence learning outcomes under tightly controlled conditions. This section highlights some of

the issues arising in the empirical literature about song use with young learners, where research has predominantly focused on vocabulary acquisition since this is a measurable outcome less prone to subjectivity than, for example, motivational or affective benefits that rely on young children's self report (Chou, 2014) or researcher observation (Castro Huertas & Navarro Parra, 2014).

Several critical reviews of links between music or songs and language education (Standley, 2008; Lessard & Bolduc, 2011; Engh, 2013a) have found evidence of a lack of rigorous science, different sample sizes, diverse interventions and measures, and not-peer-reviewed literature being used as evidence for the benefits of song use. Similarly, Davis (2017) found no evidence of controlled song studies with young learners in the UK; few looking at languages other than English as an L2; and very few looking at long-term effects of using songs. He found only nine studies worldwide that met inclusion criteria of being empirical classroom studies concerned with using songs with 3–12 year olds. Only two of these studies isolated songs as an independent variable (Moradi & Shakrokhi, 2014; Davis & Fan, 2016), with songs sometimes included with games and other resources (Chou, 2014).

For example, Castro Huertas and Navarro Parra (2014) carried out classroom action research using three songs to teach colours, numbers and greetings to 18 beginner EFL learners (6–7 years; Spanish L1). Whilst the teacher-researchers claimed the songs motivated children and helped them learn vocabulary items, pronunciation and content, songs were not isolated as the independent variable. Visual referents were used to teach the colours, plus there was an unspecified amount of repetition, both presenting confounding variables. There was no control group or standardised pre- and post-tests of vocabulary, making it difficult to conclude that songs facilitated any perceived gains in the children's English, which are impressionistically reported through the researchers' selected field notes. It is unclear why this paper met Davis' (2017) criteria for a controlled classroom study, since its inclusion arguably blurs the boundaries of empirical/experiential evidence that Davis sought to establish.

More rigorously, Chou (2014) used mixed methods to investigate to what extent games, stories and songs motivated and helped Taiwanese primary EFL learners (n=72; 8–11 years) acquire vocabulary. There were 30 target words and 10 marker sentences, with pupils given four different vocabulary tests at pre- and post-test. Pupils completed self-assessment questionnaires and follow-up interviews. However, since songs were not isolated as a variable for introducing vocabulary (stories, presentations, games and lastly songs were used) and because the intervention represented a stark contrast to the usual teacher-led lessons, isolating songs as the variable responsible for the children's increased vocabulary scores and self-reported motivation improvement is difficult as this study presents ambiguous evidence.

Addressing methodological issues in Chou (2014), Medina (1990), Joyce (2011) and Coyle and Gómez Gracia (2014), which all lacked adequate controls thus undermining any positive findings for songs as vocabulary acquisition interventions, Davis and Fan (2016) ran a carefully-controlled study with Chinese EFL learners (n=64; 4–5 years). The classic pre-test, intervention, post-test methodology included 15 target items presented through three conditions (song, choral repetition,

and control) with 5 words each, in a repeated-measures, within-subjects design. Their findings indicated both song and choral repetition conditions were equally effective for promoting vocabulary acquisition compared to unacquired control items. This is perhaps the first study with young learners to genuinely compare song target items against active control (choral repetition) and control (no presentation) items. It offers preliminary support for the hypothesis that songs provide pedagogical value in vocabulary acquisition. However, Leśniewska and Pichette (2016) found contradictory evidence, with French-speaking preschoolers (n=24; 35–59 months) exposed to 57 target words in song, story, and song/story-combined conditions recalling words 50% better from the story-only condition. Replications are required before drawing any firm conclusions.

Also using a repeated-measures, within-subjects design with 17 Spanish EFL preschoolers (2-3 years), Albaladejo et al. (2018) presented 15 target items across three conditions: 5 words per story, song, and song/story-combined conditions. Their surprisingly low results for the song condition compared to story or combination conditions could be due to target words being less salient for their two-year-old participants in the traditional song condition (e.g. *pill* and *doll*) than the animal-themed story condition (e.g. *lion* and *monkey*). Failure to match vocabulary items across conditions could have confounded their results. They also report Chou (2014) as positive evidence for using songs, leaving the methodological flaws discussed above unmentioned, which spins existing literature more favourably than the evidence gathered indicates.

Overall, empirical research has tentatively found that songs and choral repetition are equally effective compared to controls for receptive vocabulary acquisition (Davis & Fan, 2016), but that stories are potentially more effective than songs (Albaladejo et al., 2018; Leśniewska & Pichette, 2016). Across studies, variation in participants' ages (35 months to 11 years), L1s, contexts, and methodologies makes generalising findings about songs' value as pedagogical tools for vocabulary acquisition difficult. A similar picture emerges from the few existing studies of phonological gains made through using songs. Some studies lack controls (Toscano-Fuentes, 2016), vary in intervention length (e.g. a rare longitudinal 19 months – Fisher, 2001), or use songs to learn phonemes rather than words (Fonseca-Mora, Jiminez & Gómez-Domíngez, 2015). The evidence from empirical studies is unclear regarding songs' influence on learning languages in young learner contexts, and should not be overstated as unambiguously positive when no consensus has been reached.

2.4. Song use in UK early years and primary settings

The studies examined in Section 2.3 come from international contexts, since song research with young learners in UK contexts is rare (Davis, 2017; Lonie, 2010). Reviewing UK early years music interventions, Lonie (2010) found a lot of 'grey' literature making exaggerated claims about the transfer benefits of early years music making with little supporting evidence, and few published studies with unambiguous evidence for these benefits, which include improving reading, writing, general intelligence or wider communication skills. Lonie (2010) recommends applying caution in disseminating conclusions about music's benefits (beyond children's emerging musicality) and not

overstating the benefits when research is still nascent, chiming with the reviewed 'grey' literature from international publications in Section 2.1, where overstatement is a common theme.

Song use in UK early years provision is complex because there are multiple setting types with varying staff qualifications. Whilst the introduction of the Early Years Foundation Stage (EYFS; DCSF, 2008) established all children's equal entitlement to broad and balanced educational content, curriculum delivery is widely debated by practitioners and academics (Sylva, 2010). The longitudinal Effective Pre-school and Primary Education project (EPPE; Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2010) found that teaching songs and rhymes in preschool relates most strongly to language development, whilst teaching letters and numbers predicts pre-reading skills (Melhuish, 2010). EPPE also found that 'Sustained Shared Thinking' (SST) – longer shared interactions where educator and child are engaged in co-constructing the curriculum after being prompted by material or symbolic resources (e.g. songs) – is a vital part of ECE pedagogy. Adults teaching songs and rhymes to young children is an established part of UK preschool pedagogy (Siraj-Blatchford, 1999). The home learning environment (HLE) was also identified as an independent measure of children's early educational outcomes and combines seven learning activities including songs, poems and rhymes (Melhuish, 2010). Particularly relevant is that songs form part of the positive influence that HLE can have on children's development, related to specific skills such as vocabulary acquisition or letter-sound relationships, or to general motivational aspects of development, including learning to learn (Melhuish, 2010).

EPPE demonstrates the importance of preschool education in alleviating the negative impact of multiple disadvantage and poor HLE on children's development, offering disadvantaged children a better start to primary school than they might otherwise experience (Sylva et al., 2010). Children in 'good' preschool settings with high ECERS-E scores[1] spent less time (10.43%) on art and music activities (including singing songs, craft, dancing and playing instruments) than 'adequate' settings (15.5%). The 5.07% difference was statistically significant ($\chi 2(1) = 49.33$, $p < .001$). The study found art and music were the 'staple diet' of both adequate and good settings, but that children in 'good' settings spend more time on structured activities related to literacy and maths and in one-to-one interactions with peers and teachers than solitary or free play (Sylva, Taggart, Siraj-Blatchford, Totsika, Ereky-Stevens, Gilden & Bell, 2007).

In combination, quality preschool and HLE experiences have a lasting positive impact on children's social development and academic achievement that are independent of socio-economic status, neighbourhood and family income. Achieving the right content for early childhood experiences is an important factor in long-term outcomes. The EPPE project shows songs playing a positive role in children's development, but they were only explored as part of HLE and setting 'quality' measures. EPPE was limited by its size: practitioners' voices are lost in a sea of quantitative data (Sylva, 2010). Teachers' pedagogical thought processes and underlying beliefs about song use merit investigation both quantitatively and qualitatively. It would be more

[1] ECERS-E (Early Childhood Environmental Rating Scale-Extension) is an instrument developed by Sylva, Siraj-Blatchford & Taggart (2003) to measure educational quality across four curricular subscales: Language, Mathematics, Science and Environment, and Diversity.

feasible to capture practitioners' voices on a smaller scale, with thinking accessed through investigating their planning processes (Clark & Yinger, 1987).

Regarding primary schools, a recent survey of 39 primary teachers in Birmingham, representing 15.3% of 255 local schools, investigated how schools offer music (Fautley, Kinsella & Whittaker, 2018). Findings indicated music is taught 'ad hoc' by 20% of the schools, with 68.3% averaging less than one hour per week. Over 70% of responding schools reported using bought-in music curricula to provide music lessons, rather than teachers creating their curriculum. Respondents were unsure whether teachers had adequate music training, although 56% of schools reported teachers attending music-specific training. Despite the reported irregularity of music provision, singing took place regularly in 97.4% of responding schools.

This is interesting because even where music is waning as a regular, curricular, well-supported subject, and taught by cover teachers, or outsourced to specialists or bought-in programmes, singing remains a frequent choice of activity in the majority of responding primary schools. 29.9% reported singing in class, 46.8% in assembly, 3.9% used Singing Playgrounds, and 16.9% sang at external events. Only 2.6% reported not singing regularly. Free-text responses in Fautley et al. (2018) indicated music is squeezed out by 'core' subjects (e.g. maths and literacy). Respondents were intrigued about using music in a cross-curricular manner to support writing, as a way of bringing music into other subjects. Thus Fautley et al. (2018) provides insight into how primary teachers use songs that would be interesting to explore in more detail.

2.5. Research questions

This review has found that teacher practices are potentially more influenced by 'grey' literature than directly by empirical evidence reported in peer-reviewed journals. Speculative, experiential and intuitive theories about using songs in education find their way into peer-reviewed literature without substantiation through carefully collected data. Meanwhile, teacher-facing publications echo with intuition and pedagogical practice, omitting the scant empirical evidence from well-controlled studies.

Given the reliance on almost non-existent evidence for justifying song use with young learners, it would be useful to ascertain why so little evidence exists for songs' influence in fostering learning. Perhaps this void reflects a lack of gathered evidence on the topic, or perhaps a lack of detectable effects is the source of the void. Either way, effective pedagogical practice depends upon substantiated data to ensure that young learners receive the best possible education.

Despite this void, tangential findings from transdisciplinary studies signal that continuing to pursue such evidence is worthwhile. Space constraints permit only a brief overview of transdisciplinary studies here. Investigations into infant cry melodies propose that musical elements of infant pre-speech are a necessary stage in language acquisition, not a by-product (Wermke & Mende, 2009, 2016): their Melody-Development Model is a promising complexity hypothesis where infants' early vocal melodies iteratively develop into more complex combinations and phases of pre-speech and speech, relating infant cries to singing. Combined with cumulative evidence about lullabies' universality and infant-directed singing's affective importance (Trehub, Trainor & Unyk, 1993; Trehub & Trainor, 1998; Bainbridge, Youngers, Bertolo,

Atwood, Lopez, Xing & Mehr, 2021) and new insights into how early exposure to singing (as opposed to general or background music) contributes to early speech and language development (Franco, Suttora, Spinelli, Kozar, & Fasolo, 2021), infant studies indicate that evidence for using songs in education is worth seeking. Positive and well-controlled evidence from studies of prosodic input in L2 acquisition (Campfield & Murphy, 2013, 2014) contributes further momentum.

Crucially, it is hard to discredit the collective wisdom of generations of practitioners without evidence to support the null hypothesis that songs have no measurable influence in fostering learning. There may be fertile ground between the experiential and empirical evidence that teacher voices can guide researchers towards. Ideally perhaps, a large-scale, randomised controlled trial would be the next step in investigating songs' effectiveness with young learners. However, as well as the 2020/21 pandemic precluding classroom research, there is currently little evidence about what practitioners think about using or how they use songs with young learners in UK settings, or how teachers of different age groups within ECE and primary settings use songs. Therefore, to get a sense of the context of how teachers report using songs and to lay stronger foundations for exploring songs' effectiveness as pedagogical tools in future, large-scale studies, this study sought empirical evidence about song use in current teacher practice across UK early years and primary school education, raising the following research questions:

1 Age group taught.

A: Does age group influence whether teachers use songs:
- i. to teach content?
- ii. for behaviour management/classroom routines?
- iii. to support language development?
- iv. for building social skills/group bonding?

B: Does age group influence teachers' attitudes towards using songs?

C: Is age group associated with:
- i. planning of song use?
- ii. teachers' choice of resource?
- iii. how frequently teachers use songs?

2 Attitudes.

A: Are teachers' attitudes towards singing associated with:
- i. their presentation choices?
- ii. how frequently they use songs?

B: Is there an association between teachers' singing ability and their attitude towards using songs?

3 Beliefs.

A: Is teachers' belief in songs' usefulness as pedagogical tools associated with their planning?

B: Are teachers more likely to sing in class if they have a stronger belief in songs':
- i. pedagogical value?
- ii. behaviour/classroom routine value?
- iii. social/affective value?

4 Future research.

What empirical evidence do teachers seek regarding song use in early years and primary settings?

3. Methodology

This chapter outlines and justifies the study's methodology. A mixed-methods approach was taken to gather quantitative data about teachers' song use in UK early years and primary school settings through an online questionnaire, and to integrate this with qualitative data gathered in follow-up interviews with volunteers who put themselves forward after questionnaire completion. Mixed-methods approaches can mitigate some limitations of gathering quantitative evidence through questionnaires (Dörnyei, 2007) and semi-structured interviews befit exploratory studies into new research areas (Galletta, 2013). These points are explored further below.

3.1. Research Design

Since this is an exploratory study identifying how songs are used by teachers and early childhood educators, an online questionnaire that could be disseminated widely was considered the most effective way to reach as many practitioners as possible. However, questionnaire use has limitations as they may produce surface-level impressions of the area undergoing exploration (Dörnyei, 2007). Therefore the questionnaire was followed by semi-structured interviews, offering the opportunity to guide the conversation to important topic areas identified in the literature, whilst retaining the exploratory nature of unstructured interviews into new research areas (Oppenheim, 1992).

Mixed-methods approaches permit in-depth exploration of topics with interviewees, allowing them to elaborate upon their questionnaire answers or introduce new themes (Galletta, 2013; Oppenheim, 1992) that were neither anticipated or discovered through the piloting stages. Quantitative and qualitative data is then considered together, producing a broad picture with key topics explored in more detail, allowing for a more nuanced understanding of interviewees' views to emerge. The quantitative questionnaire also attracts a larger and broader range of respondents. Semi-structured interviews mean one can move from teachers' lived experiences towards addressing issues arising from the existing literature and any relevant theory, such as whether songs are perceived as valuable when teaching vocabulary or pronunciation. This personal-to-general structure has informed the questionnaire and interview formats.

3.2. Sampling Frame

Both convenience and snowball sampling were used to recruit questionnaire participants meeting the criteria of being ECE or primary school teachers working in the United Kingdom. ECE included childminders, nursery staff, preschool or kindergarten teachers, as well as primary school Reception teachers. Settings included private, state-maintained or academy trust settings to include the broadest scope possible. The questionnaire link was shared with education contacts on social media (including Twitter, Facebook and LinkedIn), encouraging prospective participants to invite any colleagues who met the inclusion criteria. Online sharing helps recruit more participants. However, snowball sampling meant it was impossible to control for participant demographics such as age, educational setting, or teaching experience. Participants self-selected based on their interest in the topic, potentially skewing data towards practitioners more interested

in or with stronger opinions about using songs in education. Care was taken to call for practitioners of all opinions (positive, negative, neutral) to capture the most representative sample possible. Being entirely online potentially skewed questionnaire data towards participants more comfortable using technology, but it was the only ethical option during the Covid-19 pandemic.

For follow-up interviews, questionnaire participants who volunteered for interview during May 2021 were contacted. The interview sample thus forms a subset of the questionnaire sample. Seven interview participants were selected from the volunteers according to criteria outlined in 3.5.2 in an attempt to represent the broadest sample possible of ECE and primary teachers. The sampling method therefore comprised dimensional sampling, a variation of stratified random sampling (Dörnyei, 2007), ensuring at least one representative from each age and stage category was interviewed. The sample was not entirely random, since participants all volunteered, but the within-categories ballot to select participants from each group of volunteers introduced an element of randomisation to avoid researcher selection bias.

Interviews took place on Microsoft Teams as per University of Oxford research ethics guidance. Potential participants may have been uncomfortable with online interviews and therefore not volunteered. However, given the constraints of research undertaken during the pandemic, face-to-face interviews were impossible.

3.3. Participants

This study's target population was UK ECE and primary school teachers. 139 participants completed the questionnaire between 22nd April and 21st May 2021. 35 participants were excluded upon data analysis due to submitting incomplete questionnaires; one participant was excluded for apparently using Likert scale slider bars erroneously (see Section 4.1). The final quantitative data sample includes 103 participants. The final qualitative sample includes 7 interviewees.

Following Faul, Erdfelder, Lang and Buchner (2007), post-hoc power analyses using G*Power 3.1 were conducted, with estimated effect sizes taken from Field (2018) since no similar prior studies were found. Power levels averaged M = .67, SD = .34, indicating that larger sample sizes would be beneficial for accurately detecting significant effects in within- and between-groups tests of mean difference, correlations and associations. Detailed power analyses are located in Appendix H10.

3.3.1. Gender and age

There were 96 females, 6 males, and 1 blank response given for gender. This gender bias (93% females in the sample) is higher than in the teaching profession generally, where 75% of teachers are female in England's state-funded ECE and primary settings (DfE, 2021). This may reflect a potential gender bias in the sample towards female teachers' interest in using songs, or reflect a recruitment bias of reaching more females online than males.

The study sample included adults aged 18–65+ years, with the majority aged between 26 and 55 years (Figure 3.1; 1 blank response). Respondents had between 0–4 and 25+ years' teaching experience, with most reporting between 10–19 years' experience (Figure 3.2; 2 blank responses).

There was a high proportion of experienced teachers in the sample, with 71.29% reporting more than 10 years' experience.

Figure 3.1 – Respondents' age

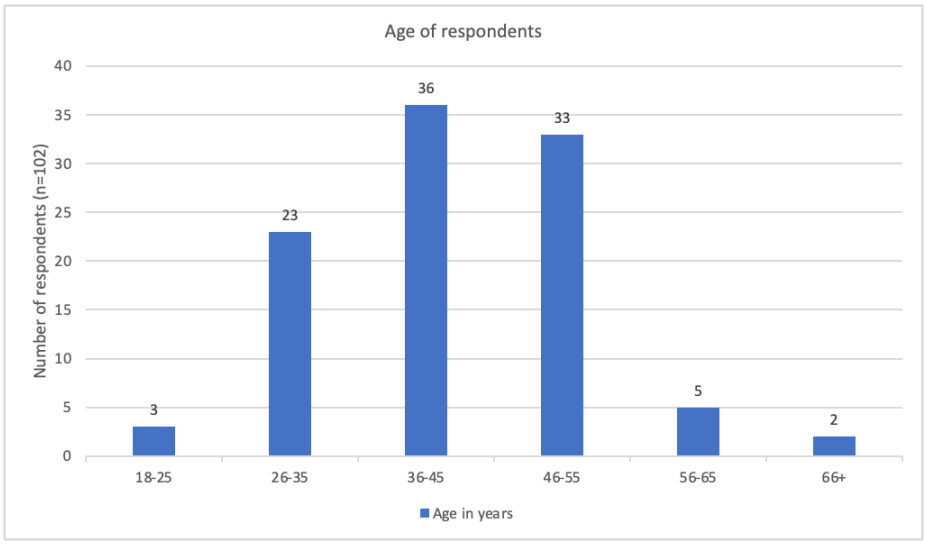
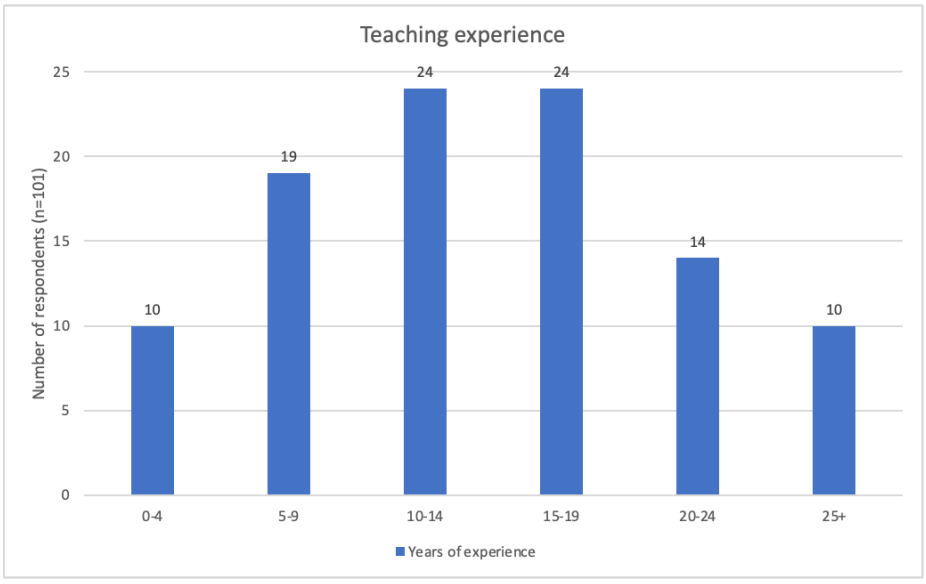


Figure 3.2 – Respondents' teaching experience



3.3.2. Qualifications and training

The majority of respondents (n=57) reported having a bachelor's degree highest qualification, with n=11 of those adding a further PGCE qualification in the 'Other' category (Table 3.1). One respondent with a master's degree also added 'PGCE' in the 'Other' category. Master's degrees account for 33% and bachelor's degrees for 55% of the sample's highest qualifications achieved. According to HESA (2021), master's degrees accounted for (on average) 24% and bachelor's degrees for 55% of UK higher degrees obtained between 2012 and 2019. The higher proportion of master's degrees in the sample compared to the HESA higher education statistics may indicate the sample was above-averagely qualified or that the survey's lack of PGCE category prompted

teachers to select *master's* to better reflect their qualifications. Including PGCE as a separate category in future surveys may more accurately reflect respondents' highest qualifications.

Table 3.1 – Respondents' highest qualifications

Highest qualification (in progress or complete)	Count
GCSE	2
A Level	3
Bachelor's Degree	57
College diploma	6
Master's Degree	34
PhD	1
Total	**103**

3.3.3. Locations, settings and age groups taught

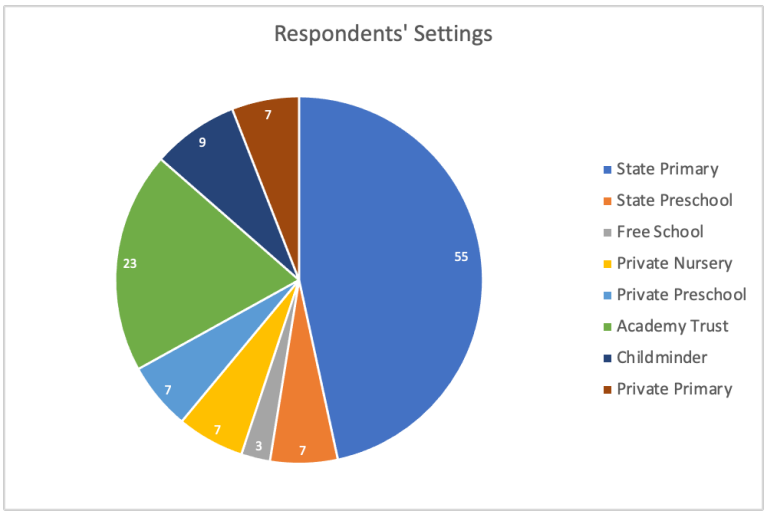
All respondents were located in the UK, with the majority (n=97) in England (Table 3.2).

Table 3.2 – Respondents' locations

England	97
Wales	1
Scotland	4
N. Ireland	1
Total	**103**

Respondents taught in diverse settings. As evidenced in Figure 3.3, the largest group (n=55) taught in state primary schools, followed by academy trusts (n=23), private settings (n=21), and lastly free schools (n=3).

Figure 3.3 – Respondents' settings



Respondents taught all age groups from 0–11 years, with many teaching multiple age groups. This necessitated grouping the ages taught to facilitate data analysis because there were 27 different combinations of age ranges taught – too many to perform legitimate between- or within-groups analyses. Table 3.3 outlines the age group categories and shows the number of participants in each category. The largest groups were EYFS (n=40) and KS2 (n=28), followed by mixed EYFS/primary age groups (n=19), nursery (n=9), and KS1 (n=7).

Table 3.3 – Age group categories

Age group	Definition (Respondents taught…)	Number in sample
Nursery	children from 0y to no older than 4y, including childminders & private nurseries	9
EYFS	children including 2y to Reception, but no children age 0-2; settings included state and private preschools, primary schools and private nurseries, but no childminders	40
EYFS & Primary	mixed age groups including EYFS and KS1/KS2; could not be classified as one or the other	19
KS1	primary Y1–Y2	7
KS2	primary Y3–Y6	28

3.3.4. Interview sample

Interview participants were recruited from those who completed the questionnaire, having volunteered for follow-up discussions. Self-selection may have biased the interview sample towards non-neutral participants. Since there were 33 volunteers and it was deemed that 5–10 interviews were manageable for an MSc project (Dörnyei, 2007), interview participants were selected on the basis of covering a range of ages and stages taught to capture data from practitioners from ECE to upper primary school. 10 of the 33 volunteers were formally invited to interview, based on selection criteria outlined in 3.5.2. Three did not respond, leaving seven interview participants in the final analysis.

3.4. Instruments

3.4.1. Questionnaire

This study's questionnaire (Appendix B) was partly adapted from Garton, Copland and Burns' (2011) survey of international English language teachers, with 4,696 respondents from 144 countries, which investigated teacher practices in teaching English to young learners. Although not exactly the same topic, the investigation of teacher practices with young learners was a close match to the current study investigating teacher practices with songs and young learners, defined as learners under the age of 12 years (Ellis, 2014). Defining the term 'young learners' as children under 12 years is important because they are at the centre of the 'younger the better' debate in language learning (Ellis, 2014). 0–12 years is, however, a broad age range. The current study explored how teachers' use of songs varies with children at different ages to avoid generalising

findings across ‘young learners’ too broadly, potentially missing nuanced practitioner behaviour with different ages taught. Garton et al.’s (2011) questions about participant demographics and activities teachers use in classrooms provided useful guidance on structuring questions about using songs in classrooms. Furthermore, the Chalmers, Faitaki and Murphy (in progress) EAL research priority-setting questionnaire guided the use of Qualtrics. Particularly, the opening mission statement and page collecting informed consent were adapted for the current study.

Since there were no existing questionnaires specific to using songs in young learner classrooms, most questions were newly developed for this purpose. The aim was to stay as brief as possible to maximise participation, since overly long questionnaires are liable to be abandoned before submission (Dörnyei, 2007), especially online. The questionnaire had three sections. Section one included ten short closed questions gathering participants’ demographic data, with free-text options for additional detail. Section two focused on using songs in educational settings, with six questions about how, when and why practitioners use songs, attitudes towards using songs, and planning processes regarding song use. This section included one multiple choice question, three Likert scale questions to capture teachers’ attitudes, opinions, and planning methods, plus two ranking questions to determine where they find song resources and how they present songs. There was space for respondents to add any free-text detail the questions missed. Section three comprised one question about areas that practitioners would like research to focus on, plus any queries about using songs in educational settings. There were 17 total questions: ten collecting demographic data, six collecting data on song use, and one identifying areas of future research interest. Average completion time was nine minutes, but the 33 incomplete submitted questionnaires indicate it may have been too long for some or that online questionnaire participants are liable to have their attention called elsewhere before completion, something that could not be controlled for.

Likert scale questions are a staple feature of quantitative surveys and familiar to participants (Dörnyei, 2007), making them useful for collecting opinions and attitude data. However, simple five-point scales would not have captured the nuance required for an exploratory study of teacher attitudes, thus sliding scales from 0 (strongly disagree) to 100 (strongly agree) were employed, with the slider set centrally to encourage participants to register a response in either direction. This may have resulted in more neutral (50/100) answers or extreme answers being recorded, which is a potential risk with Likert scales (Pimentel, 2019; Heine, 2010). Section 6.3 further explores Likert scale limitations.

3.4.2. Interview questions

Interviews were semi-structured with seven questions probing participants’ attitudes towards using songs, how they plan song use, and their thoughts about areas for potential future research. The interview guide (Appendix C) was developed with questions following the questionnaire’s personal-to-general structure. Participants were asked the same questions, finishing with an open-ended question to allow them to add anything they felt had been missed (Dörnyei, 2007). Semi-structured interviews allow researchers to keep conversations on topic, whilst also permitting interviewees to explore issues important to them, thus producing more textured data

than closed-question surveys or interviews (Galletta, 2013; Oppenheim, 1992). The researcher used probing questions as guided by interviewees' answers, seeking clarity or elaboration where it was felt more rich data could be gathered in the emerging conversation. In particular, the interview format facilitated the study's exploratory nature and discussion of contextual influences over participants' attitudes and opinions towards using songs with young learners.

3.5. Procedure

3.5.1. Questionnaire

Participants completed the questionnaire online using Qualtrics, following University of Oxford ethics guidelines (Section 3.6). After piloting (Section 3.7), the questionnaire went live in April 2021. Online administration introduces the limitation of being unable to monitor distractions or control for conditions in which participants complete questionnaires. This potentially led to participants abandoning questionnaires before completion as the 11 'in progress' questionnaires at the final cut-off for data collection on 21st May 2021 suggests. However, the online questionnaire format permitted wider distribution during the Covid-19 pandemic and allowed participants to complete it in their own time.

3.5.2. Interview

Semi-structured interviews with volunteers from the questionnaire sample formed the second phase of data collection. There were 33 volunteers for interview, too many for the study timeframe. Potential interviewees were therefore grouped into five age and stage categories: 0-3 years (the nursery and earliest stages), 3-4 years (preschool or kindergarten), Reception, Years 1 to 2 (KS1), and Years 3 to 6 (KS2). This was to ensure a range of views spanning all age groups and research question dimensions (Galletta, 2013). A ballot for each group then selected two interview candidates to avoid researcher bias in selection as far as possible. Ten candidates were formally invited to interview (Appendices A&F) and seven responded. Interviews took place in May 2021 on Microsoft Teams, at a time convenient to participants. Microsoft Teams' in-built recording and transcription were used to collect interview data and facilitate analysis. At the end of the interviews, candidates were invited to ask any further questions and given time to debrief. Thank you cards were sent to interviewees and volunteers not selected for interview.

3.6. Ethics

Data was collected, transferred and stored in accordance with the University of Oxford's Central University Research Ethics Committee (CUREC) data protection policies. Ethical approval was granted in February 2021 (Appendix D). Informed consent was sought from online questionnaire participants (Appendix F) before they could proceed to answering the questions. Interview candidates were given full participant information (Appendix E) before giving their informed consent (Appendix F). Participants were also provided with a privacy notice about how their data would be collected, stored and used before they participated (Appendix E). Questionnaire data

was collected and processed using the Qualtrics online questionnaire tool, as recommended by CUREC guidance.

Interview data was anonymised and once interviews were completed, interview dates were removed from Outlook and Teams calendars to remove participant data (e.g. email addresses). Cameras were turned off during recording, thus capturing only audio. Headphones were used and participants were equally encouraged to use headphones where possible, to create optimal privacy. No sensitive interview topics were included, and no power differences were anticipated between researcher and interviewees, since all were educational professionals working at similar levels. However, the position of postgraduate researcher at a prestigious university potentially stirs feelings of inequality and the researcher took care to put participants at ease (Oppenheim, 1992; Dörnyei, 2007).

3.7. Pilot

Questionnaire and interview questions were drafted and piloted with five participants meeting the inclusion criteria, who were excluded from final analysis. Pilots represented each participant subset, including two ECE teachers (nursery and preschool), two primary teachers (KS1 and KS2), and one French teacher working with all age groups across early years and primary school. They were asked to complete the questionnaire and provide feedback on question wording and instruction clarity, relevance of questions to their educational setting and experience, length of questionnaire and other relevant comments. No spelling or technical errors impeding completion were found. Two pilot participants commented that the question regarding age groups taught needed to allow for selecting multiple age groups, and this was duly amended. One pilot participant raised a query about expanding the question on singing ability to include more options, since 'professional', 'amateur' and 'cannot sing' did not allow for much nuance. However, the question was not changed because 1) it was difficult to define levels of singing competence between professional and amateur unambiguously; 2) the question's purpose was to ascertain whether professional singers or untrained amateurs taught singing in schools, and extra nuance was deemed unnecessary; 3) the next question asked about attitudes to singing, and allowed for a more nuanced picture of how participants felt about singing. Finally, two questions asking participants to rank resources in order of frequency of use for provenance and performance were rephrased to clarify the instructions. Similarly, the interview questions allowed for elaboration on participants' song use and attitudes towards using songs.

3.8. Analytical Strategy

3.8.1. Quantitative data

Questionnaire data was downloaded from Qualtrics and analysed using SPSS v27. A Cronbach's alpha (Appendix G) determined high levels of internal consistency ($\alpha = 0.842$) for this newly-constructed questionnaire with Likert scales. To address RQ1–3 about how teachers perceive, plan and use songs and RQ4 about what research teachers would like to see regarding song use, response frequencies were analysed to assess general trends. For more depth, inferential

analyses including bivariate correlations were used to explore relationships between teachers' background, setting and training with their attitudes towards planning and use of songs. Repeated measures ANOVAs were used to explore whether teachers' purpose for using songs (RQ1A), their attitude towards using songs (RQ1B) or their planning of song use (RQ1C) interact with the age group they teach.

3.8.2. Qualitative data

Microsoft Teams' automatically-generated interview transcriptions were carefully checked for accuracy. Interviews were anonymised to remove links between data and participants. An inductive, bottom-up approach to coding data was taken to avoid the researcher fitting data to existing theory, which is preferable to a theoretical thematic analysis in exploratory research (Braun & Clark, 2006).

As befitting exploratory studies, the researcher avoided leaping to make links between interview data and the literature in the early stages of analysis (Galletta, 2013) to allow early readings to present any patterns existing in the data and for themes to emerge. Striking language used by participants was noted descriptively within and then across interviews, to create categories of coded themes (see resultant codebook, Appendix J). Coder reliability was checked by a second researcher coding two interviews. Interrater reliability was 82.6%, representing a reliable coding system (Ryan & Bernard, 2003). Any themes that related to the research questions were recorded to show their provenance for transparency and analytical rigour; themes that were interesting but not directly linked to the research questions were recorded in case they elucidated a theme later in the analysis or provide impetus for future studies.

3.8.3. Comparative analysis

Linking patterns that emerge from the data to theory at the end lets the data speak first (Galletta, 2013), which was felt to be important to avoid imposing the researcher's own attitudes and biases on the relationship between data and existing literature, allowing a theoretical framework to emerge during analysis (Braun & Clark, 2006). Having gathered and analysed quantitative and qualitative data separately, comparisons were made between emerging themes to look for overall patterns in teachers' planning, use and beliefs about song use in education. At this final stage of analysis, links to existing research literature were made to compare the three sources (quantitative, qualitative and existing evidence) regarding teachers' perception and use of songs, identifying potential relationships between sources.

4. Quantitative Results

This chapter presents this investigative study's quantitative results, the analyses carried out on the quantitative data collected through an online survey. Qualitative results follow in Chapter 5. Quantitative results are summarised in Appendix H, Table H.

4.1. Outliers

Questionnaire data was downloaded from Qualtrics and analysed in Microsoft Excel and SPSS v27. In addition to 35 incomplete, trimmed submissions (see Section 3.3), upon closer inspection, 24 outliers were identified on Likert scales Q12, Q13 and Q16. Ascertaining whether outliers are legitimate responses before eliminating them from the dataset is the first step (Osborne & Overbay, 2004). Two outliers appeared to use Likert slider scales erroneously, since their free-text responses directly contradicted their Likert scale responses. It was not possible to contact one participant to ask whether they had inadvertently used the slider bars in the wrong direction as they left no email. Since making assumptions about their slider bar use would lead to a lack of data integrity, they were removed from further analysis. As the second extreme outlier provided contact details, their responses were confirmed and recoded. Section 6.3 discusses online questionnaire slider bar limitations.

22 remaining outliers gave one or two outlying responses over 42 Likert scale statements. Eliminating remaining outliers would have reduced the sample from n=103 to n=81, further reducing the dataset's legitimacy for investigating the population's song use. Winsorizing has an advantage over trimming data in exploratory studies seeking trends and relationships in the population because it avoids removing respondents' legitimate (not erroneous) data contributions entirely when they give one or two outlying responses amongst their other responses (Nicklin & Plonsky, 2020). Winsorizing was preferred to other methods (e.g., Log *e* transformations), because transforming all data would arguably be heavy-handed for dealing with small quantities of outliers in an exploratory study (Field, 2018; Nicklin & Plonsky, 2020).

Winsorizing involves replacing outliers with the next highest non-outlier score (Field, 2018) to meet the assumptions for statistical tests. This method was preferred since it only altered group mean scores by M = 3.19 (SD = 3.41) on 0–100 Likert scales, thus not altering the overall trend, preserving maximum quantitative data to facilitate the investigative study (rather than, as might be rightly criticised, falsely supporting a hypothesis), and permitting planned statistical analyses. Consequently, outliers were winsorized to align with respondents' respective key stages, since planned analyses involved comparing the respondents' mean scores across age groups taught. The final sample size for analysis was n=103.

4.2. Age Group Taught.

This section presents the results of RQ1 A–C, investigating the influence of age group taught on teachers' planning and purpose of song use. Descriptive statistics are available in Appendix H.

4.2.1. RQ1A: Does age group taught influence whether teachers use songs:

i. to teach content?

ii. for behaviour management/classroom routines?

iii. to support language development?

iv. for building social skills/group bonding?

To address RQ1A, the 25 statements from survey Q12, *What would you say are the primary reasons for you to choose songs as an activity?* were aggregated into four categories corresponding to four broad purposes for using songs in education – Content, Behaviour, Language, Social – presented in Table 4.1.

Table 4.1 – Aggregated 'purpose for using songs' categories

Content	**Behaviour/routines**	**Language**	**Social/affective**
Teach maths	Change mood	Learn vocabulary	Bonding
Not learning activity in themselves	Class routines	Help enjoy language	Circle time
Just for fun	Help children concentrate	Foundational for literacy	Build social skills
Teach concepts	Help children listen better	Learn pronunciation	
Help memorise	Calming	Introduce languages	
Teach subjects	Help teacher explain clearly		
Just time filler			
Music skills only not content			
Whole school not class activity			
Not serious part of learning			
Source of diversity			

The two largest respondent groups taught EYFS (n=40) and KS2 (n=28). To address RQ1A these groups were compared descriptively (see Appendix H1). Visual inspection of the box plots suggested that differences in the group means might reach statistical significance. A two-way repeated measures ANOVA was run to determine the effect of age group taught on teachers' purpose for using songs to 1) teach content, 2) manage behaviour/classroom routines, 3) develop children's language, or 4) for social/affective reasons. The Shapiro-Wilk test of normality

confirmed normal distribution ($p > .05$) across age groups, except for EYFS on the Behaviour ($p = .008$), Language ($p < .001$) and Social variables ($p < .001$). Greenhouse Geisser's estimate of sphericity ($\varepsilon = .889$) indicated that the two-way interaction met sphericity assumptions.

There were statistically significant main effects of 'age group' taught (5 groups: Nursery, EYFS, EYFS & Primary, KS1, KS2) where $F(4,98) = 5.17$, $p < .001$, partial $\eta 2 = .174$, and 'purpose' (4 factors: Content, Behaviour, Language, Social) where $F(2.67,261.48)$[2] $= 15.78$, $p < .001$, partial $\eta 2 = .139$, and a significant 'age group' by 'purpose' interaction where $F(10.67,261.48) = 2.22$, $p = .015$, partial $\eta 2 = .083$. Pairwise comparisons and inspection of EM means indicated that the interaction lay between KS2 and Nursery and EYFS teachers (see Appendix H1).

Given the interaction, further analyses were used to determine the effect's locus. To minimise the number of comparisons, the smallest mean difference significant at the $p < .05$ level from the ANOVA pairwise comparisons was analysed first, as then any larger differences could also be inferred. Independent samples t-tests were carried out to analyse the interaction between EYFS and KS2 (MD = 11.128) across the four 'purpose' categories. There was homogeneity of variances, assessed by Levene's test for equality of variances (Content, $p = .164$, Behaviour, $p = .628$, Language, $p = .081$, Social, $p = .068$). There were statistically significant differences in mean scores between EYFS and KS2 across Behaviour and Social categories (Table 4.2; visualised in Figure 4.1) with Bonferroni's correction for the four comparisons (hence new alpha, $p < .0125$). The difference in means between age groups for using songs for Content and Language did not reach significance, though Content had a small-to-medium effect size ($d = .424$) and Language a medium effect size ($d = .590$). There were large effect sizes for using songs to manage Behaviour ($d = 1.03$) and for Social development ($d = 1.11$).

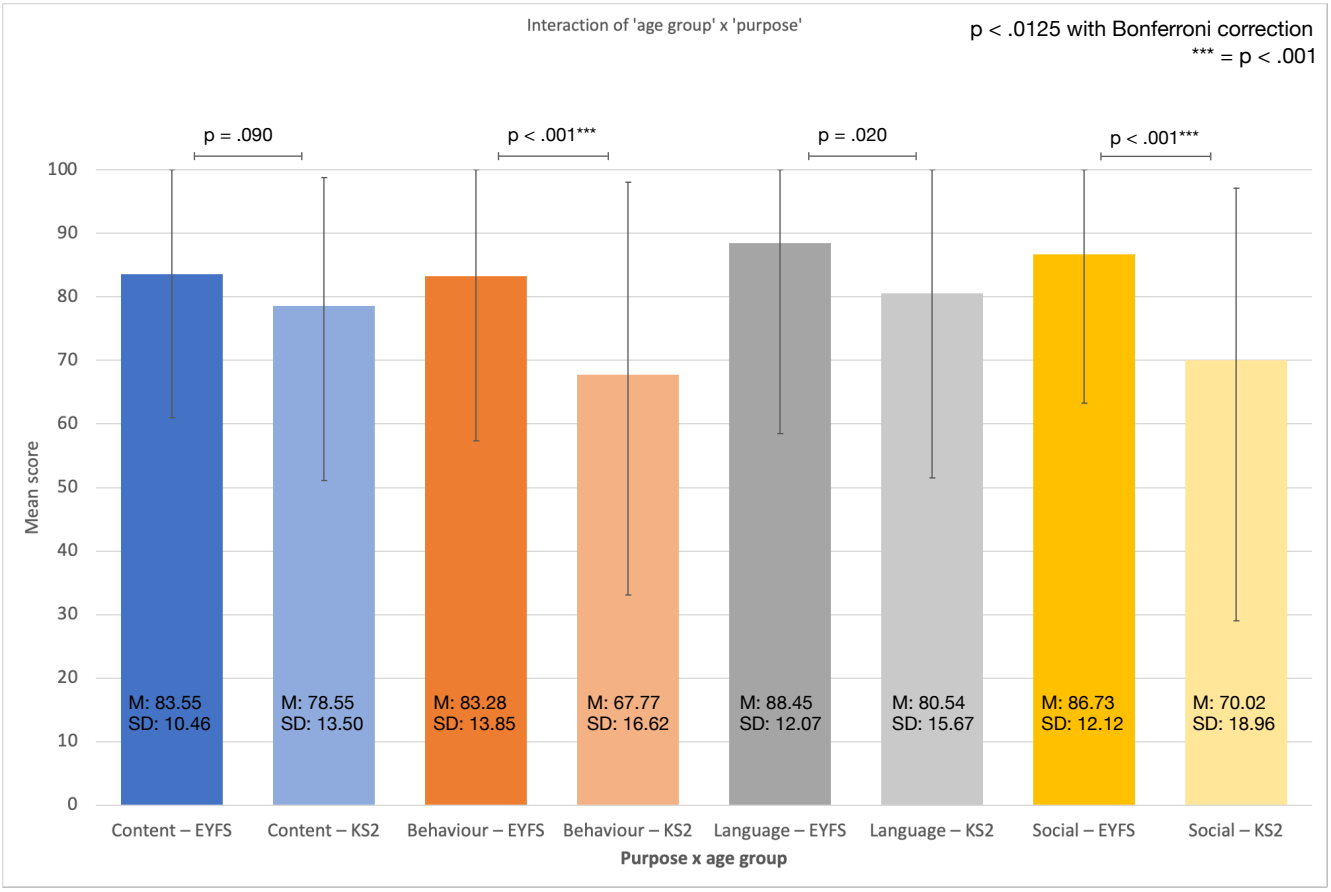
Table 4.2 – t-test results and effect sizes for EYFS / KS2 across 'purpose' categories

	t-test	Sig.[b]	effect size
Content	t(66) = 1.72	p = .090	d = .424
Behaviour	t(66) = 4.18	p <.001***	d = 1.03
Language	t(66) = 2.39	p = .020	d = .590
Social	t(66) = 4.50	p <.001***	d = 1.11

b. Adjustment for multiple comparisons: Bonferroni.
*** alpha $p < .0125$

[2] Where Greenhouse Geisser's corrections are reported, df are not always whole numbers.

Figure 4.1 – Graph of interaction between ‘age group’ and ‘purpose’



4.2.2. RQ1B: Does age group taught influence teachers’ attitudes towards using songs?

To address RQ1B, box and whisker plots of Likert scale scores on Q13 (*How do you and your classes enjoy songs?*) were compared for Nursery/EYFS teachers and KS1/KS2 teachers (see descriptive statistics Appendix H2). Visual inspection indicated that there were differences in mean scores between age groups.

A two-way repeated measures ANOVA examined the effect of age group taught on teachers’ attitudes towards using songs, as measured by their Q13 scores. Q plots and the Shapiro-Wilk test indicated that data was not normally distributed ($p < .001$) but the ANOVA was carried out regardless since data was similarly skewed across planning scores and ANOVA is fairly robust to violations of normality assumptions (Field, 2018). Greenhouse Geisser’s estimate of sphericity ($\varepsilon = .414$) indicated the two-way interaction met sphericity assumptions.

There were significant main effects of ‘age group taught’ (5 groups) where $F(4,98) = 5.192$, $p < .001$, partial $\eta 2 = .175$, and ‘attitude’ (7 statements, listed Appendix H2.1) where $F(2.484,243.433) = 163.508$, $p < .001$, partial $\eta 2 = .625$, and a significant interaction of ‘age group’ on ‘attitudes’ where $F(9.936,243.433) = 3.447$, $p < .001$, partial $\eta 2 = .123$. Pairwise comparisons and inspection of EM means indicated that the interaction lay between KS2 and Nursery/EYFS teachers (Appendix H2).

ANOVA pairwise comparisons indicated that the smallest significant mean difference lay between EYFS and KS2 teachers (MD = -6.589). Since mean scores for EYFS (n = 40) and KS2

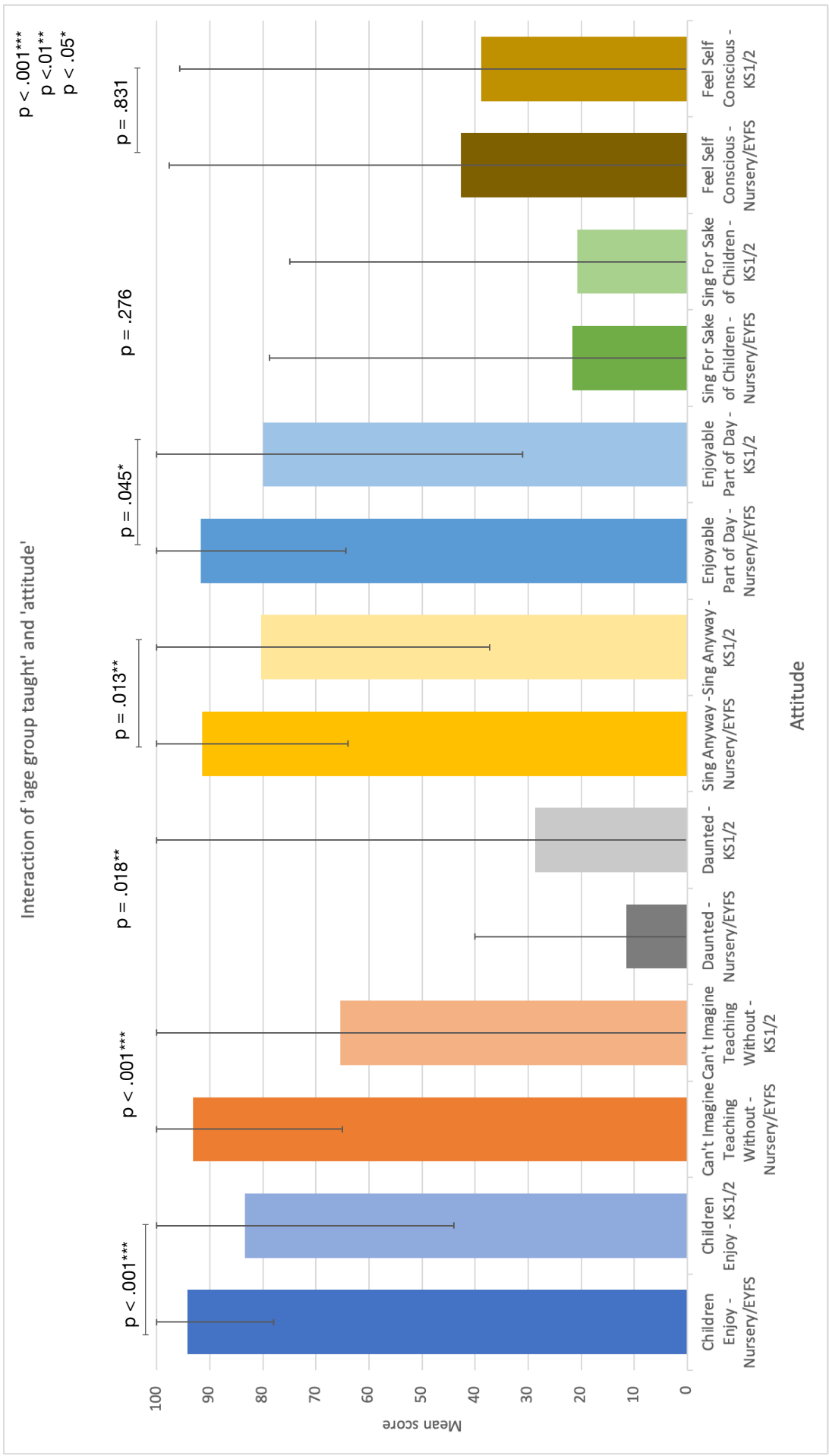
teachers (n =28) on Q13 were not normally distributed, as determined by visual inspection of Q plots, a Mann-Whitney U test examined potential differences in attitude scores between EYFS and KS2 teachers. There was a significant difference in attitude scores between EYFS and KS2 on 5/7 statements with very small effect sizes, summarised in Table 4.3 (presenting full 'attitude' statements) and visualised in Figure 4.2.

Table 4.3 – Mann-Whitney U results showing locus of 'age group taught' x 'attitude' interactions

Attitude	EYFS Median	KS2 Median	Mann-Whitney U	Z-score	Significance[a]	Effect size (r)
The children enjoy our song activities	100	83	282	-3.642	p < .001***	-0.054
I can't imagine teaching without using songs	100	65	195.5	4.8	p < .001***	0.071
I feel daunted when I know I have to sing with the class	0.5	27.5	742	2.373	p = .018**	0.035
It doesn't matter whether I sing well, the important thing is to sing in class anyway	100	83	371	-2.476	p = .013**	0.036
Singing is an enjoyable part of day	100	87	411.5	-2.006	p = .045*	0.03
I don't enjoy it for myself, but I sing for the sake of the children	3.5	19.5	645	1.09	p = .276	0.016
I feel self conscious if another adult hears me singing in class	49.5	43	577	0.231	p = .831	0.003

[a] p < .001***, p < .03**, p < .05*

Figure 4.2 – Graph of interaction between ‘age group’ and ‘attitude’

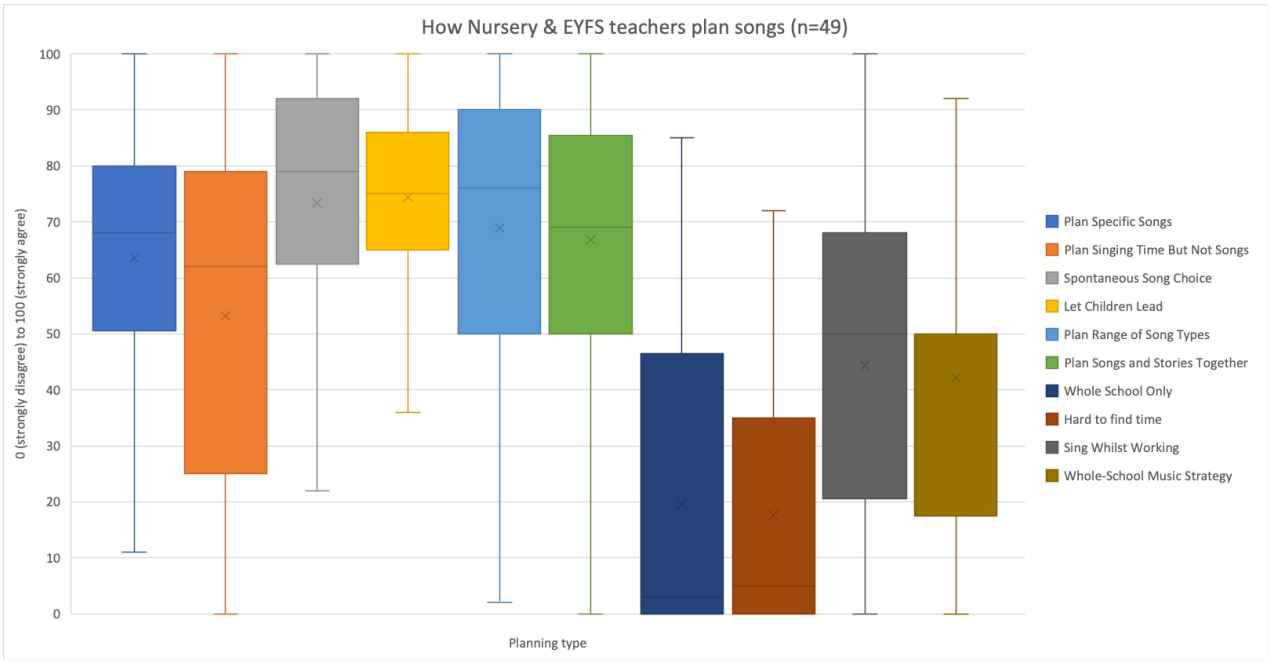


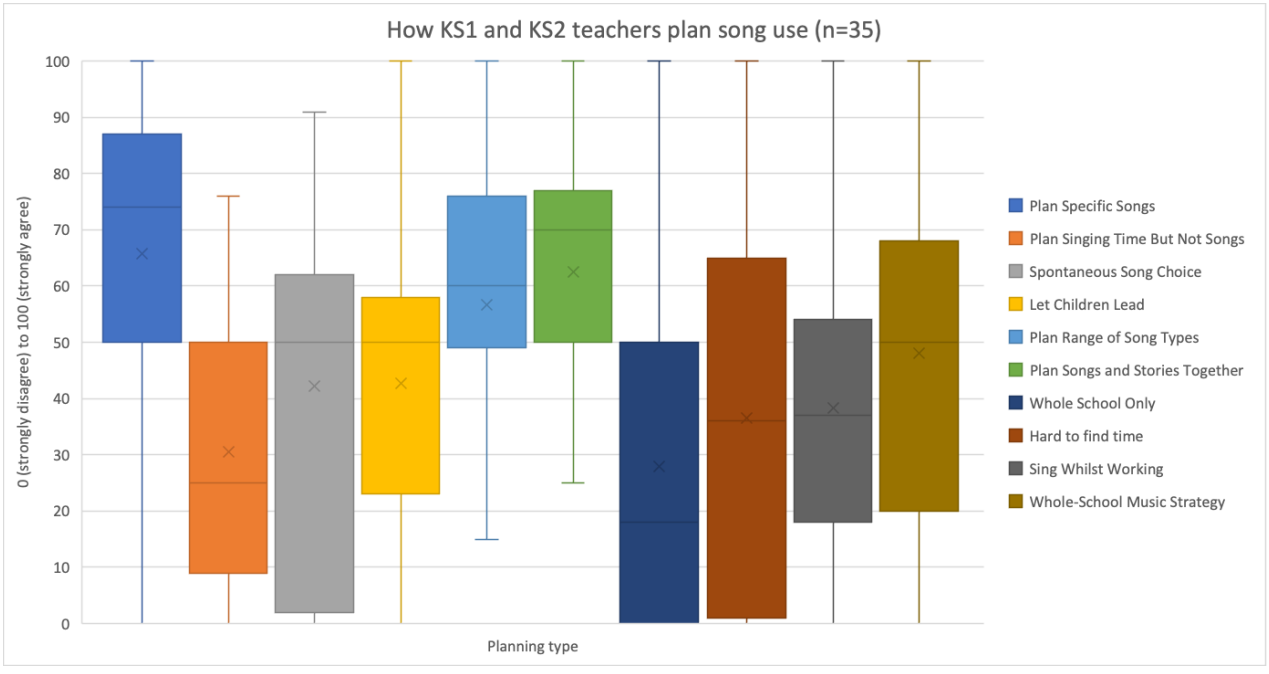
4.2.3. RQ1C: Is age group associated with:

i. planning of song use?
ii. teachers' choice of resource?
iii. how frequently teachers use songs?

To address RQ1Ci, Likert scale data from Q16 (*How do you plan your song use?*) was split by age group taught (Nursery/EYFS compared to KS1/KS2 teachers). Box and whisker plots (Figure 4.3) illustrate that planning habits seem to differ for teachers of earlier or later age groups.

Figure 4.3 – Box and whisker plots showing planning statements split by age groups taught





A two-way repeated measures ANOVA was run to determine the effect of age group taught on teachers' planning, as measured by their Q16 Likert scores about planning. The Shapiro-Wilk test indicated that data was not normally distributed ($p < .001$) but the ANOVA was conducted following Field (2018) as per Section 4.2.2. Greenhouse Geisser's estimate of sphericity ($\varepsilon = .764$) indicated that the two-way interaction met sphericity assumptions.

There were statistically significant main effects of 'age group taught' (five age groups, as before), $F(4,98) = 7.88$, $p < .001$, partial $\eta 2 = .243$, and 10 'planning' statements, $F(6.88,673.95) = 10.97$, $p < .001$, partial $\eta 2 = .101$, and a significant interaction of 'age group taught' and 'planning', $F(27.51,673.95) = 2.45$, $p < .001$, partial $\eta 2 = .091$. Pairwise comparisons and inspection of EM means indicated that the interaction lay between KS2 and Nursery/EYFS teachers (see Appendix H3).

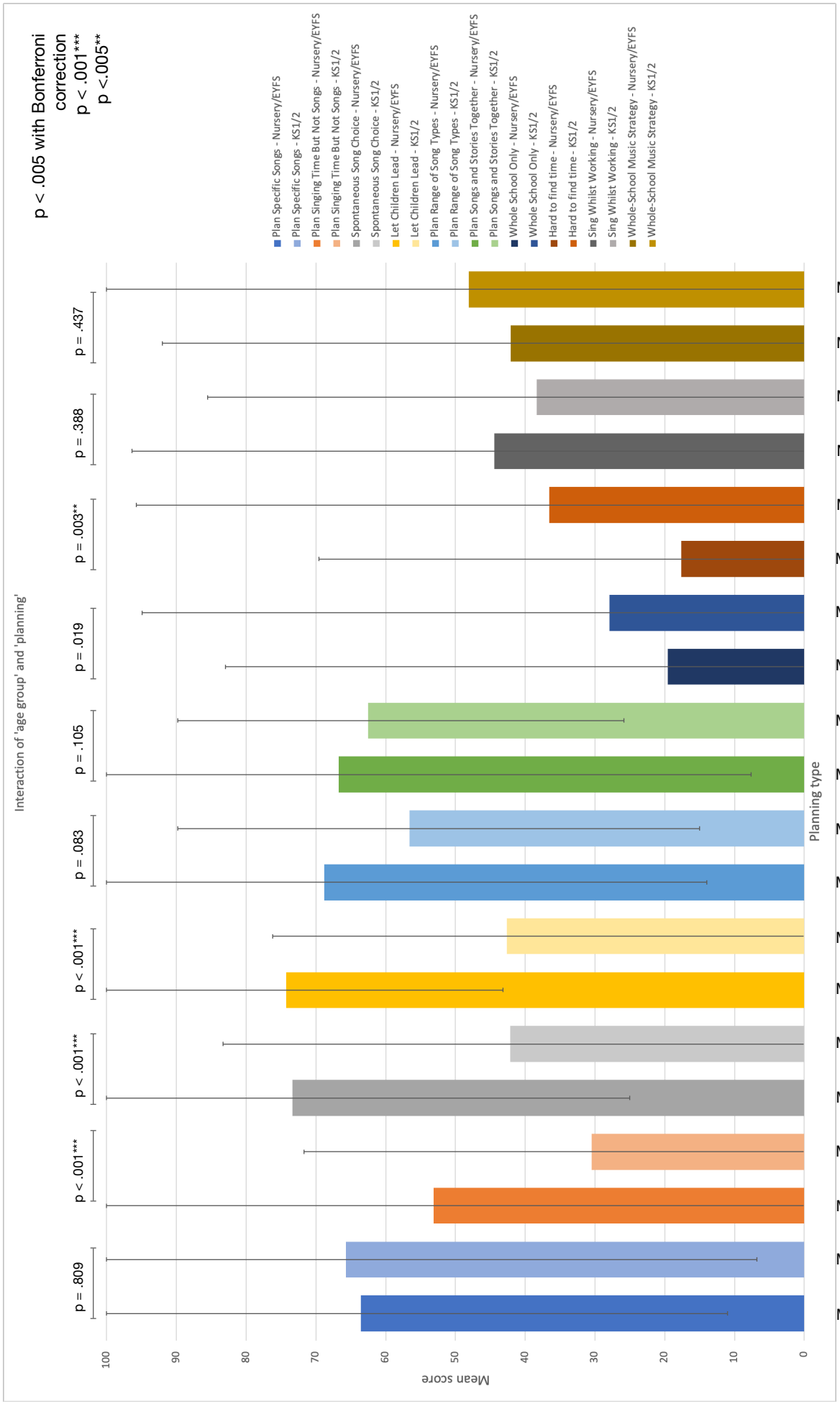
To find the interaction locus and minimise the number of comparisons, the smallest significant mean difference from the ANOVA pairwise comparisons (between EYFS and KS2, MD = -14.08) was analysed first, as then any larger differences could also be inferred. Independent samples t-tests were carried out to analyse the interaction between EYFS and KS2 teachers across 10 planning variables. There was homogeneity of variances for 8/10 planning scores, as assessed by Levene's test for equality of variances ($p > .05$) but homogeneity of variances assumptions were violated for *Songs are for whole school only* ($p < .001$) and *I plan singing time but not specific songs* ($p = .043$). Table 4.4 summarises t-test results with Bonferroni's correction for 10 comparisons applied (hence new alpha, $p < .005$). Significant differences were found for planning singing time not specific songs, letting children lead song choices, spontaneous song choice, and struggling to find time for songs. See Figure 4.4 for a visualisation of interactions.

Table 4.4 – t-test results and effect sizes for EYFS / KS2 across ‘planning’

Planning statement	t-test	Sig.[b]	effect size
Plan specific songs	t(66) = .242	p = .809	d = .060
Plan singing time not songs	t(65.59) = 3.453	p <.001***	d = .810
Spontaneous song choice	t(66) = 4.6	p <.001***	d = 1.133
Let children lead	t(66) = 5.64	p <.001***	d = 1.389
Plan range of song types	t(66) = 1.759	p = .083	d = 1.389
Plan songs & stories together	t(66) = 1.642	p = .105	d = .405
Songs are for whole-school only	t(41.9) = 2.44	p = .019	d = .649
It's hard to find time for songs	t(66) = 3.14	p = .003**	d = .774
Sing whilst working	t(66) = -.870	p = .388	d = -.214
Whole-school music strategy	t(66) = .783	p = .437	d = .193

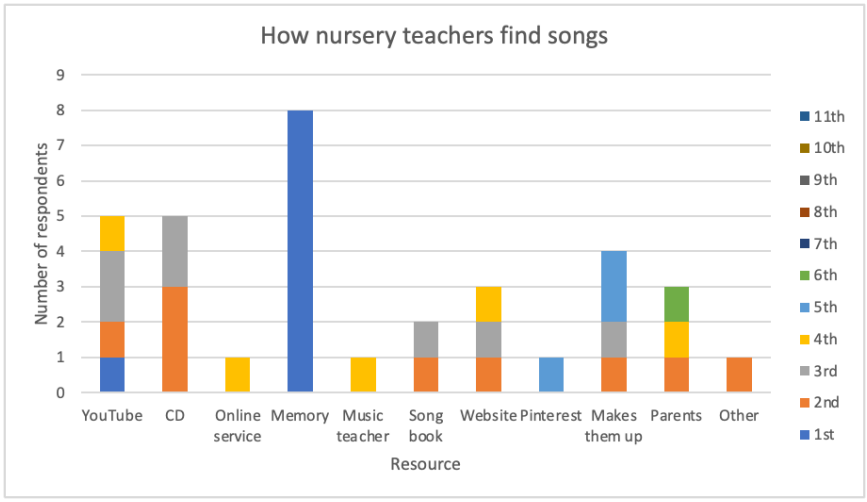
b. Adjustment for multiple comparisons: Bonferroni.
p < .001***, p < .005**

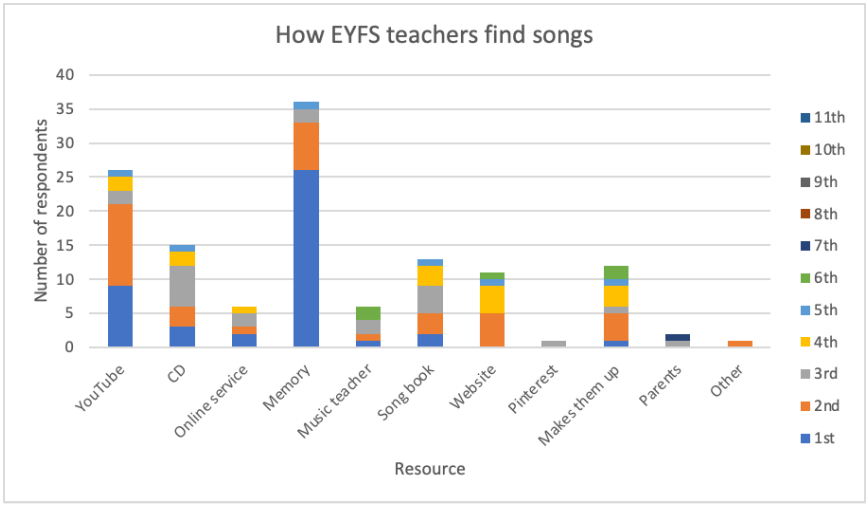
Figure 4.4 – Graph of interaction of 'age group' x 'planning'

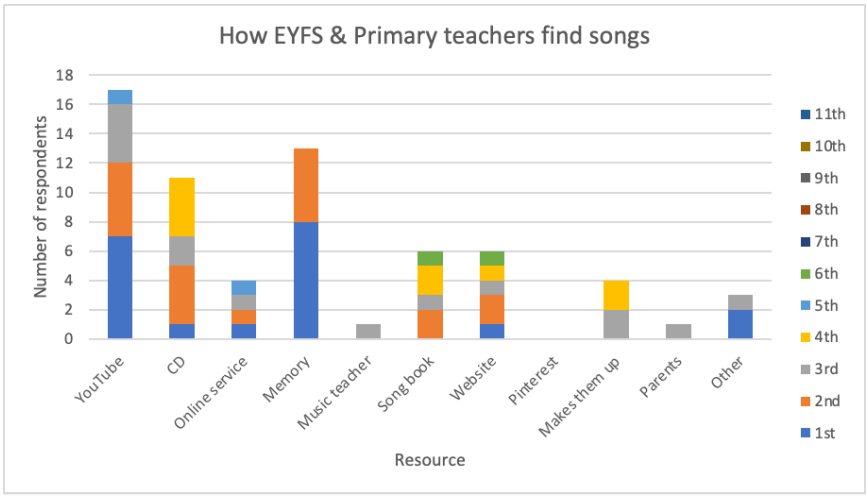


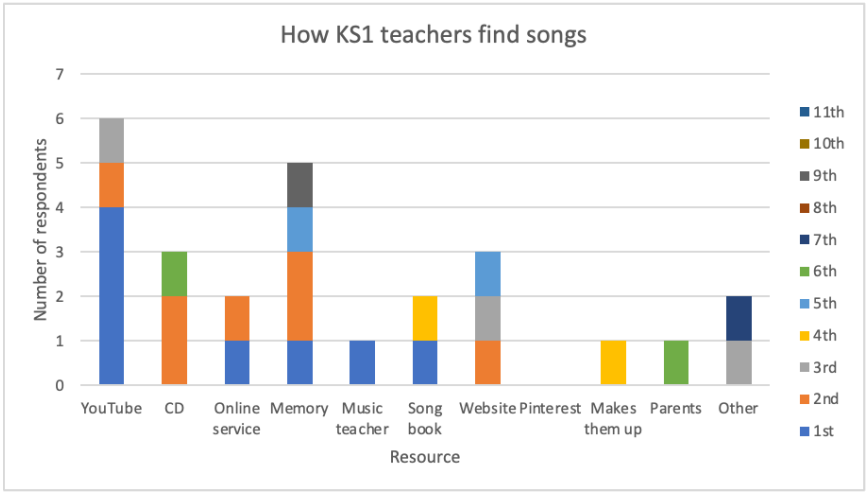
To address RQ1Cii, data from Q15 about resource choices was split by age group taught, as represented by different bar graphs in Figure 4.5.

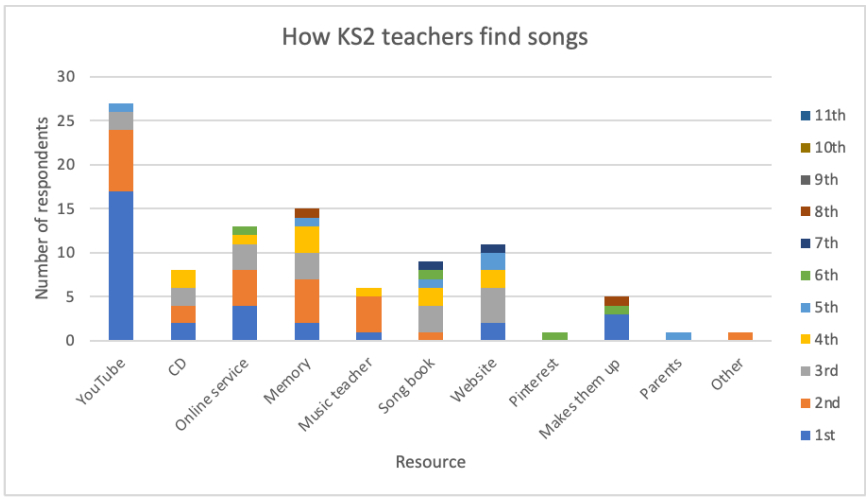
Figure 4.5 – Bar graphs showing how teachers find song resources, split by age











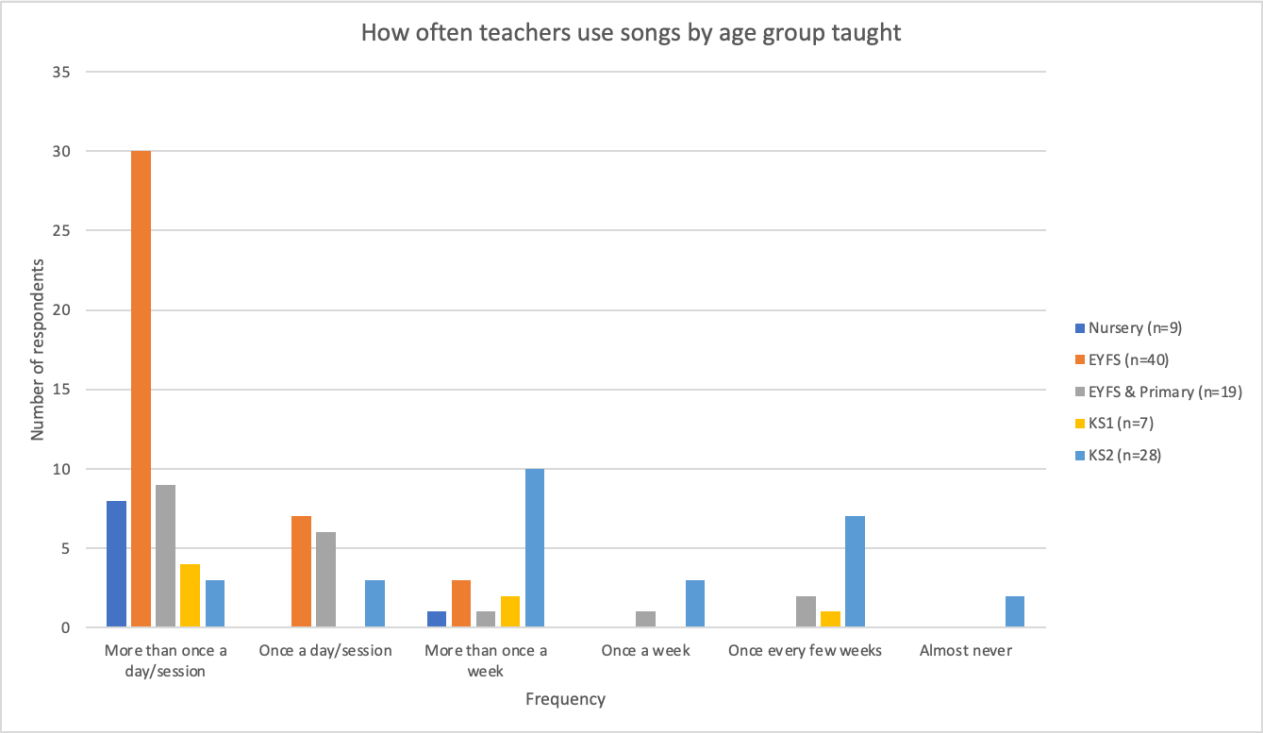
Descriptive data indicated that Nursery/EYFS teachers were more likely to use their memory (n=34) as first-choice song resource than YouTube (n=10), compared to KS1/KS2 teachers (memory, n=3; YouTube, n=21). A chi-square test for association was conducted between teachers of Nursery/EYFS (n=49) and KS1/KS2 (n= 35) and their preference for using YouTube or their memory as first-choice resource. There was a statistically significant medium strength association between age group and first-choice resource, $\chi2(1) = 27.19$, $\phi = .569$, $p < .001$. Only 22.4% of Nursery/EYFS teachers would rank YouTube above their memory for finding songs, compared to 80% of KS1/KS2 teachers.

To address RQ1Ciii about whether age group is associated with how frequently teachers use songs, a bar graph of frequency x age group was inspected (Figure 4.6). Descriptive statistics suggest that Nursery/EYFS teachers may use songs more frequently than KS1/KS2 teachers. Given the small groups, a Fisher-Freeman-Halton Exact test was conducted between whether teachers reported using songs more than once per day and age group taught. There was a significant, medium-strength association between high frequency song use and age group, $\chi2(20)$[3] $= 34.51$ ($p < .001$), $\phi = .564$, $p < .001$. 88.9% of Nursery and 75% of EYFS teachers report

[3] To report Fisher-Freeman-Halton Exact for rxc tables the value is Chi-square and df are calculated as (r-1)(c-1), following Mehta (1994).

using songs more than once per day/session, compared to 57.1% of KS1 teachers and just 10.7% of KS2 teachers.

Figure 4.6 – Bar graph of how frequently teachers use songs x age group taught



4.3. Attitudes.

This section presents the results of RQ2 about how teachers' attitudes towards singing influence their song use.

4.3.1. RQ2A: Are teachers' attitudes towards singing associated with:

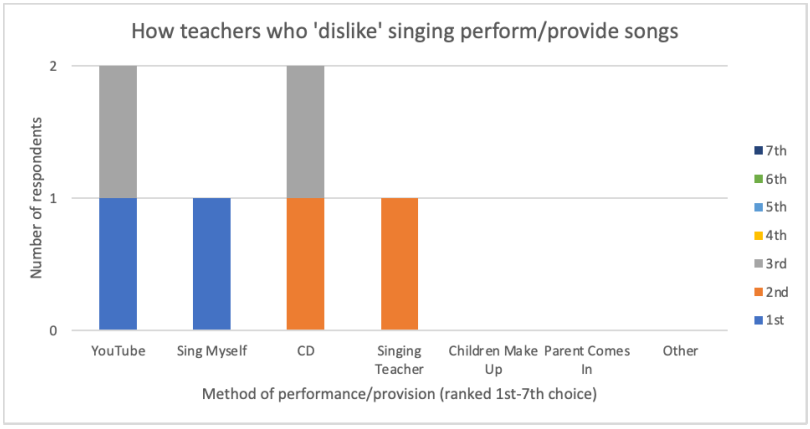
i. their presentation choices?

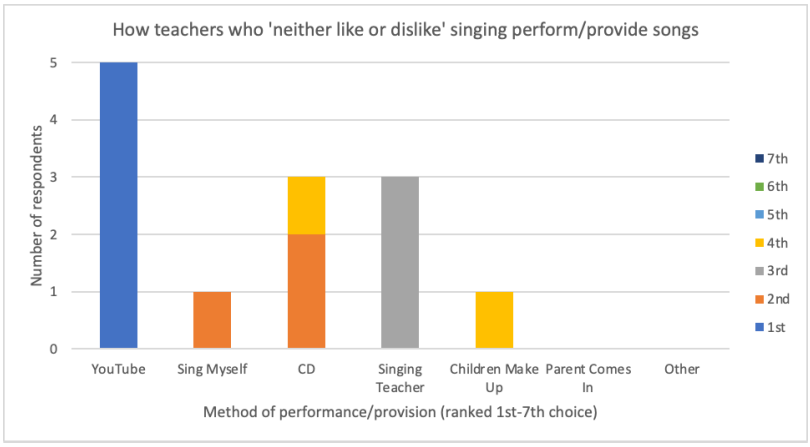
ii. how frequently they use songs?

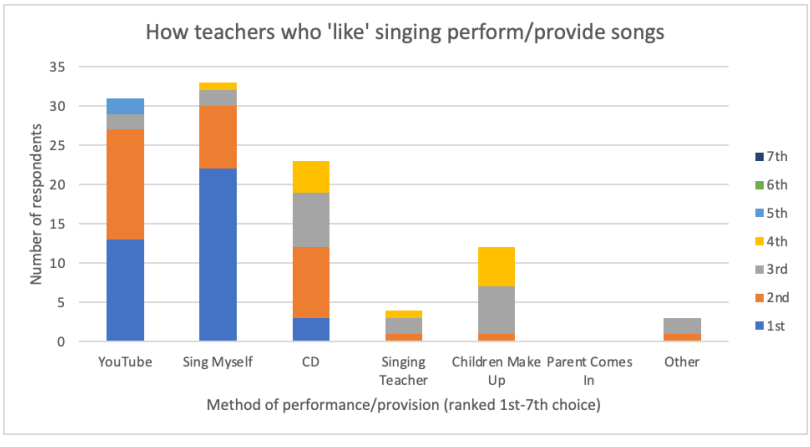
To address RQ2Ai, the data from survey Q14 (*How do you perform/provide the songs?*) was split into four descriptive bar graphs by Q9 (*How would you rate your attitude towards singing?*) to investigate whether attitudes to singing are associated with presentation choices (see Figure 4.7). Visual graph inspection indicated that teachers who reported loving or liking singing were less likely to choose a video/YouTube over singing songs themselves than teachers who reported either disliking or having a neutral attitude to singing.

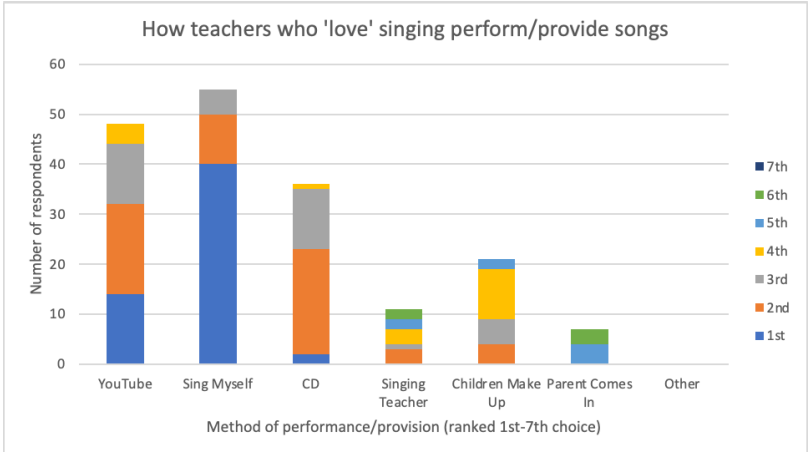
Due to expected counts falling below 5 (a necessary assumption for chi-square tests of association), a Fisher's Exact test was conducted between attitude towards singing (positive, n=95, versus negative/neutral, n=8) and teachers' preference for playing videos/YouTube as their first choice for presenting songs compared to singing themselves. Of teachers with negative or neutral attitudes towards singing, 87.5% would choose YouTube first for presenting songs, compared to 30.9% of teachers with positive attitudes towards singing. There was a statistically significant small-to-medium association between attitude and first-choice rating of YouTube, $p = .007$, $\phi = .293$.

Figure 4.7 – Bar graphs showing how teachers rank performance/presentation methods (1st-7th choice), split by attitudes towards singing



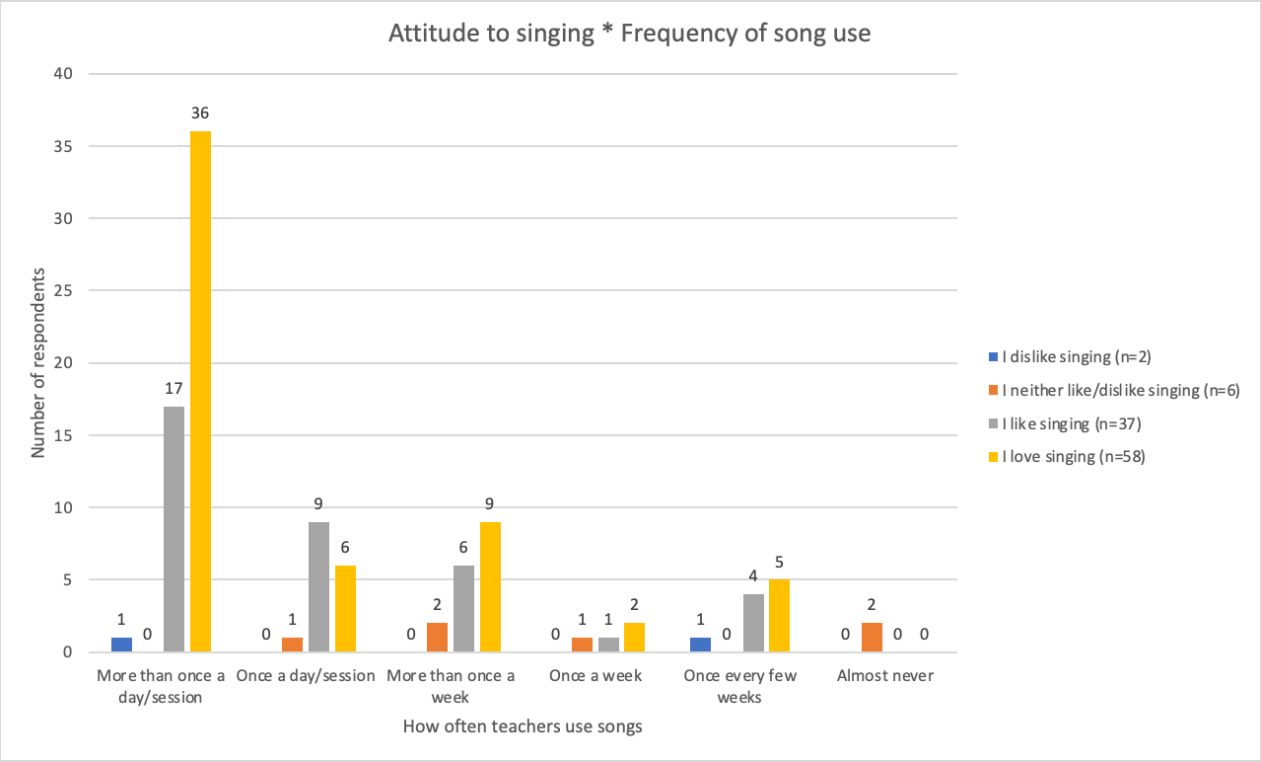






Addressing the question of whether attitudes towards singing are associated with frequency of song use (RQ2Aii), a bar graph plotting frequency according to attitude was inspected (Figure 4.8). Descriptive statistics suggest that teachers use songs more than once a day if they report loving or liking singing. Given the small groups, a Fisher-Freeman-Halton Exact test was conducted between whether teachers reported using songs more than once per day and their attitude towards singing. There was a significant association between high frequency song use and attitude towards singing, $\chi2(3) = 9.691$ ($p = .011$). There was a small-to medium-strength association between high frequency and attitude, $\phi = .302$, $p = .015$.

Figure 4.8 – Bar graph showing how frequently teachers use songs split by attitude



To explore the relationship between teachers' belief in the purposes of using songs (measured by aggregated mean scores for Content, Behaviour, Language and Social purposes) and frequency of song use (measured by the ordinal frequency variable), Spearman's rank-order correlation coefficients were calculated for the four purpose categories x frequency. Correlation coefficients are expressed as a negative because 1 = *more than once a day* (high frequency song use), hence a lower score indicates higher frequency song use, thus relationships are actually positive. All four purposes were found to have significant weak or moderate correlations with frequency of song use, evidenced in Table 4.5.

Table 4.5 – Results of Spearman's rank-order correlation for frequency x purpose

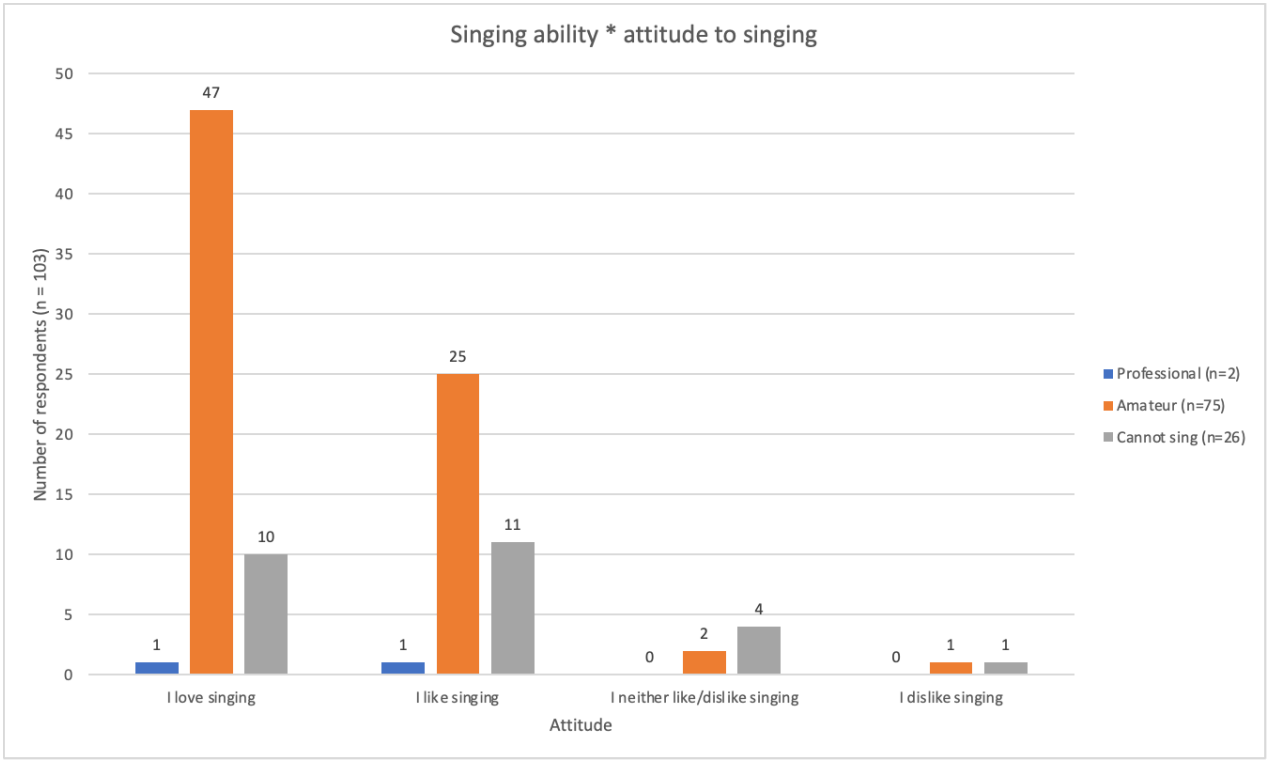
Purpose of song use	Spearman's value	Significance[a]	Strength of correlation
Content	r_s (101) = -.204	p = .039*	significant positive, weak-to-moderate correlation
Behaviour	r_s (101) = -.384	p <.001***	significant positive moderate correlation
Language	r_s (101) = -.283	p = .004**	significant positive moderate correlation
Social	r_s (101) = -.326	p <.001***	significant positive moderate correlation

[a] p < .001***, p < .03**, p < .05*

4.3.2. RQ2B: Is there an association between teachers' singing ability and their attitude towards using songs?

74% (n=76) of respondents had no specialist musical training, and 73% (n=75) rated their singing ability as 'amateur' (see Appendix H7). There were 2 professional singers. 26 respondents reported they 'cannot sing'. Addressing RQ2B, a bar graph (Figure 4.9) of singing ability (*professional, amateur, cannot sing*) by attitude to singing (*love, like, neutral, dislike*) suggests that the 'amateur' group had positive attitudes towards using songs and also that the 'cannot sing' group were predominantly positive. Given the small groups, a Fisher-Freeman-Halton Exact Test was conducted between attitude towards singing and self-rated singing ability revealing no significant association, $\chi 2(6) = 10.824$, p = .076.

Figure 4.9 – Bar graph of teachers' attitude to singing by singing ability



4.4. Beliefs

This section presents the results of RQ3 about the relationships between teachers' planning of song use and their beliefs in songs' pedagogical, behavioural and social value.

4.4.1. RQ3A: Is teachers' belief in songs' usefulness as pedagogical tools associated with their planning?

To explore overall relationships between teachers' strength of belief in using songs to teach content and their planning of specific songs into the curriculum, a correlation coefficient was used to ascertain the potential existence and strength of association between participants' aggregated Likert 'Content' scores (Q12) with their score for planning specific songs (Q16). Visual inspection of Q plots confirmed that the data was positively skewed, hence Spearman's rank-order was calculated. There was a statistically significant, moderate correlation between scores for aggregated 'Content' and planning specific songs, $r_s(101) = .308$, $p = .002$.

For deeper investigation into teachers' beliefs about using songs for pedagogy and their planning, further correlation analyses were conducted exploring the relationship between seven 'Content' purpose statements from Q12 and two planning habits statements (Q13). Continuous variables were assessed for linear relationships, which were confirmed by visual inspection of scatterplots (Appendix H8). Skewness and kurtosis values and Q plots revealed non-normal distribution of variables, thus Spearman's rank-order was calculated. Preliminary analyses indicated monotonic relationships, as assessed by visual inspection of scatterplots. Table 4.6 presents the results. There were significant weak-to-moderate or moderate correlations between six 'Content' statements and planning of specific songs, but no significant correlation between *Songs help teach maths* and planning specific songs.

Table 4.6 – Results of Spearman's rank-order correlation for belief in using songs for pedagogy X planning habits

Belief x Planning type	Spearman's value	Significance[a]	Strength of correlation
Songs are foundational for literacy X planning songs & stories together	$r_s(101) = .279$	p = .004**	significant positive moderate correlation
Songs are foundational for literacy X planning specific songs	$r_s(101) = .215$	p = .029*	significant weak-to-moderate positive correlation
Songs help children learn vocabulary X planning specific songs	$r_s(101) = .396$	p = <.001**	significant positive moderate correlation
Songs help children memorise something X planning specific songs	$r_s(101) = .396$	p <.001***	significant positive moderate correlation
Songs help teach a new concept X planning specific songs	$r_s(101) = .330$	p <.001***	significant positive moderate correlation
Songs help teach maths X planning specific songs	rs(101) = .186	p = .059	non-significant weak positive correlation
Songs help teach other subjects X planning specific songs	$r_s(101) = .197$	p = .046*	significant weak positive correlation

[a] p < .001***, p < .03**, p < .05*

4.4.2. RQ3B: Are teachers more likely to sing in class if they have a stronger belief in songs':

i. pedagogical value?

ii. behaviour/classroom routine value?

iii. social/affective value?

To explore RQ3Bi on relationships between teachers' belief in the pedagogical value of using songs (measured by aggregated mean 'purpose' scores for Content and Language) and their willingness to sing regardless of singing ability (as measured by Likert scores for Q13 *It doesn't matter whether I sing well, the important thing is to sing in class anyway*), Spearman's rank-order correlation coefficients were carried out for Content and Language aggregated scores x 'sing anyway' statement scores because data was positively skewed. Both Content ($r_s(101) = .397$, $p < .001$) and Language ($r_s(101) = .470$, $p < .001$) were found to have significant moderate-to-strong correlations with teachers' willingness to sing regardless of ability.

RQ3Bii was investigated by aggregating the mean Likert scores for Behaviour and examining whether this aggregate score correlated with participants' willingness to sing regardless of singing ability. A Spearman's rank-order correlation coefficient was carried out for Behaviour x 'sing anyway' statement scores because data was positively skewed. A strong positive correlation was found, $r_s(101) = .515$, $p < .001$.

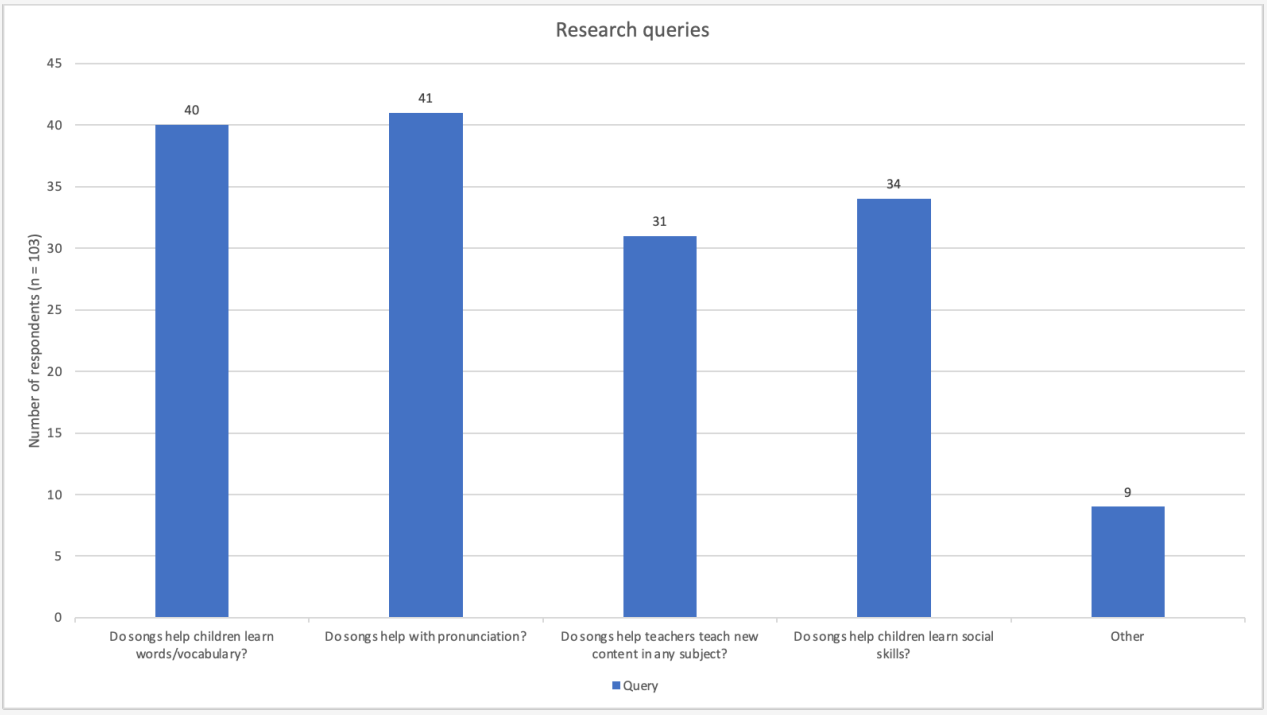
RQ3Biii was investigated by aggregating the mean Likert scores for Social and examining whether this aggregate score correlated with participants' willingness to sing regardless of singing ability. A Spearman's rank-order correlation coefficient revealed a strong positive correlation, $r_s(101) = .562$, $p < .001$.

4.5. Future Research

RQ4: What empirical evidence would teachers like to see regarding the use of songs in early years and primary settings?

Figure 4.10 presents responses to the final survey question – *What questions do you have about using songs in class?* Vocabulary (n=40) and pronunciation (n=41) were the top queries, followed by social skills (n=34) and teaching content (n=31). 'Other' free-text responses are listed thematically in Appendix H9. These include elaborations on teaching content (maths, languages) and vocabulary (MFL), plus links between singing and signing, encouraging parental input for EAL students, songs' impact on wellbeing, and how songs support classroom routines for SEN pupils.

Figure 4.10 – Bar chart of respondents' song research queries



In summary, the quantitative findings reported in this section indicate that teachers' purposes for using songs differ as a function of the age group they teach, with ECE teachers reporting using songs more for behaviour, routines or social purposes than KS2 teachers. Frequency of song use drops dramatically at KS2, whilst using YouTube as a resource increases. Teachers' attitudes to singing are not associated with their singing ability, although positive attitudes are associated with more frequent 'live' singing. There is a positive correlation between teachers' strength of belief in songs' educational value and their willingness to sing regardless of self-reported singing ability. Results from RQ1–4 are summarised in Appendix H, Table H.

5. Qualitative Results

Seven semi-structured interviews were carried out seeking additional insight into how teachers from ECE to KS2 use songs in their practice. Thematic analysis guided data analysis (outlined in 3.8.2). Results are presented in research-question order with summary tables to show how thematic conclusions were reached. As indicated, relevant illustrative interview excerpts are numbered and tabulated thematically in Appendix J. Full interview transcripts appear in Appendix I.

5.1. Purposes of song use

5.1.1. For teaching concepts

Interviewees report using songs to introduce new or consolidate old topics and concepts; to teach physical commands or actions; and as respite from continually writing concepts down. The mnemonic power of songs was a recurring theme for helping children memorise concepts.

Table 5.1.1 – Teaching concepts

Theme	**Interviewee**	**Excerpt** **(see Appendix J, Section J2 for illustrative excerpts)**
Teaching concepts in maths, literacy, history, science, geography	I. KS2 II. KS1 III. P1 IV. Reception	I. J2.1 II. J2.2 III. J2.3 IV. J2.4
Respite from writing	I. KS2	I. J2.5
Physical learning	I. P1 II. Preschool	I. J2.6 II. J2.7
Mnemonic value	I. Reception II. P1 III. KS2	I. J2.8 II. J2.9 III. J2.10

5.1.2. For behaviour/classroom management

Songs are reportedly used for engaging children, making positive changes to classroom atmosphere, and managing transitions without overusing teachers' voices. In ECE, songs are part of the day's structure and mark the start/end of KS2 language lessons.

Table 5.1.2 – Behaviour/classroom management

Theme	**Interviewee**	**Excerpt**
Engagement	I. KS2 II. KS1 III. P1	I. J2.11 II. J2.12 III. J2.13
Positive change to classroom atmosphere	I. KS2 II. Reception	I. J2.14 II. J2.15

Avoid overusing voice	I. Reception II. KS1 III. KS2	I. J2.16 II. J2.17 III. J2.18
Routines and rituals	I. P1 II. Preschool III. Reception IV. Childminder V. KS2 Languages	I. J2.19 II. J2.20 III. J2.21 IV. J2.22 V. J2.23
Managing transitions	I. KS1 II. KS2 Languages III. Reception	I. J2.24 II. J2.25 III. J2.26

5.1.3. For language development

Particularly with younger age groups, songs are reportedly simple and easy tools for language acquisition and building children's vocabulary in low-pressure contexts where children can join in with actions before becoming fluent speakers. Teachers introduce FL vocabulary through songs to avoid drilling. Traditional songs reportedly provide rich topic vocabulary.

Table 5.1.3 – Language development

Theme	**Interviewee**	**Excerpt**
Consolidating vocabulary	I. Reception	I. J2.27
Phonological awareness	I. P1	I. J2.28
Introduce new vocabulary	I. Reception II. KS2 Languages	I. J2.29 II. J2.30
Engage preliterate children in literacy	I. KS1	I. J2.31
Rich vocabulary of traditional songs	I. KS1 II. Childminder	I. J2.32 II. J2.33
Language acquisition	I. Childminder II. Preschool	I. J2.34 II. J2.35

5.1.4. For social purposes

Interviewees reported using songs to build a sense of class community and belonging through sharing and building class repertoires, sometimes performing to parents. Songs help KS1/KS2 teachers avoid overly didactic approaches to teaching and help teach younger children about appropriate voice levels.

Table 5.1.4 – Social purposes		
Theme	**Interviewee**	**Excerpt**
Building class community	I. Reception II. Reception III. KS1	I. J2.36 II. J2.37 III. J2.38
Songs as shared activity without pressure	I. P1	I. J2.39
Collaborative experience of building class repertoire	I. KS1	I. J2.40
Avoid teacher talk/children listen approach	I. KS1 II. KS2	I. J2.41 II. J2.42
Songs to teach appropriate volume levels	I. Childminder	I. J2.43

5.2. How teachers present songs

Teachers variously sing unaccompanied, or sing along with audio files or YouTube. Younger children compose and perform their own songs. The KS1 teacher (a trained musician) described scaffolding children's performances to parents more formally through call and response, rehearsing until the children sing independently without vocal or visual support. This was the exception, however, with music lessons often facilitated by external website subscriptions.

Table 5.2 – Song presentation		
Theme	**Interviewee**	**Excerpt**
Audio files	I. KS2	I. J3.1
Teacher sings unaccompanied	I. Reception II. Childminder III. Preschool IV. KS2 Languages	I. J3.2 II. J3.3 III. J3.4 IV. J3.5
Children compose songs	I. Reception II. Childminder III. Preschool	I. J3.6 II. J3.7 III. J3.8
Teacher scaffolds song rehearsal/performance	I. KS1	I. J3.9
External music subscription (e.g. Charanga) for planned music lessons	I. P1 II. KS1	I. J3.10 II. J3.11
YouTube	I. P1 II. Childminder III. KS2 Languages	I. J3.12 II. J3.13 III. J3.14

5.3. Where teachers find song resources

YouTube was mentioned as a resource by all interviewees except the jazz-trained KS1 teacher, who uses traditional school music books. Teachers variously praised and criticised the quality of materials available on YouTube, but state it is a convenient search engine for songs about concepts (e.g. maths, history). Teachers' own memory was also used as a resource, particularly in ECE.

Table 5.3 – Resources		
Theme	**Interviewee**	**Excerpt**
YouTube	I. Reception II. KS2 III. KS2 IV. P1 V. KS2 Languages VI. KS1 VII. Preschool	I. J4.1 II. J4.2 III. J4.3 IV. J4.4 V. J4.5 VI. J4.6 VII. J4.7
Teachers' memory	I. Reception II. KS1	I. J4.8 II. J4.9
Song-story books	I. Childminder	I. J4.10
Song websites	I. P1 II. KS1	I. J4.11 II. J4.12
Times Tables Troopers	I. KS2	I. J4.13
Traditional school song books	I. KS1	I. J4.14
External music sessions	I. Preschool	I. J4.15

5.4. How teachers plan song use

Teachers reported planning songs to differing degrees, with ECE teachers reporting more spontaneity, singing serendipitously throughout the day. Teachers of older age groups claimed they planned songs more rigorously to complement lesson structures or topics, with ECE teachers sometimes planning specific songs about topics.

Table 5.4 – Planning		
Theme	**Interviewee**	**Excerpt**
Spontaneously burst into song	I. Reception II. Reception III. Childminder	I. J5.1 II. J5.2 III. J5.3
Planned times tables rehearsal	I. KS2	I. J5.4
Songs linked to topic	I. Childminder II. Preschool III. Reception IV. KS2 Languages	I. J5.5 II. J5.6 III. J6.7 IV. J5.8
Songs to begin/end FL lessons	I. KS2 Languages	I. J5.9
Part of daily routines	I. Childminder II. Preschool III. Reception	I. J5.10 II. J5.11 III. J5.12
Ongoing formative assessment of children's needs	I. P1 II. KS2 III. Reception	I. J5.13 II. J5.14 III. J5.15

5.5. Frequency of song use

Songs are reportedly used every day or often to teach maths. Songs occur more than once a day in early years both at set ‘song’ times and incorporated into other activities. Songs signal the beginning/end of KS2 languages lessons where the teacher moves between classes. Not being allowed to sing during the Covid-19 pandemic highlighted how much singing usually occurs.

Table 5.5 – Frequency

Theme	Interviewee	Excerpt
Frequently throughout the day	I. Reception II. Childminder III. Preschool IV. P1	I. J6.1 II. J6.2 III. J6.3 IV. J6.4
Daily maths songs	I. Reception II. KS2	I. J6.5 II. J6.6
Songs to begin/end FL lessons	I. KS2 Languages	I. J6.7
Covid-19 highlighted song frequency	I. P1	I. J6.8

5.6. Attitudes to using songs

Generally children enjoy and request favourite songs in class, irresistibly joining in with songs and singing them at home too. Teachers sing regardless of self-reported ability, feeling that songs are natural, special or essential features of their practice.

Table 5.6 – Attitudes

Theme	Interviewee	Excerpt
Children generally enjoy songs	I. Reception II. Childminder III. Preschool IV. P1 V. KS2 Languages VI. KS2 VII. KS1	I. J7.1 II. J7.2 III. J7.3 IV. J7.4 V. J7.5 VI. J7.6 VII. J7.7
Singing feels natural, essential or important	I. Reception II. P1 III. KS2 Languages IV. KS2	I. J7.8 II. J7.9 III. J7.10 IV. J7.11
Children cannot help joining in	I. KS1 II. Childminder III. Reception	I. J7.12 II. J7.13 III. J7.14
Children request songs	I. P1 II. KS2	I. J7.15 II. J7.16
Children sing songs to siblings/family	I. KS2 languages II. P1	I. J7.17 II. J7.18
Reluctance increases as children mature	I. KS2 languages II. Reception	I. J7.19 II. J7.20

Teacher attitudes not linked to singing ability	I. Childminder II. Preschool	I. J7.21 II. J7.22
Music is teacher's particular speciality	I. KS1	I. J7.23

5.7. Belief in songs' benefits

Songs' mnemonic benefits feature highly in interviewees' opinions, as well as songs' power to engage all pupils in body and mind, improving class mood and breaking up the usual routines. Songs are reportedly free, simple, accessible, transportable resources offering broad learning scope across curriculum topics.

Table 5.7 – Benefits

Theme	**Interviewee**	**Excerpt**
Mnemonic 'song stuck in my head', long-term memory benefits	I. Reception II. Childminder III. P1 IV. KS1 V. KS2 VI. KS2 Languages	I. J8.1 II. J8.2 III. J8.3 IV. J8.4 V. J8.5 VI. J8.6
(Re)engaging children	I. P1 II. P1 III. KS2	I. J8.7 II. J8.8 III. J8.9
Improve class mood	I. KS2 II. Reception	I. J8.10 II. J8.11
Change usual routines	I. KS2 Languages	I. J8.12
Support curriculum (maths, literacy, topics, music skills)	I. KS2 II. KS1 III. KS2 languages IV. P1 V. Preschool	I. J8.13 II. J8.14 III. J8.15 IV. J8.16 V. J8.17
Easy, accessible, simple, free resources	I. Preschool II. KS2	I. J8.18 II. J8.19

5.8. Research queries

Memory was a key research query, particularly how many repetitions are optimal before concepts are secure. Lack of teacher training; local authorities' lack of awareness of song benefits; and what makes songs effective learning and wellbeing tools also concerned interviewees.

Table 5.8 – Research queries		
Theme	**Interviewee**	**Excerpt**
How to facilitate songs' mnemonic benefits	I. Reception II. KS2	I. J9.1 II. J9.2
Lack of teacher training	I. P1	I. J9.3
Lack of awareness of song benefits	I. P1 II. Preschool	I. J9.4 II. J9.5
How songs support children's wellbeing	I. Preschool	I. J9.6
What makes effective song content or presentation for learning	I. Reception II. KS2	I. J9.7 II. J9.8

In summary, interviewees highlighted songs' mnemonic benefits, songs' power to engage and help children focus on topics, improve class mood, and their usefulness as simple, easily-accessible resources across various curricular topics. Songs form part of the fabric of ECE provision, used frequently as stand-alone activities, incorporated into routines and rituals, or as part of other activities. In KS1/2, songs appear less frequently but are used for topic introduction and plenary, and signalling transitions. Planning is more spontaneous and serendipitous in ECE than KS1/2. Most interviewees use YouTube to source and sometimes present songs. Generally, songs are well received by children and valued by practitioners. Although the majority of interviewees have no musical training or special singing ability, this does not affect their positive attitude to singing.

6. Discussion

This study investigated relationships between empirical evidence and UK early years and primary teacher practice regarding using songs with young learners. Despite the lack of credible and rigorous evidence into songs' pedagogical benefits, songs nevertheless feature ubiquitously in ECE and primary classrooms and practitioners value songs highly. Teacher-oriented 'grey' literature advocates using songs as mnemonic devices, to support different learning styles and musical intelligence, and because songs are a 'natural' part of human socialisation (Section 2.1). Practitioners share positive experiences of using songs, writing intuitively about applying songs as pedagogy (Thain, 2016; Walker, 2006). A liminal space between the 'grey' and peer-reviewed literature sees experiential and empirical evidence exchanged and recycled, with untested hypotheses, speculations or intuitions sometimes overstated as demonstrable fact even in peer-reviewed publications (Section 2.2). Borg (2009) found that teachers rarely engage directly with peer-reviewed articles, thus it is important for teacher-researchers to present findings in teacher-facing publications in a balanced manner. However, teacher-oriented publications sometimes recycle outdated research on learning styles, and present untested hypotheses and uncontrolled studies as unambiguous positive evidence for songs' benefits. Equivocal results from empirical studies rarely appear in 'grey' literature, where there is more certainty about songs' benefits than critical interrogation of findings or methodologies (Engh, 2013a).

It is unsurprising, then, to see teachers' cultural beliefs and intuition about songs' pedagogical benefits confirmed by this study's quantitative and qualitative results, which provide valuable contextual evidence for how and why teachers use songs in UK ECE and primary education. This chapter brings the survey and interview data together and identifies potential relationships with the research literature, aiming to guide future studies towards issues relevant to practitioners. It may, however, be challenging for empirical evidence to shift cultural beliefs and intuition, especially since these are often repeated across 'grey' and peer-reviewed literature.

6.1. On teachers' planning and purpose of song use

Results indicated that participants have overwhelmingly positive attitudes to using songs in their practice, particularly in ECE (RQ2Aii and RQ1B), and regardless of their self-reported singing ability (RQ2B). This positive bias may limit the study's findings by not representing the wider teaching population's views, a point worth considering before generalising findings.

Regarding RQ1A, there was a marked difference in EYFS and KS2 teachers' song use for Behaviour and Social purposes, where ECE teachers were significantly more likely to use songs to manage behaviour and encourage social development, a finding corroborated in interviews. RQ1Ciii indicated high-frequency song use dwindles after KS1. RQ1Ci results present a clear picture of spontaneous and flexible song use in ECE, where practitioners cannot imagine teaching without songs. Various notions may trigger a song; children may lead song choices; and practitioners are more likely to plan 'song time' without a preplanned list.

Contrastingly, KS2 teachers were less likely to plan general song time or use songs for classroom routines, but reported using songs to engage and motivate pupils after they have finished their work. KS2 teachers reported that it is 'hard to find time' for singing compared to

EYFS teachers (see Section 4.2.3). This echoes Fautley et al. (2018) where teachers reported music being squeezed out by 'core' subjects. It contrasts with the KS2 interviewee's statement that songs are 'a really important part of learning' (Appendix J1.11) and with the KS2 languages teacher, who used songs to bookend FL lessons. The tension between intuition about songs' value and struggling to find time for them perhaps explains some of the desire to find transfer benefits of using songs apparent in the literature. Evidence for songs' value as pedagogical tools would likely lead to increased use, as suggested by findings from RQ3B that increased belief in songs' value correlates positively with teachers' willingness to sing regardless of ability. An interesting area for future research, then, would be to measure KS2 pupils' motivation with and without more frequent song use, and potential influence on their content learning outcomes.

Despite less frequent use, KS2 and EYFS teachers sharing stronger beliefs in songs' pedagogical value for teaching vocabulary and content, and for memorisation, were equally likely to plan specific songs (RQ3A). However, a discrepancy between the survey and interview data arose for teaching maths using songs. In interviews, maths was a prime area for using specific songs for teaching (e.g. times tables (KS2)), but no such relationship was detected in the survey data (see Section 4.4.1). One case study (Samantray, 2016) found evidence (albeit without controls or rigorous pre-/post-test learning measures) that using maths rhymes made mathematical concepts and vocabulary available to young EFL learners in India, where chanting is a culturally-embedded but not yet empirically-tested practice (Nag, Snowling & Ashafa, 2016). Investigating how teachers use songs and songs' value for teaching maths might validate existing practice in UK and international contexts.

Regarding resources and presentation, a higher proportion of teachers with negative or neutral attitudes towards singing selected YouTube as their first choice for presenting songs compared to teachers with positive attitudes, who were more likely to sing themselves (RQ2Ai). Furthermore, far fewer ECE teachers than KS1/KS2 teachers reported using YouTube as their first-choice resource (RQ1Cii). All interviewees mentioned using YouTube for finding songs with varying opinions about YouTube materials' quality. Only the KS1 interviewee mentioned seeking traditional school music books to embed songs in topic planning. These findings indicate that children are experiencing less daily 'live' singing and more infrequent, passive, video-based songs as they grow older. Again, this could be linked to teachers of older children wishing to weave music into their general teaching (not music-specific lessons), but lacking time to plan or feeling obliged to use quick, easy resources that (re)capture children's attention whilst remaining 'on topic' for core subjects (Fautley et al., 2018).

Furthermore, it is similarly unsurprising to find a significant interaction between age group and aggregated Social purpose score for using songs (RQ1Aiv), since KS2 is less associated with circle time and children singing together than ECE. Yet affective reasons for using songs are mentioned by KS2 interviewees, who see songs as effective ways of engaging and motivating children. The KS1 teacher mentions that performing songs together helps bond the class group, but unlike 74% of respondents he is a trained musician and feels able to offer this additional value. In the literature too, social and affective benefits are prominent reasons for using songs (Chou, 2014; Davanellos, 1999). However, there is a contrast between KS2 respondents valuing

songs' motivational or affective benefits, and their resource choices, with the majority of participating KS1/2 teachers turning to YouTube for songs (RQ1Cii). This raises the question of whether it is possible to achieve perceived social and affective benefits of song use with passive performance approaches, and also whether teachers believe that songs presented on screens can achieve such benefits. There is tension between using songs as a distraction before continuing the 'real' work of KS2, and genuinely believing that songs are socially bonding pedagogical tools, as some publications promote (Chen-Hafteck & Mang, 2012).

In summary, there is clear synergy between the 'grey' literature's confident proclamations of songs' various pedagogical and mnemonic benefits and teachers' survey responses about their song use. Song use seems to reduce dramatically in KS2, which perhaps indicates that when teachers wish to ensure their pupils are meeting end-of-primary-school learning targets, they do not rely on songs as pedagogical tools. This study found little evidence of ambiguous peer-reviewed research into songs' educational value (e.g. equivocal evidence regarding vocabulary acquisition, see Section 2.3) reaching teacher-facing publications, and some evidence that peer-reviewed literature upheld the positive 'spin' from such publications (Section 2.2). These findings have important pedagogical implications because it appears that current teaching practice regarding songs is not underpinned by reliable empirical evidence. Researchers need to begin gathering reliable, rigorous evidence for potential benefits of songs and make future findings widely available to practitioners as well as other researchers.

6.2. On songs' educational value

Cultural beliefs and intuitions about songs' educational value have a firm hold on both practitioner and (some) researcher outlooks. This study attempted to find where empirical evidence and teacher practice converge, discovering a central void in the evidence base. Survey and interview data confirmed that teachers hold long-standing and arguably unanalysed beliefs about the value of using songs with young learners, and that equivocal research evidence is not reaching teachers. Nevertheless, RQ3B found positive correlations between teachers' strength of belief in songs' value and their willingness to sing regardless of singing ability. Despite scant research evidence, practitioners use songs extensively for multiple purposes in ECE. KS2 teachers use songs less frequently and for teaching content rather than behavioural or social purposes. Now that there is tangible evidence of teachers' beliefs and practice regarding songs as presented herein, the next step is to gather reliable, credible evidence about songs' putative benefits from across different research domains. This study forms one piece of the transdisciplinary jigsaw, with the important finding that research is not reaching practitioners, who enthuse about songs' pedagogical benefits on the basis of scant evidence. This speaks to the need for better collaboration between researchers and teachers, with researchers working harder to bring research evidence towards existing teacher practice.

One area that this study's results and the literature converge upon indicates that teachers and some researchers believe the mnemonic value of songs is worthy of careful investigation (Davanellos, 1999; Fonseca-Mora, 2000; Degrave, 2019). Childhood songs are remembered for long periods, but whether songs are a *more* effective mnemonic than other pedagogies is unclear

(Schulkind, 2009). Since educational practice should be based upon well-evidenced pedagogies rather than collective hunches or untested hypotheses, perhaps it is time to take up Murphey's (1990) call to test SSIMH against other pedagogies appropriate for young learners in large-scale, well-controlled trials. This must be additional to secondary-school FL songs research (Ludke, 2018) because ECE has unique content requirements and long-term influence over child development (Sylva, 2010). Further, it would be propitious to test different song types and their uses, for example whether action songs promote form-meaning links (Thain, 2016) or encourage learning of physical concepts in PE and fine motor skills as suggested by interviewees.

Furthermore, RQ4 results and the literature highlight vocabulary and pronunciation as research areas of interest to teachers. Interestingly, vocabulary intervention research often compares songs to stories (Chou, 2014; Leśniewska & Pichette, 2016; Albaladejo et al., 2018), testing whether songs help children acquire vocabulary at a similar or better rate than stories, with inconclusive results from classic pre-/post-test designs. It might be interesting to look at the longer-term mnemonic effects of songs with longer delayed post-tests, given the cultural belief that children's songs 'stick' for a lifetime. Such research would be complex to implement with young learners, require substantial numbers of participants to allow for generalisation since preschool studies are typically small, and perhaps raise ethical questions if one group were denied singing over long periods. It might work by replicating repeated-measures, within-subjects designs (Davis & Fan, 2016), where all children receive the song intervention but presentation of vocabulary items is carefully controlled.

Much more work then is needed across a range of research domains, since currently it is not clear whether songs help to learn (any type of) content. Additionally, perhaps songs are an enjoyable classroom activity and thus outcomes may include children's enjoyment levels, or their engagement in class. Affective benefits were highlighted by study participants but have not been measured rigorously in existing research since researcher-observed (Castro Huertas & Navarro Parra, 2014) or self-reported (Chou, 2014) motivation levels are arguably unreliable methodologies with young learners.

Importantly, this study has also highlighted the matter of carefully defining 'young learners' since clearly there cannot be generalisation from KS2 to ECE and vice versa: teacher beliefs and practice differ as a function of age group taught across purpose for using songs, planning and resources. As a first 'next step', perhaps studying KS2 learners and song use would help gather empirical evidence of songs' use as pedagogical tools for this crucial age and stage, where teachers are necessarily focused on end-of-primary learning outcomes. This study found some evidence that, whilst KS2 teachers echo cultural beliefs about songs' putative benefits, they do not necessarily use songs frequently, unless to reengage children on a 'core' task and break up routines of writing and teacher-heavy presentation. If researchers gather evidence of how songs benefit learners (whether for pedagogical or affective purposes), KS2 teachers inclined to use songs might feel more confident choosing them; conversely, if reliable evidence accrues showing no pedagogical benefits of songs, KS2 teachers less inclined to use songs could be confident in choosing not to use them outside formal music instruction.

In summary, this study has highlighted mnemonics and vocabulary as potentially important research subtopics, but the principal takeaway involves researchers and teachers working together to set priorities for future transdisciplinary research that is controlled, rigorous and widely (and reliably) disseminated to practitioners.

6.3. Limitations

This section presents some of the factors that may undermine this study's reliability and validity, thus limiting its generalisability.

Sampling. Participants' self-selection to questionnaire and interview phases may have skewed findings towards participants with stronger feelings about song use in classrooms than the general teaching population (see 3.2). Snowball sampling and online dissemination may have impeded potential candidates less comfortable with technology from taking part. Technology is routinely part of teaching, hence the risks were considered small and unavoidable. Future studies might capture more participants by offering optional paper formats.

The quantitative sample (n=103), whilst reasonably sized, is in no way large enough to be representative of UK teachers, especially since respondents largely worked in England. Additionally, snowball sampling meant there was no control over survey participants' demographics. This resulted in unequal balance of respondents' genders and age groups taught. Allowing participants to select multiple age groups limited how quantitative data could be analysed, since the 'EYFS & Primary' category combined many age-and-stage combinations. Whilst this arguably reflects genuine teaching contexts better than obliging single answers when multiple ages are taught, it means that sample sizes for EYFS and KS2 were reduced, which may under power statistical analyses.

Follow-up interviews were conducted with only 7 of 33 volunteers, limiting how much valuable insight was gathered from practitioners. Future studies might consider interviewing more volunteers, although this presents practical issues regarding time for transcribing and analysing conversations. Additionally, balloting interview participants (see 3.5.2) based on age and stage of their learners may have missed other interesting dimensions (e.g. teachers' age, experience, setting) from being considered.

Future research would benefit from larger, more representative sample sizes. This study was limited to self-report through questionnaire and interviews. In future, classroom observation would ideally be used to supplement teachers' reported practice.

Researcher/participant bias. The researcher acknowledges the difficulty of maintaining neutrality on a topic of particular interest. Combined with participant self-selection, this may have led to a biased representation of song use in the interview data. The researcher tried to strike a balance between creating rapport with participants, as this is important for fruitful interviews (Oppenheim, 1992), and neutrality by not showing over-enthusiasm for responses that echoed her views. Interviews are a 'co-constructed social exchange' (Dornyei, 2007:141). The researcher

acknowledges that balancing neutrality and empathy necessitates interpreting data with care to avoid exaggerating any bias therein. To avoid interviewer bias, preferably a neutral third-party might have conducted interviews using the researcher's prepared schedule, but this was unfeasible at MSc level. Researcher bias arises as a key issue in this field, as evidenced by studies spinning findings more favourably than evidence warrants. The researcher acknowledges her own enthusiasm for using songs and strove to examine evidence objectively. However, combined with participants' self-selection to survey and interviews, researcher bias poses a potentially serious limitation to this study's findings.

Likert Scales. As noted in 3.4.1, Likert scales might provoke extreme answers, especially when using slider bars that participants may move to the extremities (0, strongly disagree; 100, strongly agree) rather than giving nuanced answers. Nonetheless, the slider option was preferable to using closed, worded responses where it is impossible to give nuanced answers falling between scale items. Given the general limitations of Likert scales, using 0–100 slider scales mitigated some of the arbitrary scoring of traditional five-point scales and aimed to produce a more graded dataset capturing teachers' attitudes and opinions about song use.

Outliers were included in analyses by winsorizing rather than trimming outlying responses (see 4.1). Whilst this involved minimal adjustments to overall mean scores on aggregated 'purpose' categories, it contributed to the already positively-skewed data. General trends, however, remained the same in each case, and since every method for dealing with outliers has its own limitations, winsorizing was the preferred compromise.

Finally, the scope of this dissertation was necessarily rather narrow, with time and space constraints not allowing for detailed and deep analyses of some key issues. Interesting directions for future research arising here include teacher training regarding song use and further analysis of the resources teachers use to explore teachers' song planning. Notwithstanding these limitations, this study's findings are consistent with Fautley et al. (2018) and the literature reflects similar biases as found herein, indicating that the findings have validity.

7. Implications and conclusion

This study arose through the researcher questioning her own positive intuitions about using songs with young learners. A perceived lack of empirical evidence to support pedagogical song use was confirmed by reviewing existing literature. Interrogation of evidence presented in teacher-facing publications revealed gaping holes in their evidence base for using songs. The stark mismatch between carefully-collected empirical evidence and teacher intuition lead to this investigation of what ECE and primary teachers feel about using songs, exploring their purposes for using songs and planning behaviours. The aim was to bring together research literature and teacher practice and suggest future research directions that might guide pedagogy.

Whilst evidence from carefully-controlled studies of the unambiguous benefits of song use with young learners is scant, there are several jigsaw pieces from transdisciplinary studies in child development (Wermke & Mende, 2016; Franco et al., 2021), L2 acquisition (Campfield & Murphy, 2013; Davis & Fan, 2016), and large-scale ECE investigations (Sylva et al., 2010) that point towards songs' potential value as pedagogical tools with measurable benefits for young learners. However, these pieces do not form a coherent picture. There is currently no consensus of how songs benefit young learners compared to other pedagogies. The current study provides another piece of the puzzle. The lack of clarity and joined-up thinking in the field directly contrasts with practitioners' beliefs and behaviour, at least as far as their self-report in this study indicates. Future studies might look beneath self-report to teacher behaviour in classroom contexts using ethnographic methods, exploring how intuition and cultural beliefs about songs translate into practice.

Above all, researchers need to cease overstating minimal empirical evidence, speculative interpretations and untested hypotheses as strong demonstrations of songs' benefits for young learners, and avoid generalising evidence from other age groups to ECE and primary contexts. Current peer-reviewed publications may be contributing to a smoke-and-mirrors evidential basis for using songs with young learners, forming unstable foundations for teacher practice. It is not incumbent on teachers to synthesise available evidence by critically evaluating empirical and experiential theories. This paper calls for researchers to interrogate data sources more stringently and present findings faithfully, including methodological flaws and equivocation, rather than spinning borderline evidence positively to fit with cultural beliefs.

Finally, the strength of belief in songs as valuable pedagogical and classroom tools from this study's (albeit positively skewed) results and the literature indicates that future research would interest practitioners. However, there is a risk that if research evidence accumulated showing no positive impact of using songs over other pedagogical methods, it would go unheeded, whereas evidence showing a positive impact of songs on learner outcomes would be warmly received because it chimes with existing cultural beliefs. Future research literature needs to address these long-standing beliefs to catalyse any change in pedagogical approaches based on empirical evidence and carefully executed outreach.

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Appendix A – Participant outreach

Formal invitation to interview

Dear X participant,

Thank you for your interest in participating in my MSc research project about **how and why teachers use songs in early years and primary education**. Please consider this your formal invitation to take part in a short (10-20 minute) online interview at a time convenient to you in May 2021.

You have been invited to take part because you are an early years or primary teacher and indicated your interest on the online questionnaire.

I would like to follow up the questionnaire with an informal chat about how you currently use songs in your teaching practice, and any questions you may have about the contribution of songs to educational outcomes that future research could focus on.

Please read through this information before agreeing to participate (if you wish to) by replying to this email with the completed consent form (attached).

With kind regards,

XXXX

Social Media post text

Teachers, including me, frequently use songs as part of early years and primary school education. There has been little research into how songs could be of educational benefit, even though they are often included intuitively as part of the school day for young learners. As part of my Master's studies, I am investigating how teachers currently use songs in early years and primary schools through this short online questionnaire. I would be very grateful if you would like to take part. It takes around 5 minutes to complete the survey, which is anonymous, and you would be contributing to the body of knowledge in this little-explored area of educational research. The more early years and primary teachers who take part in the survey, the more useful the data will be, so if you felt able to share it with your colleagues, that would be wonderful. Thank you!

Appendix B – Questionnaire

Section 1: Participant details
Section 2: Use of songs
Section 3: Research queries

Section 1	In this section we would like you to tell us a little bit about yourself. This helps us to understand who is completing the survey.	
1	Which age groups do you teach?	Children aged 0-1
	Please select all that apply.	Children aged 1-2
		Children aged 2-3
		Children aged 2-3
		Children aged 3-4
		Primary - Reception
		Primary - Year 1
		Primary - Year 2
		Primary - Year 3
		Primary - Year 4
		Primary - Year 5
		Primary - Year 6
		If other, please state:
2	Which of these best describes which sector you work in?	State-maintained primary school
	Please select all that apply.	State-maintained pre-school
		Free school
		Academy trust
		Private primary school
		Private pre-school
		Private nursery
		Private pre-school/kindergarten
		Childminder
3	Age	18-25, 26-35, 36-45, 46-55, 56-65, 65+
4	Sex	M/F/non-binary/third-gender/prefer not to say
5	Training - highest level of training?	GCSE
		A Level

		College diploma (in progress or complete)
		Bachelor's Degree (in progress or complete)
		Master's Degree (in progress or complete)
		PhD (in progress or complete)
		Other, please state:
6	Years of teaching experience	0-4, 5-9, 10-14, 15-19, 20-24, 25+
7	Do you have any specific training/ qualifications in music or singing?	Yes
		No
	If yes, please briefly describe your training.	
8	How would you rate your singing ability?	Professional
		Amateur
		Cannot sing
9	How would you rate your attitude towards singing?	I love singing
		I like singing
		I am neither like/dislike singing
		I dislike singing
		I strongly dislike singing
10	Which area of the UK do you teach in?	England
		Scotland
		Wales
		N. Ireland
Section 2	**In this section, we would like to hear about how you use songs in your classroom or setting, to help us build a picture of how teachers use (or do not use) songs in the UK.**	
11	How often do you use songs with your class?	More than once a day/session
		Once a day/session
		More than once a week
		Once a week
		Once every few weeks
		Almost never
12	What would you say are the primary reasons for you to choose songs as an activity?	Songs just help fill some time between other learning activities.

		Songs are not learning activities in themselves.
	Please rate the following statements, and/or add any other suggestions below. You can skip a line or, if it is not relevant for your setting, click 'not applicable'.	Songs are just for fun.
	Strongly disagree = 0	Songs help with group bonding.
		We sing in circle time, or altogether in class.
	Strongly agree = 100	Songs help children learn vocabulary/new words.
		Songs help teach a new concept (e.g., the alphabet, the continents, numbers…)
		Songs help children memorise something (e.g., the alphabet, topic key content, the song lyrics…)
		Songs help introduce a new language (e.g. French, English, Spanish...)
		I use songs to change the pace/mood of the class (calming down, cheering up, etc.)
		Songs help me teach classroom routines (e.g., lining up, tidying up)
		Songs help children learn pronunciation.
		Songs help teach history, geography, science, etc.
		Songs help build social skills.
		Songs are foundational for literacy and reading.
		Songs have a place for learning music skills, but not other skills or content.
		Songs help me teach maths.
		Songs help children enjoy language.
		Songs are not a serious part of the learning.
		Singing helps children concentrate.
		Singing helps children listen better.
		Songs are a source of diversity and multiculturalism.
		Songs help calm children.
		Singing helps me speak/explain clearly so that children understand what I'm saying.
		Songs are for whole-school activities like assembly, not for class time.
	If you use songs for other reasons, please write them here:	
13	How do you and your classes enjoy songs?	The children enjoy our song activities.
	Please rate the following statements.	I can't imagine teaching without using songs.

		I feel daunted when I know I have to sing with the class.
		It doesn't matter whether I sing well, the important thing is to sing in class anyway.
		Singing is an enjoyable part of the day.
		I don't enjoy it for myself, but I sing for the sake of the children.
		I feel self conscious if another adult hears me singing in class.
14	How do you perform/provide the songs?	I play a video/YouTube clip
	Rank only those that apply to you (1 = most frequent, 2 = 2nd most frequent etc.) and leave the rest blank.	I sing the songs myself
		I play a CD/audio recording
		A singing/music teacher comes in
		The children make up the songs
		A parent comes in
		Other option stated below.
	If you perform/provide the songs in another way, please write it here.	
15	Where do you find your song resources?	YouTube
	Rank only those that apply to you (1 = most frequent, 2 = 2nd most frequent etc.) and leave the rest blank.	CDs
		Paid subscription to an online music service
		My own memory
		Our music teacher
		From a book of songs
		On a website
		Pinterest
		We make them up together as we go about the day/ activities.
		We ask parents or caregivers to share/teach us the songs they sing at home.
		Other option stated below.
	If you find your songs from another resource, please write it here.	
16	How do you plan your song use?	I plan specific songs into our curriculum
	Please rate the following statements.	I plan singing time but not specific songs into our routine

		I spontaneously think of songs rather than plan them
		I let the children lead me with their use of songs
		I plan a range of song types (actions, movement, instruments, call-and-response...)
		I plan songs and stories to complement each other
		Songs are part of whole-school activities like assembly, not class time
		It's hard to find time for songs
		We sing as we work on other activities, rather than setting time aside for songs
		Our school/setting prioritises music - we have a whole-school strategy
	If you plan your song use another way, please write it here.	
Section 3	**In this final question, we would like to learn more about how researchers could help support teachers in using songs.**	
15	What questions do you have about using songs in class? It could be anything you've been wondering about, there are no right/wrong answers.	Do songs help children learn words/vocabulary?
	We have provided some ideas (please select if they apply to you). If there are others you'd like to tell us about, please write them below.	Do songs help with pronunciation?
		Do songs help teachers teach new content in any subject?
		Do songs help children learn social skills?
	If you have other questions about using songs in class, please write them here.	

End	Thank you for taking this survey. We really appreciate your time and help.
	Please feel free to send this survey on to anyone who you think might be interested. You can copy and paste this link [QUALTRICS LINK], which will take people straight to the survey:
	We would like to share the results of this research into song use in early years and primary schools with you. If you would like us to do this, please leave your email address below and tick the relevant option.
	After the questionnaire phase of this study, the researcher is planning to conduct some short follow-up interviews in May 2021, online and at a time convenient to participants. If you consent to being considered for an interview, please leave your email address below and tick the relevant option. Thank you.
	EMAIL:
	Please let me know when the results of the research are published.
	Please consider me for a follow-up interview in May 2021.

Appendix C – Semi-structured interview guide & questions

Opening questions

1. Please could tell me a bit about where you are teaching at the moment? How long have you been teaching there? Have you taught in other types of setting?

Content questions

2. If you do use songs, what are your main reasons for choosing songs as an activity?
3. How do you feel about using songs as part of your teaching practice?
4. How do your pupils feel about using songs?
5. How do you plan your song use? (e.g. where do you find the songs, how often do you use them…?)
6. What do you think are the benefits of using songs in education?
7. Do you have any queries about the use of songs in education that might inform future research?

Final question

8. I have no more questions. Is there anything I have forgotten to ask that you'd like to add?

Appendix D – CUREC approval email

16 Feb 2021, at 10:09

Dear XXX

Title: Investigating the relationship between empirical evidence and teacher practice in the use of songs in early years settings and primary school education in the UK.

CUREC Ref: ED-CIA-21-125

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted.

If your research involves participants whose ability to give free and informed consent is in question (this includes those under 18 and vulnerable adults), then it is advisable to read the following NSPCC professional reporting requirements for cases of suspected abuse

http://www.nspcc.org.uk/globalassets/documents/information-service/factsheet-child-abuse-reporting-requirements-professionals.pdf

Should there be any subsequent changes to the project which raise ethical issues not covered in the original application you should submit details to research.office@education.ox.ac.uk for consideration.

Good luck with your research study.
Best wishes

Hamish Chalmers
Member of the DREC

Appendix E – Participant information sheet

Investigating the relationship between empirical evidence and teacher practice in the use of songs in early years settings and primary school education in the UK.

Central University Research Ethics Committee (CUREC) Approval Reference: ED-CIA-21-125

PARTICIPANT INFORMATION SHEET

1. Why is this research being conducted?

This study seeks to investigate how early years and primary teachers:
(a) currently use songs in their educational setting and
(b) what questions teachers would like answered about using songs as a teaching tool.

2. Why have I been invited to take part?

You have been invited because because you are an early years or primary teacher and indicated your interest on the online questionnaire.

3. Do I have to take part?

No. You can ask questions about the research before deciding whether or not to take part. If you do agree to take part, you may withdraw yourself from the study, without giving a reason, by advising me of this decision. The deadline by which you can withdraw any information you have contributed to the research is 31st May 2021. I will then delete any data you have provided up to the point of withdrawal.

4. What will happen to me if I take part in the research?

You will be invited to attend one interview online, which will take place on Microsoft Teams as per the University of Oxford's ethical research practice guidelines. This should take approximately 10-20 minutes. You can also ask to pause or stop the interview at any time. I will have some simple questions prepared to guide our conversation, but there are no right or wrong answers. I am interested in what you have to say about the use of songs in your experience as a practitioner.

With your consent, I would like to audio record you so I can have an accurate record of your thoughts. The interview will then be transcribed, and I will be looking for any patterns or trends that emerge to investigate practitioners' current use of songs in early years and primary classrooms.

5. Are there any potential risks in taking part?

No risks are anticipated as part of this research. To reduce any potential risks, data will be pseudonymised (i.e. your real name will not be used in any research outputs).

6. Are there any benefits in taking part?

There will be no direct or personal benefit to you from taking part in this research.

7. What happens to the data provided?

The information you provide during the study is the **research data**. Any research data from which you can be identified (e.g. name, audio recording, location) is known as **personal data**.

Personal data will be stored on a password protected computer, along with transcriptions of the interviews, and kept for three years.

Other research data (including consent forms) will be stored for at least three years after publication or public release of the work of the research.

The researcher and supervisor will have access to the research data. Responsible members of the University of Oxford may be given access to data for monitoring and/or audit of the research.

I would like your permission to use direct quotes against a pseudonym in any research outputs.

All personal information that could identify you will be removed or changed before information is shared with other researchers or results are made public.

8. Will the research be published?

This research will be written up as the researcher's MSc thesis.

The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme. Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research.
On successful submission of the thesis, it may be deposited both in print and online in the University archives to facilitate its use in future research. If so, the thesis will be openly accessible.

9. Who has reviewed this study?

This project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee [reference number].

10. Who do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please email the researcher XXXX on XXXX@education.ox.ac.uk or their supervisor XXXX on XXXX@education.ox.ac.uk, and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Departmental Research Ethics Committee at the Dept of Education at the University of Oxford who will seek to resolve the matter as soon as possible. The Chair can be contacted on staff.curec@education.ox.ac.uk.

11. Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study.
The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest.
Further information about your rights with respect to your personal data is available from http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/individualrights/.

12. Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

XXXX
Department of Education
University of Oxford
15 Norham Gardens
Oxford OX2 6PY
University telephone: +44(0)1865 274024
University email: XXXX@education.ox.ac.uk

Appendix F – Consent forms

Consent form (online questionnaire)

How and why do teachers use songs in early years and primary education?

Welcome! We appreciate your interest in participating in this online survey.

You have been invited to take part because **you are an early years or primary teacher.**

We want to hear from you about how you currently use songs in your teaching practice, and any questions you may have about the contribution of songs to educational outcomes that future research could focus on.

Please read through this information before agreeing to participate (if you wish to) by clicking the (➜) button below.

This study seeks to investigate how early years and primary teachers:
(1) currently use songs in their educational setting and
(2) what questions teachers would like answered about using songs as a teaching tool.

You may ask any questions before deciding to take part by contacting the researcher (details below). The Principal Researcher is XXXXX, who is attached to the Department of Education at the University of Oxford. This project is being completed under the supervision of XXXX.

What will happen to me if I take part?
Participants are being asked to complete this online survey. This should take about 5-10 minutes. No background knowledge is required. The anonymous survey data will be used by the researcher to investigate current use of songs in early years and primary classrooms.

Do I have to take part?
No. Taking part in this study is voluntary. If you do not want to take part, you can simply close this browser window. If you do decide to take part, but change your mind at any point before submitting your answers, you can withdraw by closing the browser. Once you hit submit at the end of the survey, you will not be able to withdraw your responses.

All questions are optional. Please answer as many as you would like to.

How will my data be used?
Your responses will be collected by the research team at Oxford and will be analysed together with all of the other responses submitted. We will not collect any information that could identify you personally. For example, we will not collect your IP address or ask you for your name. However, we will invite you to leave your email address if you would like to be considered for a short follow-up interview in May 2021, online and at a time convenient to participants. We will not keep a record of which email addresses correspond to which set of responses to the survey; no

one will be able to know which responses are yours. At the end of the study we will permanently destroy the list of email addresses.

How will my data be stored, and who will see it?
The responses you provide will be downloaded from the survey website and stored on a password protected drive at the University of Oxford. Only the research team will see these 'raw' data. This survey will be written up for an MSc degree.

Who has reviewed this study?
This project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee, CUREC Ref: ED-CIA-21-125.

Who do I contact if I have a concern or I wish to complain?
If you have a concern about any aspect of this study, please email the researcher XXXX on XXXX@education.ox.ac.uk or their supervisor XXXXX on XXXXX@education.ox.ac.uk, and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Departmental Research Ethics Committee at the Department of Education at the University of Oxford who will seek to resolve the matter as soon as possible. The Chair can be contacted on staff.curec@education.ox.ac.uk.

By clicking on the arrow (➜) button below you are agreeing to participate with the understanding that the data you submit will be processed accordingly.

Please note that you may only participate in this survey if you are 18 years of age or over.

PARTICIPANT CONSENT FORM (Interviews)

Central University Research Ethics Committee (CUREC) Approval Reference: ED-CIA-21-125

Investigating the relationship between empirical evidence and teacher practice in the use of songs in early years settings and primary school education in the UK.

		Please tick
1	I confirm that I have read and understand the information sheet version_____dated _____ for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or penalty.	☐
3	I understand that research data collected during the study may be looked at by authorised people outside the research team. I give permission for these individuals to access my data.	☐
4	I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.	☐
5	I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	☐
6	I understand how this research will be written up and published.	☐
7	I understand how to raise a concern or make a complaint.	☐
8	I consent to being audio recorded	☐

9 I understand how audio recordings will be used in research outputs ☐

10a I agree to the use of direct quotes, attributed to my name, in research outputs **OR** ☐

10b I agree to the use of pseudonymised quotes in research outputs **OR** ☐

10c I agree to the use of anonymised quotes in research outputs **OR** ☐

10d I do not wish to be directly quoted ☐

11 I agree to take part in the study ☐

12 I agree that my personal contact details can be retained in a secure database so that the researchers can contact me about future studies. ☐

13 I agree to take part in the study and hereby assign to the researcher all copyright in my contribution for use in all work stemming from this project and future projects. ☐

14 I understand that my responses (data) will be stored for a minimum of 3 years and that the researcher may use the data from this study in a follow-up study on the use of songs in educational contexts. ☐

Name of participant _____

Date dd / mm / yyyy

Signature _____

Name of person taking consent _____

Date dd / mm / yyyy

Signature _____

Appendix G – Cronbach's Alpha

The questionnaire was newly-constructed for this study. Therefore a Cronbach's alpha was used to test the reliability of the Likert scales. As evidenced in Table G1, high internal consistency was achieved, Cronbach's $\alpha = 0.842$.

Table G1 – Reliability statistics for questionnaire Likert scales

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
.842	.888	42

Appendix H – Results summary, descriptive statistics, calculations and power analyses

Table H – Summary of statistical tests and results

RQ		Statistical tests	Results summary
RQ1	**AGE GROUP TAUGHT**		
RQ1A	Does age group taught influence whether teachers use songs: i) to teach content? ii) for behaviour management/ classroom routines? iii) to support language development? iv) for building social skills/group bonding?	ANOVA t-tests	Significant interaction of 'age group taught' & 'purpose': F(10.67,261.48) = 2.22, p = .015, partial η2 = .083 Significant mean differences between EYFS & KS2 for using songs for: *Behaviour* (MD: 15.48, CI: 8.09, 22.86, t(66) = 4.18, p <.001, d = 1.03) *Social* (MD: 16.04, CI: 8.93, 23.16, t(66) = 4.50, p <.001, d = 1.11) purposes but not: *Content* (MD: 5.00, CI: .802, 10.80, t(66) = 1.72, p = .090, d = .424) *Language* (MD: 7.99, CI: 1.32, 14.65, t(66) = 2.39, p = .020, d = .590).
RQ1B	Does age group taught influence teachers' attitudes towards using songs?	ANOVA Mann-Whitney U	Significant interaction of 'age group' on 'attitudes' where F(9.936,243.433) = 3.447, p <.001, partial η2 = .123 *Children enjoy the songs* – U = 282, Z = -3.642, p = < .001 *Cannot imagine teaching without songs* – U:195.5, Z = 4.8 p < .001 *I feel daunted when I sing in class* – U = 742, Z = 2.373, p = .018 *Sing regardless of ability* – U = 371, Z = -2.476, p = .013 *Singing is an enjoyable part of day* – *U* = 411.5, Z = -2.006, p = .045
RQ1Ci	Is age group associated with planning of song use?	ANOVA t-tests	Significant interaction of 'age group taught' & 'planning', F(27.51,673.95) = 2.45, p <.001, partial η2 = .091 Significant mean differences between EYFS & KS2 for planning on 4 planning statements: *Plan singing time not songs* – MD: 24.17, CI: 10.19, 38.15, t(65.59) = 3.453, p <.001, d = .810 *Spontaneous song choice* – MD: 29.98, CI: 16.97, 42.99, t(66) = 4.6, p <.001, d = 1.133 *Let children lead song choices* – MD: 29.66, CI: 19.15, 40.16, t(66) = 5.64, p <.001, d = 1.389 *It's hard to find time for songs* – MD: 21.14, CI: 7.69, 34.58, t(66) = 3.14, p = .003, d = .774

RQ1Cii	Is age group taught associated with teachers' choice of resource?	Chi-square	Statistically significant medium strength association between age group and first-choice resource, $\chi2(1) = 27.19$, $\phi = .569$, $p < .001$. 22.4% of Nursery/EYFS teachers would rank YouTube above their memory for finding songs, compared to 80% of KS1/KS2 teachers
RQ1Ciii	Is age group taught associated with how frequently teachers use songs?	Fisher-Freeman-Halton Exact	Statistically significant, medium-strength association between high frequency song use & age group, $\chi2(20) = 34.51$ ($p < .001$), $\phi = .564$, $p < .001$. 88.9% of Nursery and 75% of EYFS teachers report using songs more than once per day/session, compared to 57.1% of KS1 teachers and just 10.7% of KS2 teachers
RQ2	**ATTITUDES**		
RQ2Ai	Are teachers' attitudes to singing associated with their presentation choices?	Fisher's exact	Statistically significant small-to-medium association between attitude and first-choice rating of YouTube, $p = .007$, $\phi = .293$ 87.5% of n=8 teachers with negative/neutral attitude and 30.9% of teachers with positive attitude choose YouTube over singing songs themselves
RQ2Aii	Are teachers' attitudes towards singing associated with how frequently they use songs?	Fisher-Freeman-Halton Exact Spearman's rank-order	Statistically significant association between high frequency song use & attitude towards singing, $\chi2(3) = 9.691$ ($p = .011$). Small-to medium-strength association between high frequency & attitude, $\phi = .302$, $p = .015$. *Content* – $r_s (101) = -.204$, $p = .039$* *Behaviour* – $r_s (101) = -.384$, $p < .001$*** *Language* – $r_s (101) = -.283$, $p = .004$** *Social* – $r_s (101) = -.326$, $p < .001$***
RQ2B	Is there an association between teachers' singing ability and their attitude towards using songs?	Fisher-Freeman-Halton Exact	No statistically significant association between attitude & singing ability, $\chi2(6) = 10.824$, $p = .076$

RQ3	BELIEFS		
RQ3A	Is teachers' belief in songs' usefulness as pedagogical tools associated with their planning?	Spearman's rank-order	Statistically significant, moderate correlation between scores for aggregated 'Content' purpose & planning specific songs, $r_s(101) = .308$, $p = .002$ *Songs are foundational for literacy X planning songs & stories together* – $r_s(101) = .279$, $p = .004$** *Songs are foundational for literacy X planning specific songs* – $r_s(101) = .215$, $p = .029$* *Songs help children learn vocabulary X planning specific songs* – $r_s(101) = .396$, $p = <.001$** *Songs help children memorise something X planning specific songs* – $r_s(101) = .396$, $p <.001$*** *Songs help teach a new concept X planning specific songs* – $r_s(101) = .330$, $p <.001$*** *Songs help teach other subjects X planning specific songs* – $r_s(101) = .197$, $p = .046$*
RQ3B	Are teachers more likely to sing in class if they have a stronger belief in songs': i. pedagogical value?	Spearman's rank-order	Significant moderate-to-strong correlations between *Content* – $r_s(101) = .397$, $p < .001$ *Language* – (r_s (101)= .470, $p < .001$ and teachers' willingness to sing regardless of ability
	ii. behaviour/classroom routine value?	Spearman's rank-order	Strong positive correlation between *Behaviour* – $r_s(101) = .515$, $p < .001$ and teachers' willingness to sing regardless of ability
	iii. social/affective value?	Spearman's rank-order	Strong positive correlation between *Social* – $r_s(101) = .562$, $p < .001$ and teachers' willingness to sing regardless of ability

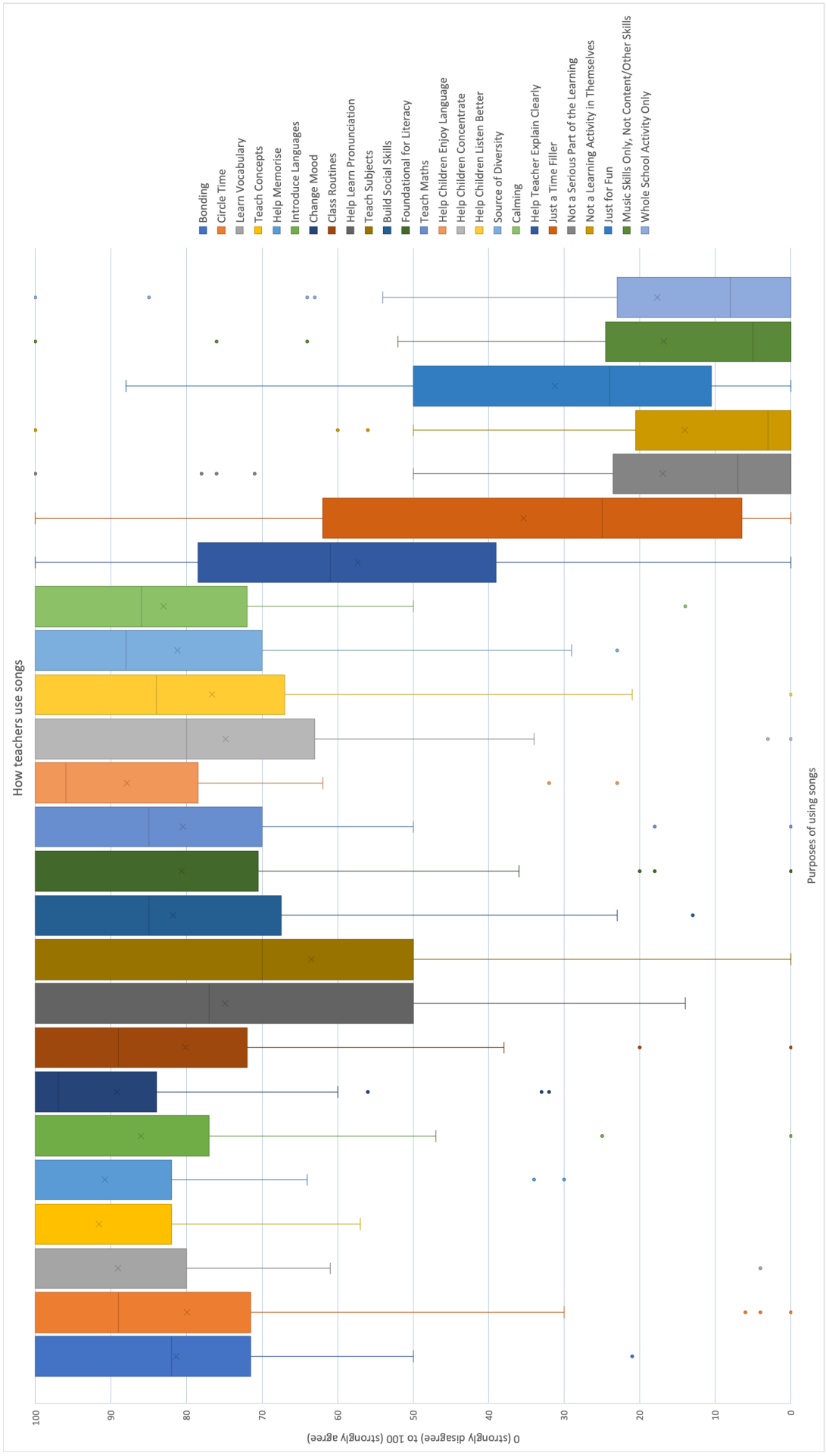
RQ4	FUTURE RESEARCH		
RQ4	What empirical evidence would teachers like to see regarding the use of songs in early years and primary settings?	Descriptive response frequencies	vocabulary – n=40 pronunciation – n=41 social skills – n=34 teaching content – n=31 other – n=9

H1. For RQ1A, presented in Section 4.2.1., raw scores from survey Q12 were aggregated into four 'purpose' categories: Content, Behaviour, Language and Social. Table H1.1 and Figure H1.1 present raw scores for all participants.

Table H1.1 – Raw scores from survey Q12: Purpose for using songs

Statement description	Mean	SD
Songs just help fill some time between other learning activities.	37.10	29.09
Songs are not learning activities in themselves.	13.36	23.14
Songs are just for fun.	28.23	25.01
Songs help with group bonding.	79.51	18.33
We sing in circle time, or altogether in class.	78.73	23.83
Songs help children learn vocabulary/new words.	88.51	16.70
Songs help teach a new concept (e.g., the alphabet, the continents, numbers…)	88.48	13.90
Songs help children memorise something (e.g., the alphabet, topic key content, the song lyrics…)	88.25	15.83
Songs help introduce a new language (e.g. French, English, Spanish...)	84.79	18.06
I use songs to change the pace/mood of the class (calming down, cheering up, etc.)	87.12	16.74
Songs help me teach classroom routines (e.g., lining up, tidying up)	75.93	21.63
Songs help children learn pronunciation.	76.04	23.27
Songs help teach history, geography, science, etc.	67.00	21.59
Songs help build social skills.	77.34	21.59
Songs are foundational for literacy and reading.	79.65	21.31
Songs have a place for learning music skills, but not other skills or content.	16.57	25.06
Songs help me teach maths.	78.42	18.19
Songs help children enjoy language.	86.05	17.01
Songs are not a serious part of the learning.	14.84	20.97
Singing helps children concentrate.	74.03	23.92
Singing helps children listen better.	75.65	23.29
Songs are a source of diversity and multiculturalism.	81.13	18.01
Songs help calm children.	79.38	20.16
Singing helps me speak/explain clearly so that children understand what I'm saying.	54.93	26.59
Songs are for whole-school activities like assembly, not for class time.	14.74	24.72

Figure H1.1 – Box and whisker plot of raw scores for survey Q12: Purpose for using songs (before outliers removed through winsorizing, see Section 4.1)



To address RQ1A, box and whisker plots and descriptive mean scores of EYFS and KS2 teachers' aggregated 'purpose' scores were compared, as presented in Figures H1.2 and H1.3 and Table H1.2.

Figure H1.2 – Box and whisker plot of EYFS teachers' aggregated 'purpose' scores

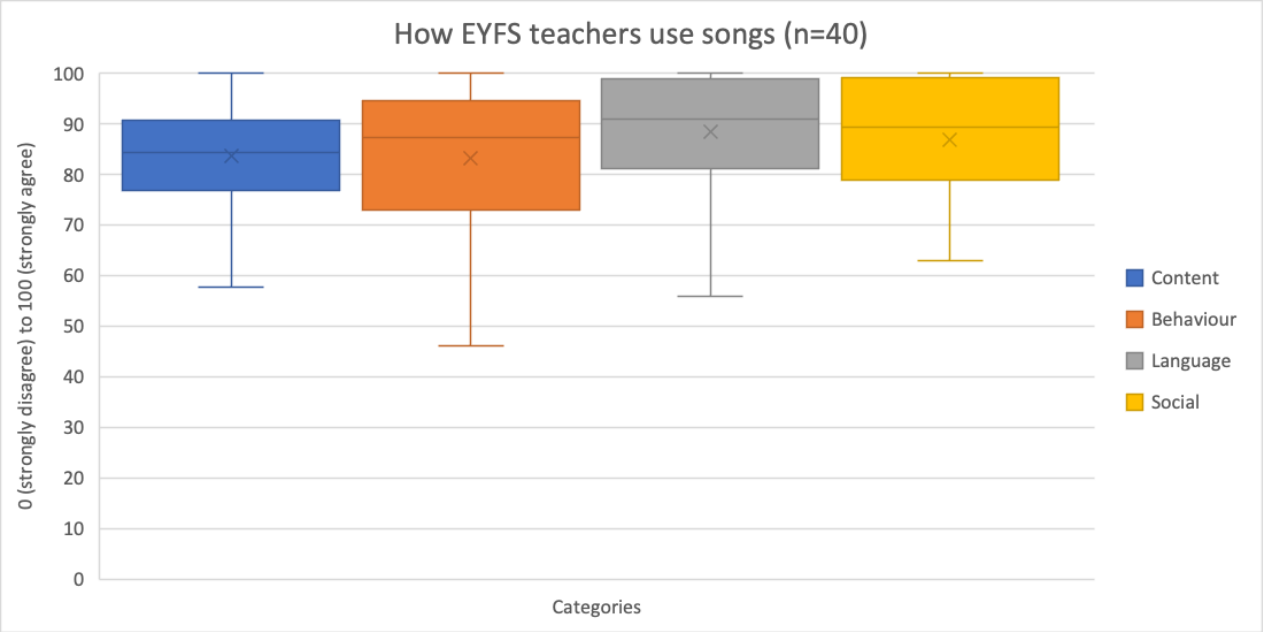


Figure H1.3 – Box and whisker plot of KS2 teachers' aggregated 'purpose' scores

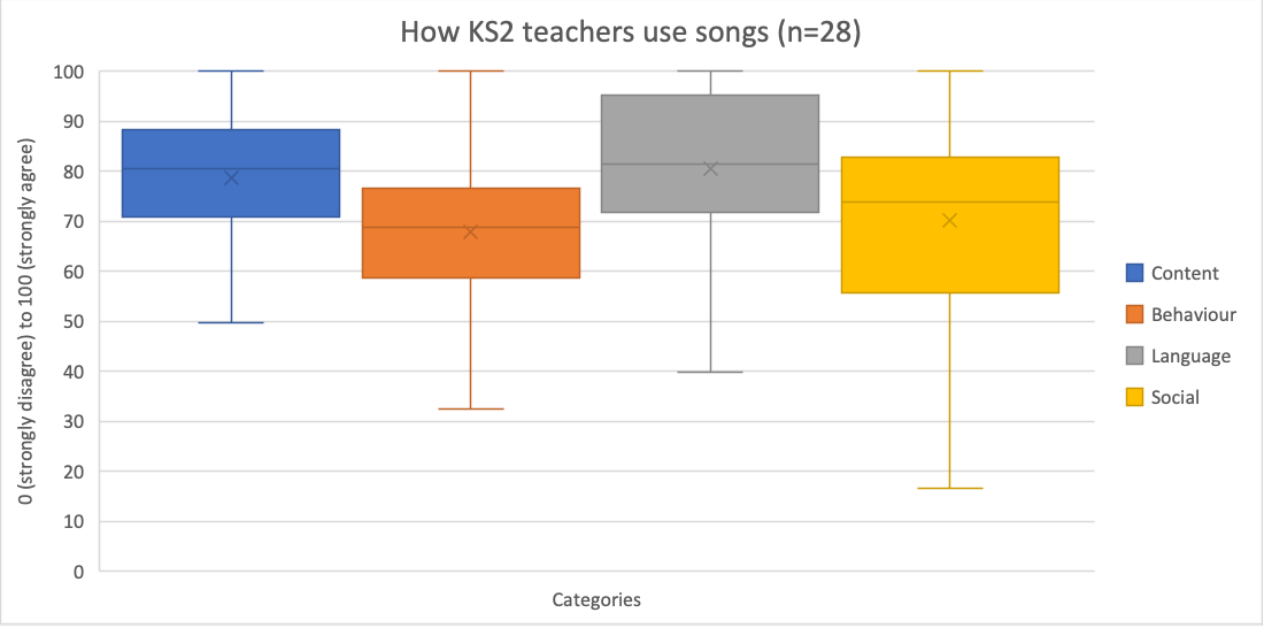


Table H1.2: Mean and standard deviation for EYFS and KS2 across ‘purpose for using songs’ categories

	EYFS (n=40)		KS2 (n=28)	
	Mean	SD	Mean	SD
Content	83.55	10.46	78.55	13.50
Behaviour	83.28	13.85	67.77	16.62
Language	88.45	12.07	80.54	15.67
Social	86.73	12.12	70.02	18.96

Table H1.3 – Repeated measures ANOVA factors

Within-subjects factors	**Between-subjects factors**
1 – Content	1 – Nursery (n=9)
2 – Behaviour	2 – EYFS (n=40)
3 – Language	3 – EYFS & Primary (n=19)
4 – Social	4 – KS1 (n=7)
	5 – KS2 (n=28)

Table H1.4 – Assumptions for Repeated-Measures ANOVA

Within-subjects effect	**Mauchly’s W**	**Approx. Chi-square**	**df**	**Sig.**	**Greenhouse-Geisser**
Purpose	.809	20.492	5	.001	**.889**

Table H1.5 – Shapiro-Wilk test of normality

		Shapiro-Wilk		
	Age GroupTaught	**Statistic**	**df**	**Sig.**
Content	Nursery	.926	9	.444
	EYFS	.966	40	.260
	EYFS & Primary	.942	19	.286
	KS1	.952	7	.751
	KS2	.965	28	.443
Behaviour	Nursery	.881	9	.162
	EYFS	.920	40	.008**
	EYFS & Primary	.950	19	.399
	KS1	.917	7	.443
	KS2	.971	28	.611
Language	Nursery	.845	9	.065
	EYFS	.852	40	.001***
	EYFS & Primary	.902	19	.054
	KS1	.870	7	.187
	KS2	.934	28	.076
Social	Nursery	.880	9	.156
	EYFS	.890	40	.001***
	EYFS & Primary	.937	19	.237
	KS1	.934	7	.581
	KS2	.948	28	.176

Table H1.6 – ANOVA Pairwise comparisons for ‘age group’ x ‘purpose’

					95% Confidence intervals for difference	
(I) Age Group Taught	**(J) Age Group Taught**	**Mean difference (I-J)**	**Std. Error**	**Sig.[b]**	**Lower bound**	**Upper bound**
Nursery	EYFS	1.011	4.067	1.000	-10.669	12.691
	EYFS & Primary	4.860	4.461	1.000	-7.951	17.671
	KS1	-0.967	5.555	1.000	-16.922	14.988
	KS2	**12.139***	4.224	0.050	0.008	24.270
EYFS	Nursery	-1.011	4.067	1.000	-12.691	10.669
	EYFS & Primary	3.849	3.071	1.000	-4.972	12.670
	KS1	-1.978	4.516	1.000	-14.949	10.993
	KS2	**11.128***	2.716	0.001	3.327	18.929
EYFS & Primary	Nursery	-4.860	4.461	1.000	-17.671	7.951
	EYFS	-3.849	3.071	1.000	-12.670	4.972
	KS1	-5.827	4.874	1.000	-19.825	8.171
	KS2	7.279	3.277	0.286	-2.131	16.689
KS1	Nursery	0.967	5.555	1.000	-14.988	16.922
	EYFS	1.978	4.516	1.000	-10.993	14.949
	EYFS & Primary	5.827	4.874	1.000	-8.171	19.825
	KS2	13.106	4.658	0.059	-0.273	26.485
KS2	Nursery	**-12.139***	4.224	0.050	-24.270	-0.008
	EYFS	**-11.128***	2.716	0.001	-18.929	-3.327
	EYFS & Primary	-7.279	3.277	0.286	-16.689	2.131
	KS1	-13.106	4.658	0.059	-26.485	0.273

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

H2. RQ1B (Does age group taught influence teachers' attitudes towards using songs?) was explored using data from survey Q13 (*How do you and your classes enjoy songs?*). Trends from Q13 for all respondents is visualised in Figure H2.1.

Figure H2.1 – Box and whisker plot of 'attitudes to using songs' data for all respondents

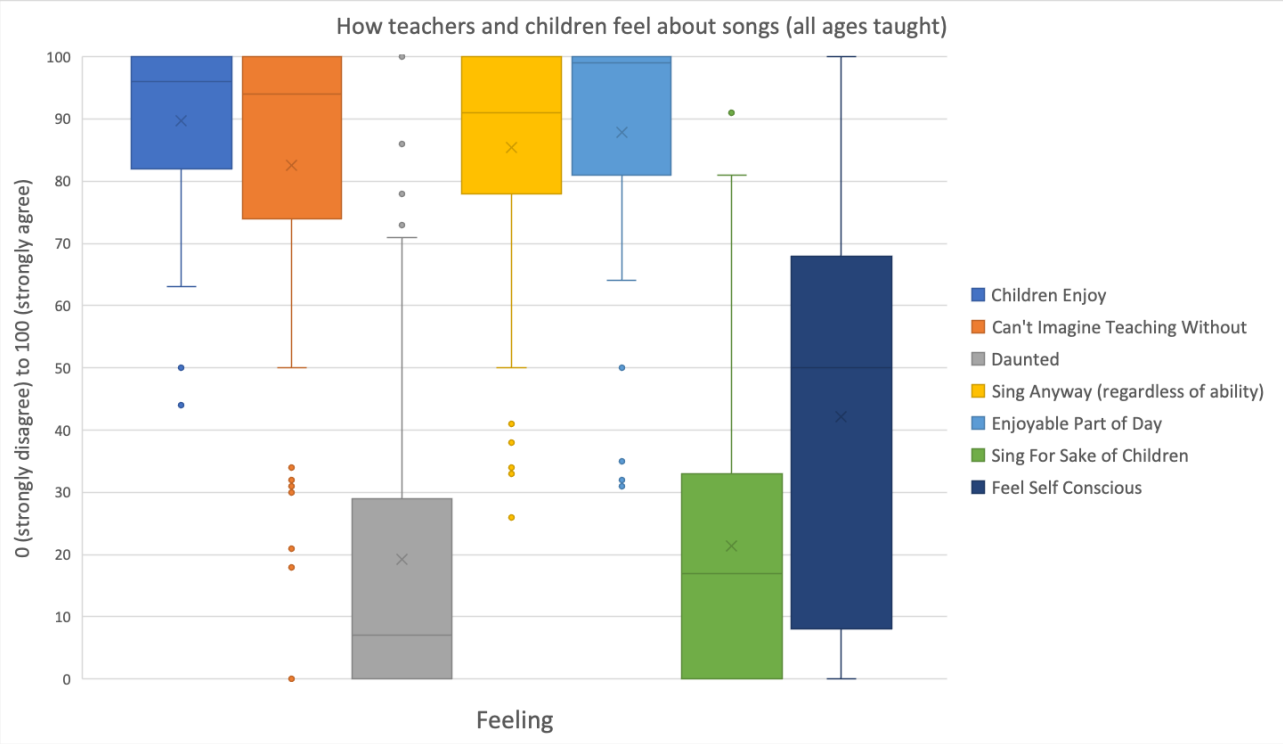


Table H2.1 – descriptive statistics for age group x attitudes to using songs

Q13 statement:	Key Stage	Mean	Std. Deviation	N
The children enjoy our song activities.	1 Nursery	92.33	8.20	9
	2 EYFS	94.58	8.45	40
	3 EYFS & Primary	90.05	8.52	19
	4 KS1	94.86	9.67	7
	5 KS2	81.04	17.42	28
	Total	89.88	12.79	103
I can't imagine teaching without using songs.	1 Nursery	95.44	6.41	9
	2 EYFS	92.70	11.68	40

	3 EYFS & Primary	86.16	17.98	19
	4 KS1	86.86	20.06	7
	5 KS2	61.39	29.08	28
	Total	82.83	23.27	103
I feel daunted when I know I have to sing with the class.	1 Nursery	17.89	21.95	9
	2 EYFS	11.70	15.03	40
	3 EYFS & Primary	18.47	22.84	19
	4 KS1	8.43	13.14	7
	5 KS2	33.71	34.79	28
	Total	19.25	25.19	103
It doesn't matter whether I sing well, the important thing is to sing in class anyway.	1 Nursery	92.89	8.34	9
	2 EYFS	91.28	12.06	40
	3 EYFS & Primary	79.00	20.83	19
	4 KS1	86.14	13.47	7
	5 KS2	78.86	21.43	28
	Total	85.43	17.55	103
Singing is an enjoyable part of the day.	1 Nursery	94.11	7.24	9
	2 EYFS	91.90	12.10	40
	3 EYFS & Primary	90.84	9.86	19
	4 KS1	95.86	10.53	7
	5 KS2	76.04	27.21	28
	Total	87.85	18.28	103
I don't enjoy it for myself, but I sing for the sake of the children.	1 Nursery	35.11	28.86	9
	2 EYFS	20.13	25.75	40
	3 EYFS & Primary	18.89	17.01	19
	4 KS1	6.29	11.12	7
	5 KS2	24.36	23.97	28

	Total	21.42	23.79	103
I feel self conscious if another adult hears me singing in class.	1 Nursery	52.22	37.18	9
	2 EYFS	42.53	31.97	40
	3 EYFS & Primary	42.42	32.95	19
	4 KS1	21.00	20.34	7
	5 KS2	43.29	33.39	28
	Total	42.10	32.41	103

Data from Q13 was then divided into 'youngest' and 'oldest' age groups taught, as visualised in Figures H2.2 and H2.3.

Figure H2.2 – Box and whisker plot of 'attitudes to using songs' data for Nursery/EYFS teachers

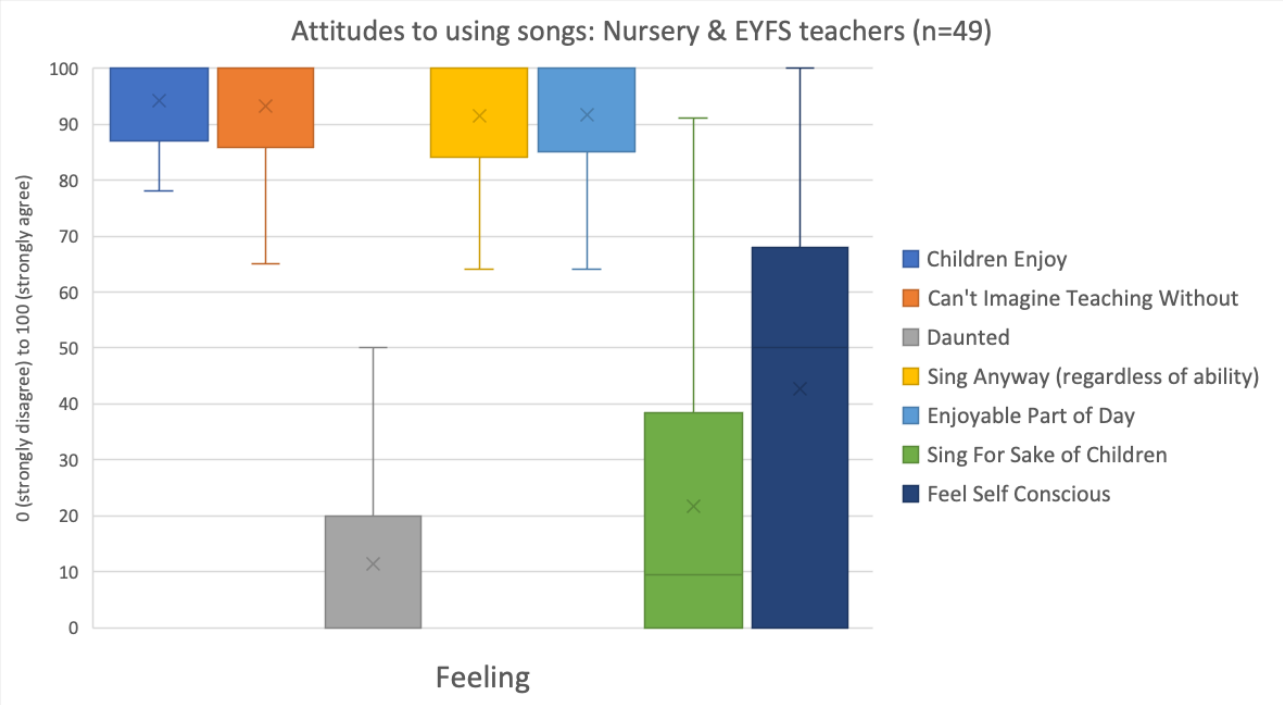


Figure H2.3 – Box and whisker plot of 'attitudes to using songs' data for KS1/KS2 teachers

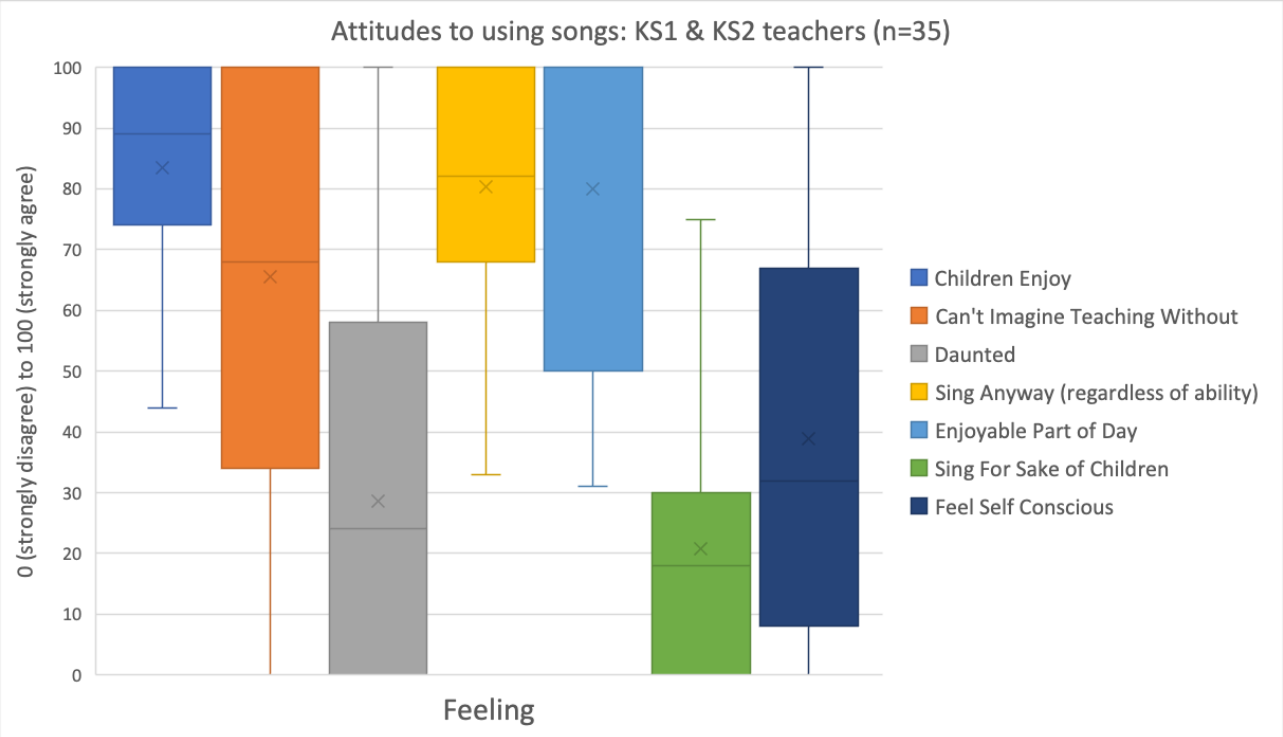


Table H2.2 – Mean and SD for attitude statements x age group taught

Q13 Statement	Nursery/EYFS		KS1/KS2	
	Mean	SD	Mean	SD
The children enjoy our song activities.	94.22	8.31	83.46	17.49
I can't imagine teaching without using songs.	93.19	11.12	65.46	30.70
I feel daunted when I know I have to sing with the class.	11.46	15.11	28.66	32.64
It doesn't matter whether I sing well, the important thing is to sing in class anyway.	91.52	11.98	80.31	19.85
Singing is an enjoyable part of the day.	91.72	12.03	80.00	25.85
I don't enjoy it for myself, but I sing for the sake of the children.	21.69	26.15	20.74	22.73
I feel self conscious if another adult hears me singing in class.	42.67	32.87	38.83	31.79

An ANOVA to determine the effect of 'age groups taught' on teachers' attitudes towards using songs was run. The following tables evidence the ANOVA process.

Table H2.3 – Repeated measures ANOVA factors

Within-subjects factors	Between-subjects factors
1 – The children enjoy our song activities.	1 – Nursery (n=9)
2 – I can't imagine teaching without using songs.	2 – EYFS (n=40)
3 – I feel daunted when I know I have to sing with the class.	3 – EYFS & Primary (n=19)
4 – It doesn't matter whether I sing well, the important thing is to sing in class anyway.	4 – KS1 (n=7)
5 – Singing is an enjoyable part of the day.	5 – KS2 (n=28)
6 – I don't enjoy it for myself, but I sing for the sake of the children.	
7 – I feel self conscious if another adult hears me singing in class.	

Table H2.4 – Assumptions for Repeated-Measures ANOVA

Within-subjects effect	Mauchly's W	Approx. Chi-square	df	Sig.	Greenhouse-Geisser
Attitude	.023	359.405	20	< .001	**.414**

Table H2.5 – Shapiro-Wilk test of normality

Planning type	Shapiro-Wilk		
	Statistic	df	Sig.
1 – The children enjoy our song activities.	.785	103	< .001
2 – I can't imagine teaching without using songs.	.759	103	< .001
3 – I feel daunted when I know I have to sing with the class.	.781	103	< .001
4 – It doesn't matter whether I sing well, the important thing is to sing in class anyway.	.811	103	< .001
5 – Singing is an enjoyable part of the day.	.712	103	< .001
6 – I don't enjoy it for myself, but I sing for the sake of the children.	.842	103	< .001
7 – I feel self conscious if another adult hears me singing in class.	.913	103	< .001

Table H2.6 – ANOVA Pairwise comparisons for ‘age group’ x ‘attitude to singing’

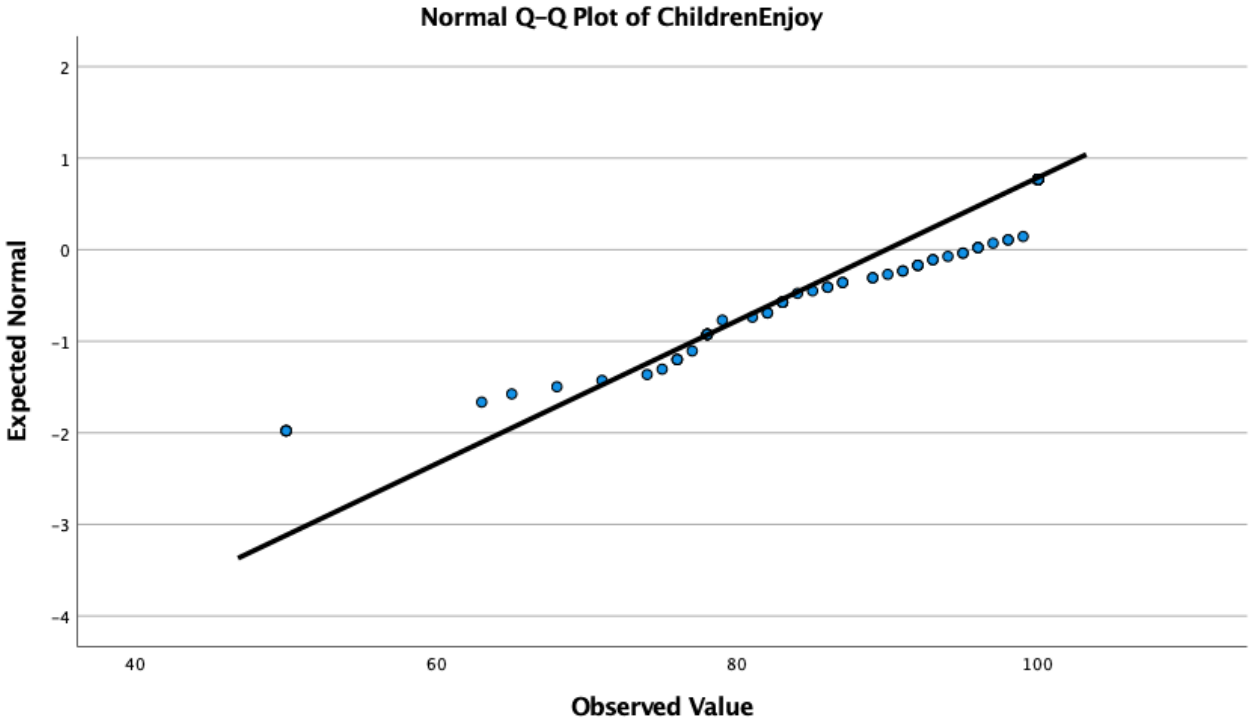
					95% Confidence intervals for difference	
(I) Age Group Taught	**(J) Age Group Taught**	**Mean difference (I-J)**	**Std. Error**	**Sig.[b]**	**Lower bound**	**Upper bound**
Nursery	EYFS	5.029	2.959	.924	-3.469	13.526
	EYFS & Primary	7.737	3.245	.190	-1.583	17.057
	KS1	11.510	4.041	.054	- .097	23.117
	KS2	**11.617***	3.073	.003**	2.792	20.443
EYFS	Nursery	-5.029	2.959	.924	-13.526	3.469
	EYFS & Primary	2.708	2.234	1.000	-3.709	9.126
	KS1	6.482	3.286	.513	-2.955	15.918
	KS2	**6.589***	1.976	.012**	.914	12.264
EYFS & Primary	Nursery	-7.737	3.245	.190	-17.057	1.583
	EYFS	-2.708	2.234	1.000	-9.126	3.709
	KS1	3.773	3.546	1.000	-6.410	13.957
	KS2	3.881	2.384	1.000	-2.965	10.726
KS1	Nursery	-11.510	4.041	.054	-23.117	.097
	EYFS	-6.482	3.286	.513	-15.918	2.955
	EYFS & Primary	-3.773	3.546	1.000	-13.957	6.410
	KS2	.107	3.389	1.000	-9.626	9.840
KS2	Nursery	**-11.617***	3.073	.003**	-20.443	-2.792
	EYFS	**-6.589***	1.976	< .012**	-12.264	- .914
	EYFS & Primary	-3.881	2.384	1.000	-10.726	2.965
	KS1	- .107	3.389	1.000	-9.840	9.626

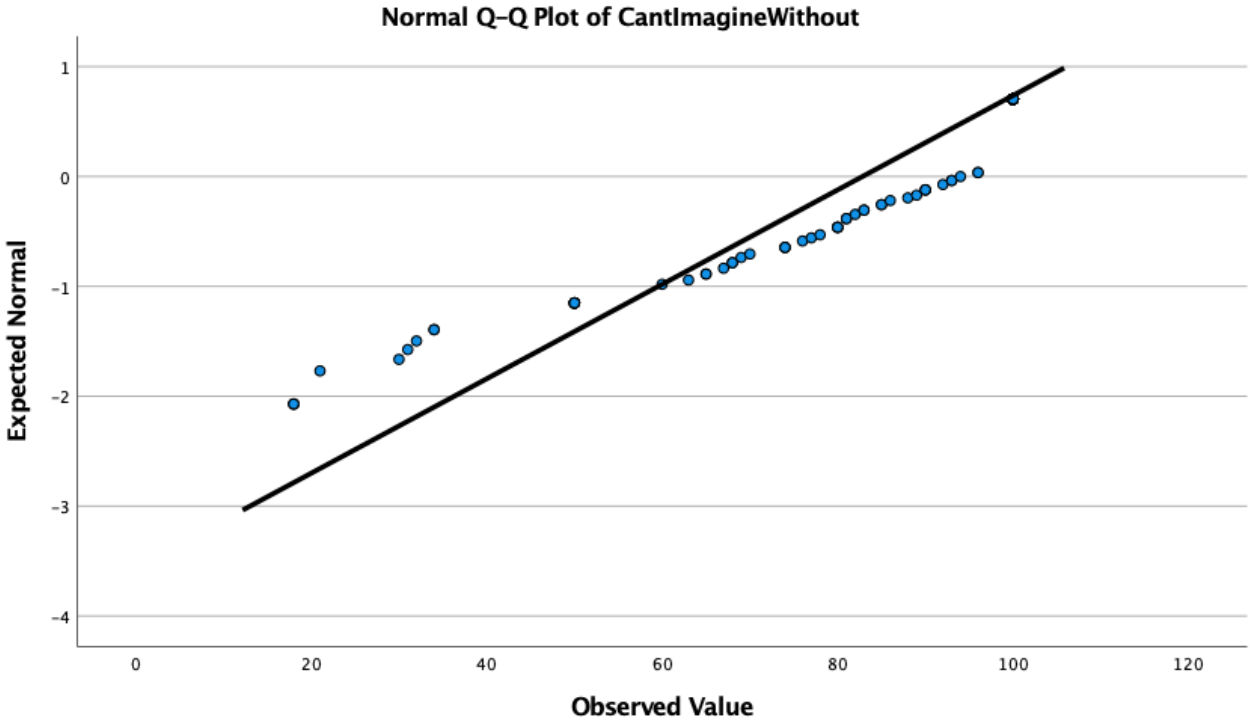
Based on estimated marginal means

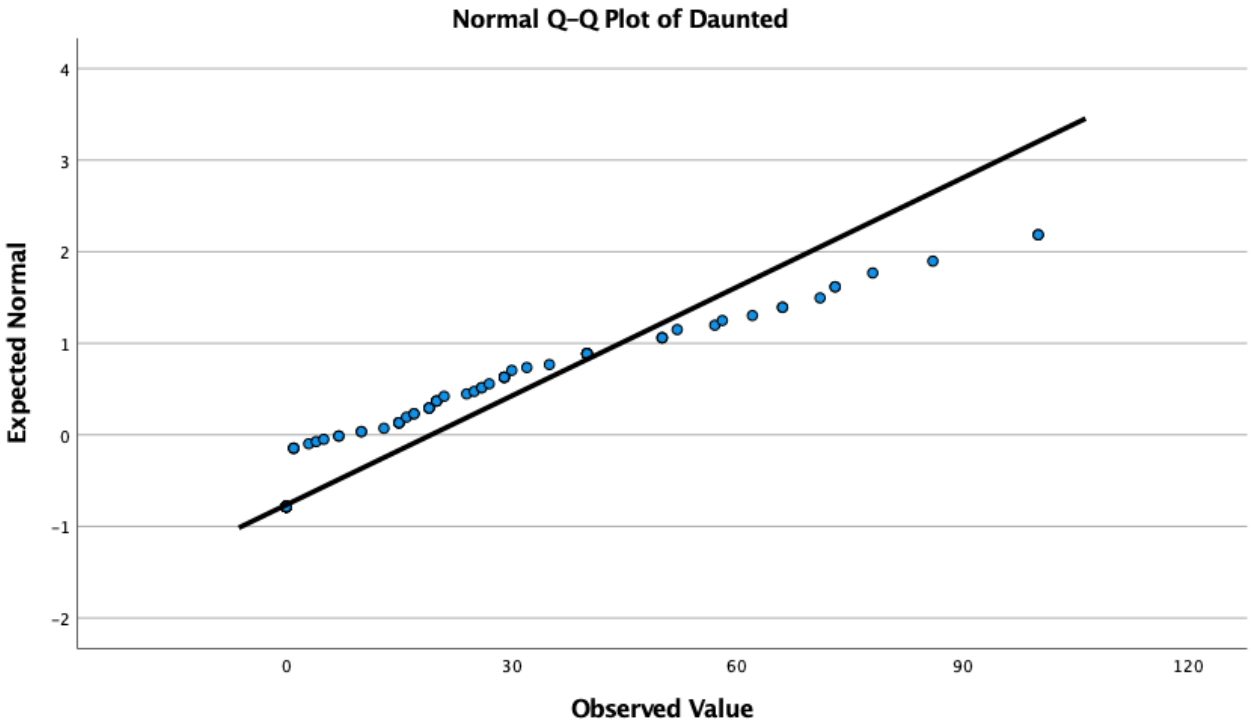
*. The mean difference is significant at the .05 level.

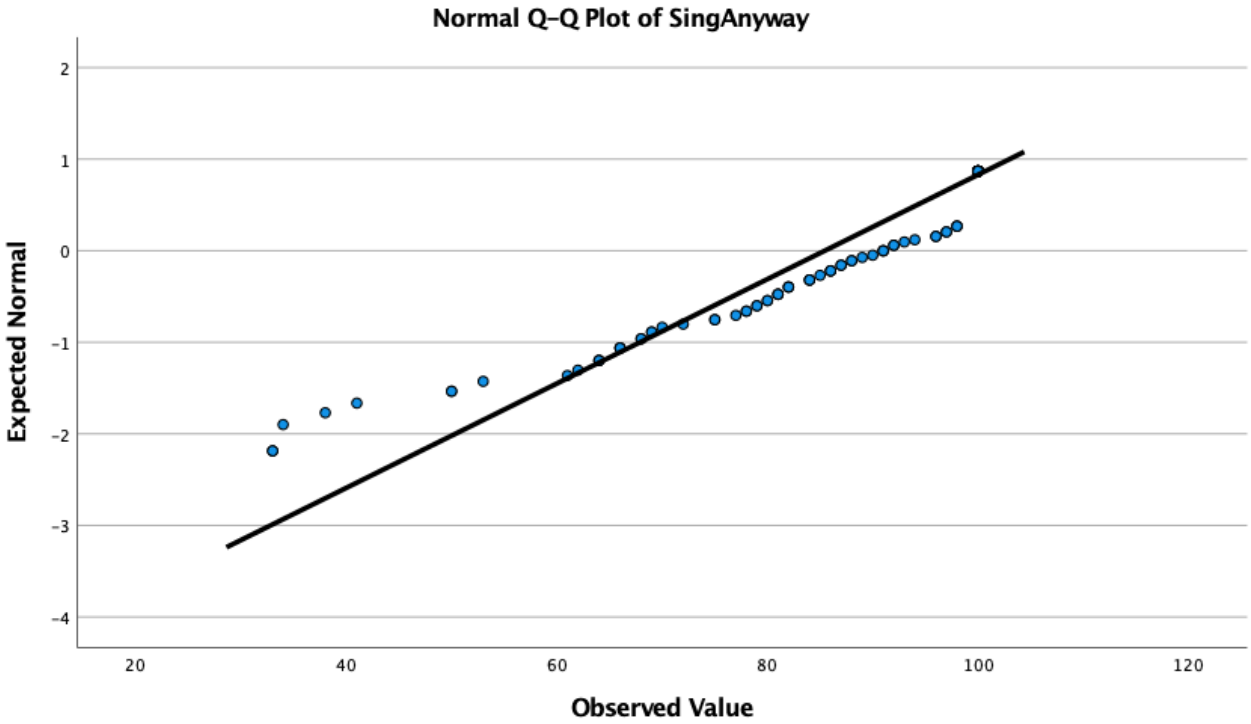
b. Adjustment for multiple comparisons: Bonferroni.

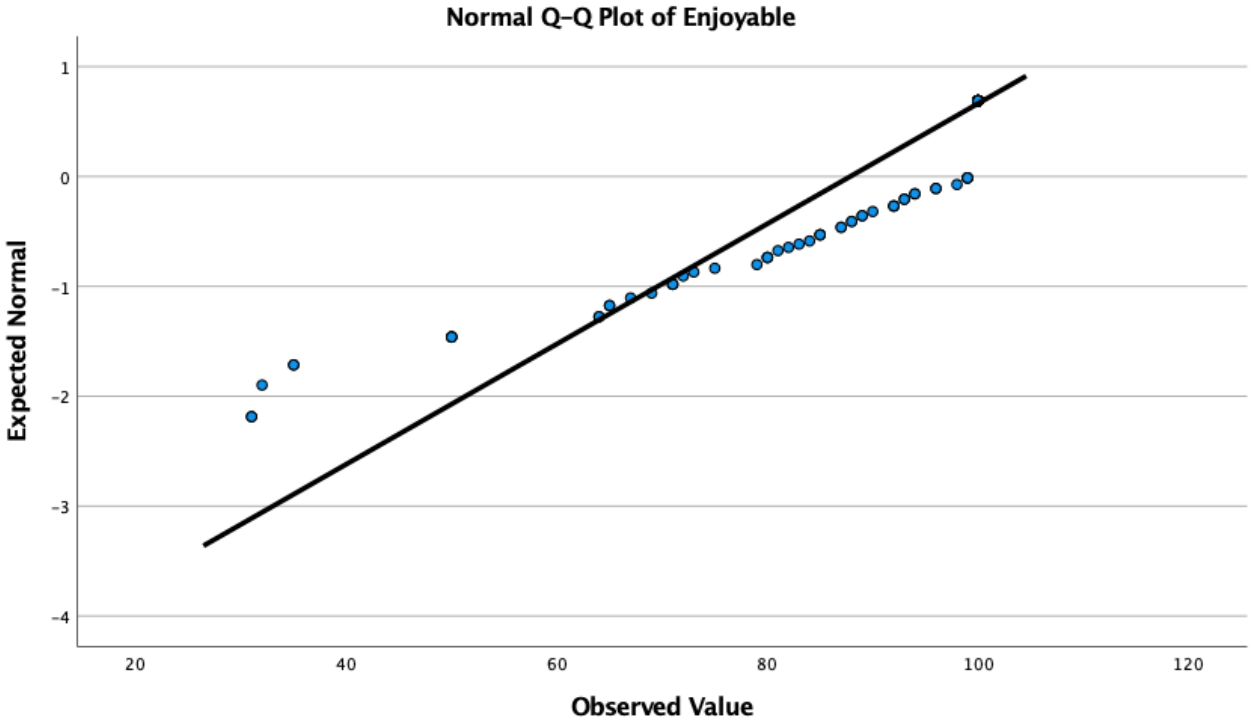
Figure H2.4 – Q plots of ‘attitude’ statements

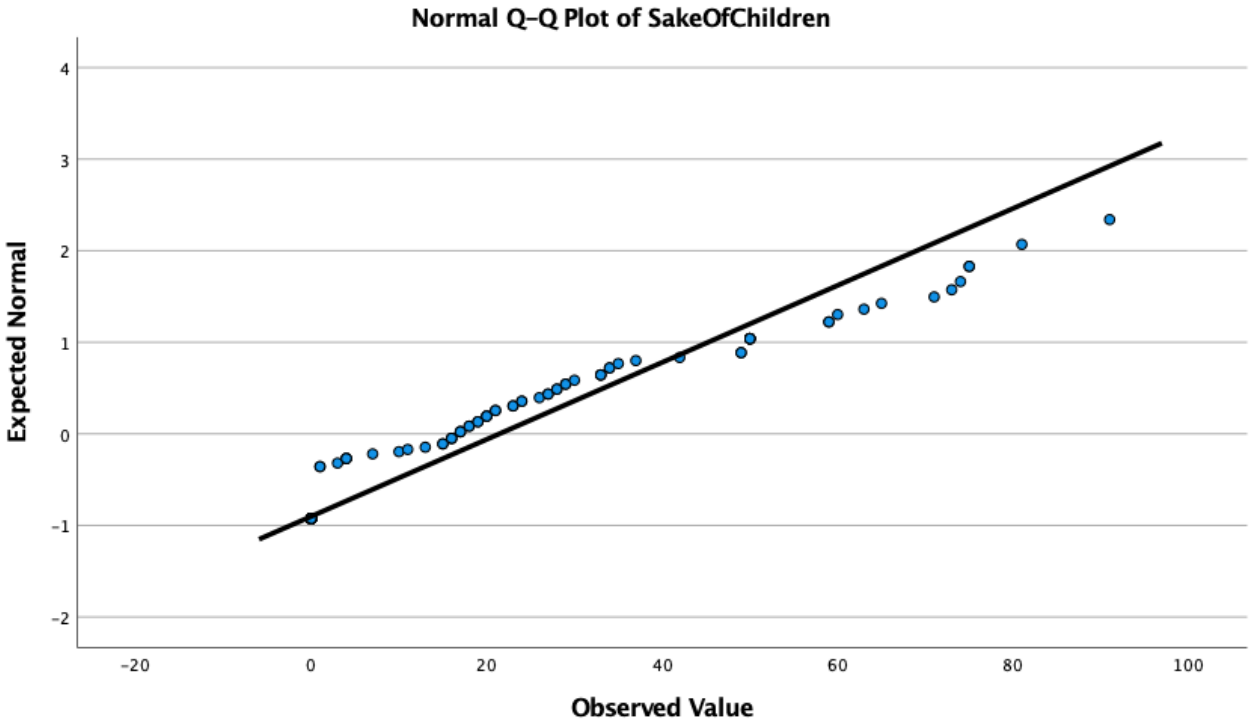


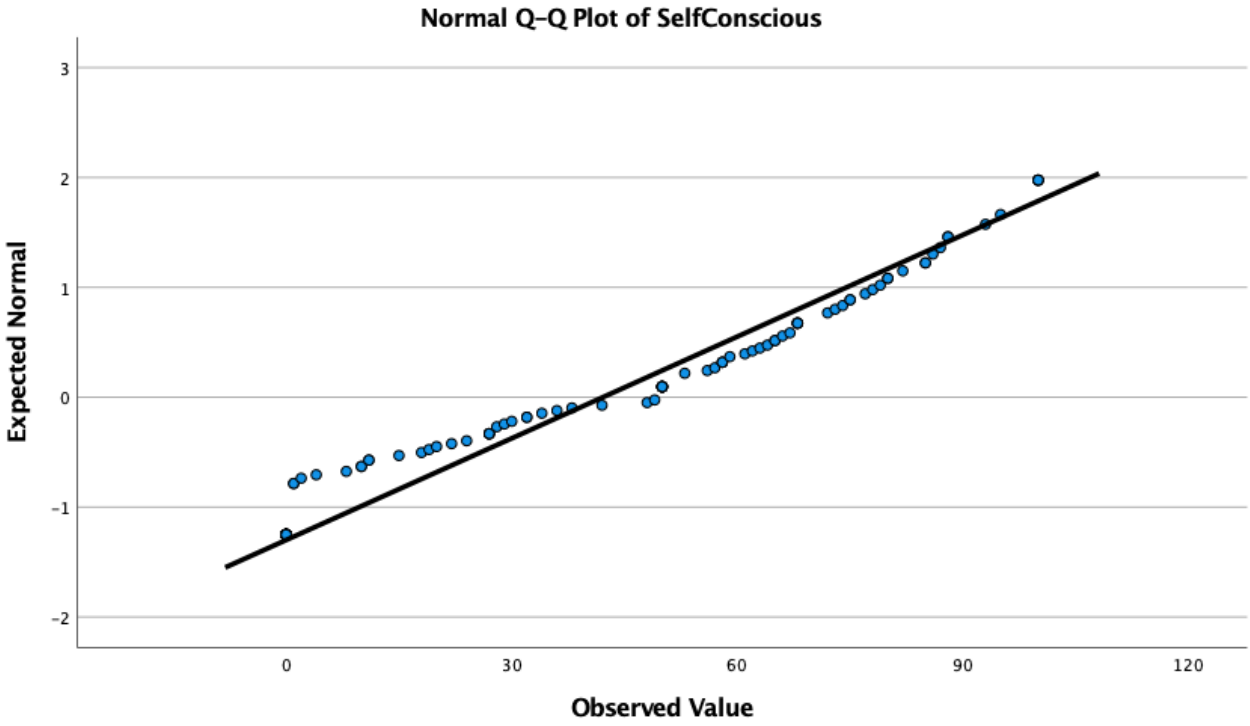



Normal Q–Q Plot of Daunted
Expected Normal
4
3
2
1
0
−1
−2
0
30
60
90
120
Observed Value


Normal Q–Q Plot of SingAnyway
Expected Normal
2
1
0
−1
−2
−3
−4
20
40
60
80
100
120
Observed Value


Normal Q–Q Plot of Enjoyable
Expected Normal
Observed Value
1
0
-1
-2
-3
-4
20
40
60
80
100
120


Normal Q–Q Plot of SakeOfChildren
Expected Normal
Observed Value
4
3
2
1
0
-1
-2
-20
0
20
40
60
80
100


Normal Q-Q Plot of SelfConscious
Expected Normal
3
2
1
0
-1
-2
0
30
60
90
120
Observed Value

H3. RQ1Ci (Is age group taught associated with planning of song use?) was explored with a two-way repeated measures ANOVA. Overall trends in the raw data across all age groups taught are visualised in Figure H3.1. Table H3.1 shows mean scores and standard deviations for Nursery/EYFS and KS1/2 aggregated groups.

Figure H3.1 – box and whisker plot of all responses for survey Q16 (*How do you plan your song use?*)

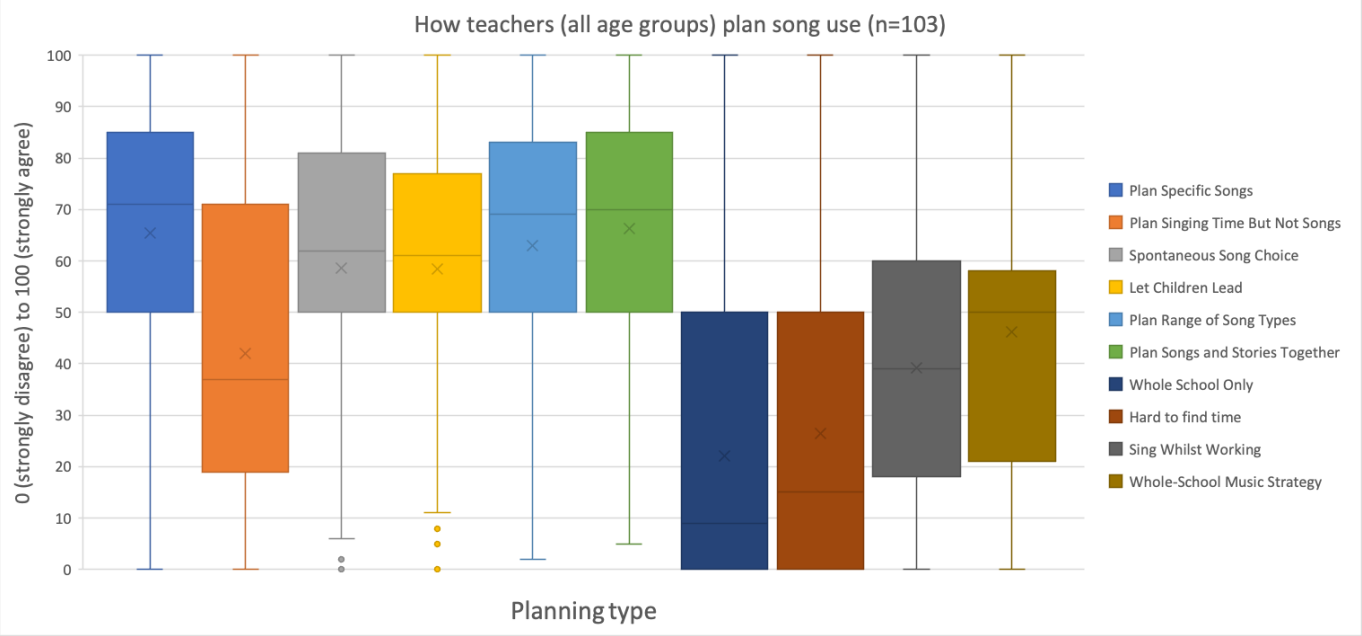


Table H3.1 – Mean and SD for planning statements x age group taught

Q16 Statement	**Nursery/EYFS**		**KS1/KS2**	
	Mean	SD	Mean	SD
I plan specific songs into our curriculum	63.57	25.80	65.69	28.95
I plan singing time but not specific songs into our routine	53.16	31.13	30.51	24.14
I spontaneously think of songs rather than plan them	73.41	23.56	42.17	28.65
I let the children lead me with their use of songs	74.31	17.50	42.63	23.64
I plan a range of song types (actions, movement, instruments, call-and-response...)	68.84	28.14	56.60	23.98
I plan songs and stories to complement each other	66.76	26.21	62.54	20.62
Songs are part of whole-school activities like assembly, not class time	19.55	26.54	27.94	30.75
It's hard to find time for songs	17.65	23.06	36.57	31.16
We sing as we work on other activities, rather than setting time aside for songs	44.41	28.41	38.34	26.34
Our school/setting prioritises music - we have a whole-school strategy	42.06	25.93	48.11	29.19

Table H3.2 – Repeated measures ANOVA factors

Within-subjects factors	Between-subjects factors
1 – I plan specific songs into our curriculum	1 – Nursery (n=9)
2 – I plan singing time but not specific songs into our routine	2 – EYFS (n=40)
3 – I spontaneously think of songs rather than plan them	3 – EYFS & Primary (n=19)
4 – I let the children lead me with their use of songs	4 – KS1 (n=7)
5 – I plan a range of song types (actions, movement, instruments, call-and-response...)	5 – KS2 (n=28)
6 – I plan songs and stories to complement each other	
7 – Songs are part of whole-school activities like assembly, not class time	
8 – It's hard to find time for songs	
9 – We sing as we work on other activities, rather than setting time aside for songs	
10 – Our school/setting prioritises music - we have a whole-school strategy	

Table H3.3 – Assumptions for Repeated-Measures ANOVA

Within-subjects effect	Mauchly's W	Approx. Chi-square	df	Sig.	Greenhouse-Geisser
Planning type	.220	143.587	44	.001	**.764**

Table H3.4 – Shapiro-Wilk test of normality

Planning type	Shapiro-Wilk		
	Statistic	df	Sig.
1 – I plan specific songs into our curriculum	.904	103	< .001
2 – I plan singing time but not specific songs into our routine	.932	103	< .001
3 – I spontaneously think of songs rather than plan them	.922	103	< .001
4 – I let the children lead me with their use of songs	.959	103	.003
5 – I plan a range of song types (actions, movement, instruments, call-and-response...)	.965	103	< .001
6 – I plan songs and stories to complement each other	.942	103	< .001
7 – Songs are part of whole-school activities like assembly, not class time	.809	103	< .001
8 – It's hard to find time for songs	.847	103	< .001
9 – We sing as we work on other activities, rather than setting time aside for songs	.950	103	< .001
10 – Our school/setting prioritises music - we have a whole-school strategy	.934	103	< .001

Table H3.5 – ANOVA Pairwise comparisons for ‘age group’ x ‘planning’

					95% Confidence intervals for difference	
(I) Age Group Taught	**(J) Age Group Taught**	**Mean difference (I-J)**	**Std. Error**	**Sig.[b]**	**Lower bound**	**Upper bound**
Nursery	EYFS	.207	3.972	1.000	-11.201	11.616
	EYFS & Primary	7.758	4.357	.781	-4.755	20.271
	KS1	7.000	5.426	1.000	-8.584	22.584
	KS2	**14.286***	4.126	.008**	2.437	26.135
EYFS	Nursery	- .207	3.972	1.000	-11.616	11.201
	EYFS & Primary	7.550	3.000	.135	-1.065	16.166
	KS1	6.793	4.411	1.000	-5.877	19.462
	KS2	**14.078***	2.653	< .001***	6.459	21.698
EYFS & Primary	Nursery	-7.758	4.357	.781	-20.271	4.755
	EYFS	-7.550	3.000	.135	-16.166	1.065
	KS1	- .758	4.761	1.000	-14.430	12.914
	KS2	6.528	3.200	.441	-2.663	15.719
KS1	Nursery	-7.000	5.426	1.000	-22.584	8.584
	EYFS	-6.792	4.411	1.000	-19.462	5.877
	EYFS & Primary	.758	4.761	1.000	-12.914	14.430
	KS2	7.286	4.550	1.000	-5.782	20.353
KS2	Nursery	**-14.286***	4.126	.008**	-26.135	-2.437
	EYFS	**-14.078***	2.653	< .001***	-21.698	-6.459
	EYFS & Primary	-6.528	3.200	.441	-15.719	2.663
	KS1	-7.286	4.550	1.000	-20.353	5.782

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

H4. RQ1Cii (Is age group taught associated with teachers' choice of resource?) involved splitting data from survey Q15 (where teachers find their song resources) by age group taught. Figure H4.1 visualises the raw data from Q15, and Table H4.1 shows the ranked scores for each resource.

Figure H4.1 – Where respondents find their song resources (survey Q15 raw data)

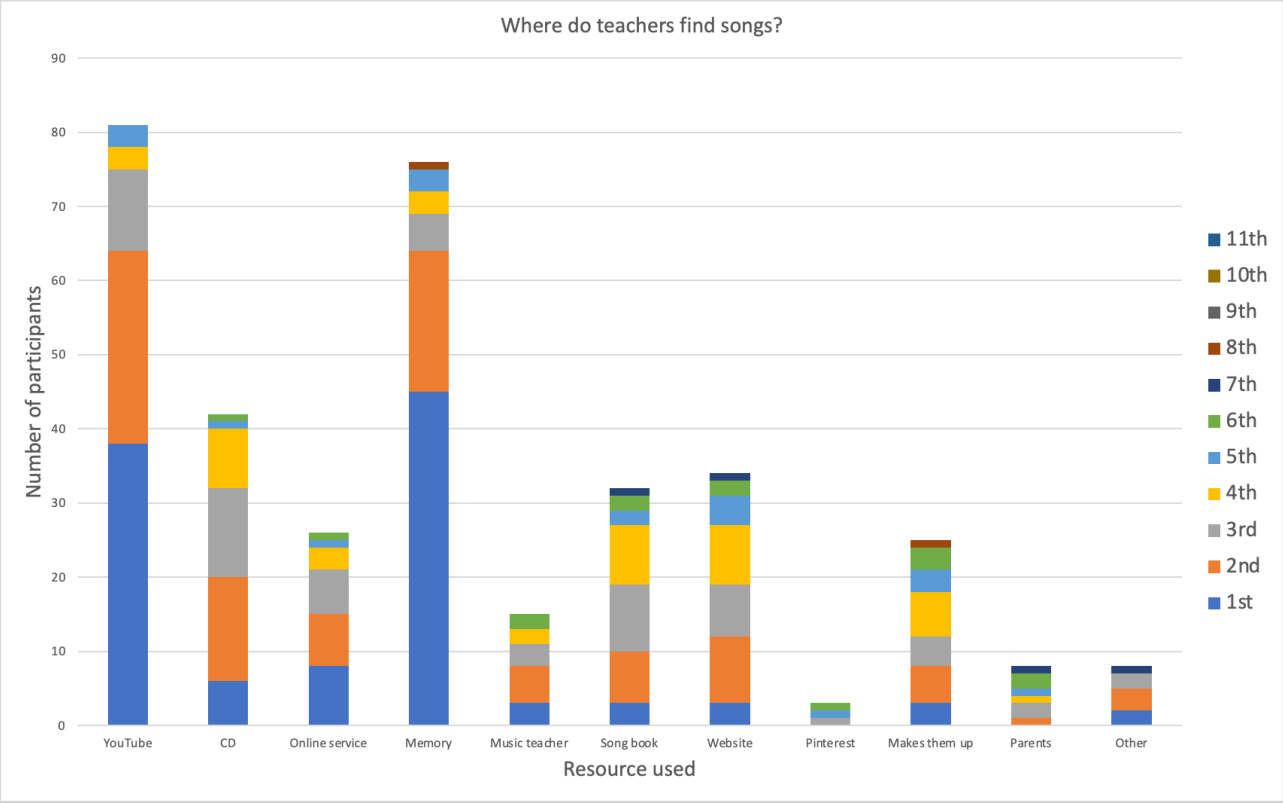


Table H4.1 – How respondents ranked each resource option (1–11)

Ranked:	You Tube	CD	Online service	Memory	Music teacher	Song book	Website	Pinterest	Make up	Parents	Other
1	38	6	8	45	3	3	3	0	3	0	2
2	26	14	7	19	5	7	9	0	5	1	3
3	11	12	6	5	3	9	7	1	4	2	2
4	3	8	3	3	2	8	8	0	6	1	0
5	3	1	1	3	0	2	4	1	3	1	0
6	0	1	1	0	2	2	2	1	3	2	0
7	0	0	0	0	0	1	1	0	0	1	1
8	0	0	0	1	0	0	0	0	1	0	0
9	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0

H5. RQ2Ai (Are teachers' attitudes to singing associated with their presentation choices?) used data from survey Q14 and Q9. Raw data from Q14 (*How do you perform/provide the songs?*) is presented in Figure H5.1. Raw data from Q9 (*How would you rate your attitude towards singing?*) is presented in Figure H5.2.

Figure H5.1 – How respondents perform/provide the songs

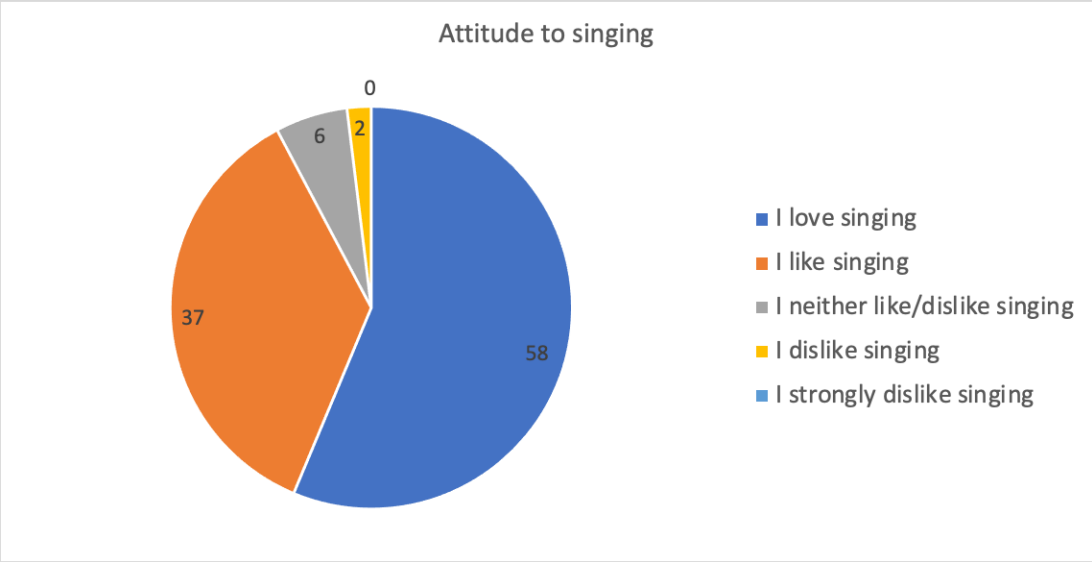
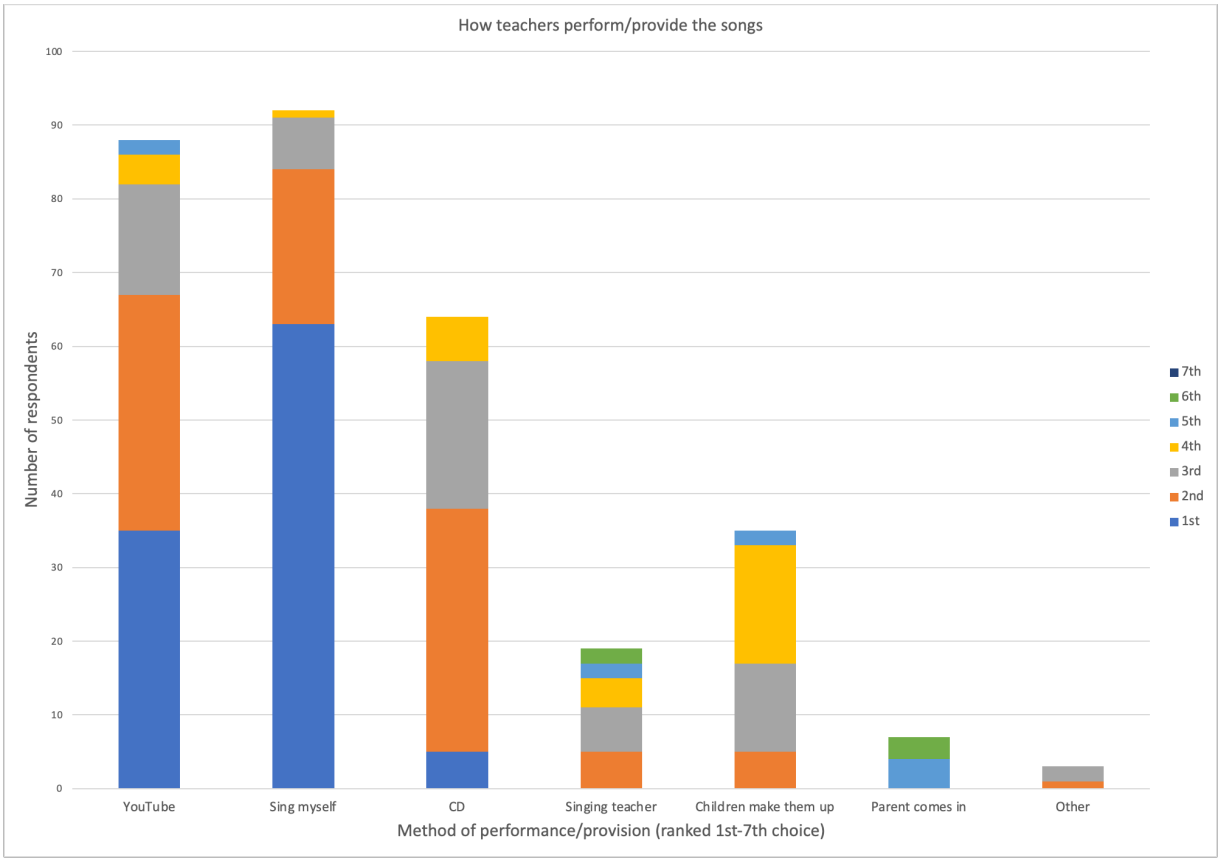


Figure H5.2 – Respondents' attitudes to singing



H6. RQ2Aii (Are teachers' attitudes towards singing associated with how frequently they use songs?) was explored by looking at the frequency of song use and teachers' attitudes to singing. Figure H6.1 shows raw scores for how often teachers use songs, and Figure H6.2 their attitudes to singing.

Figure H6.1 – How frequently respondents use songs

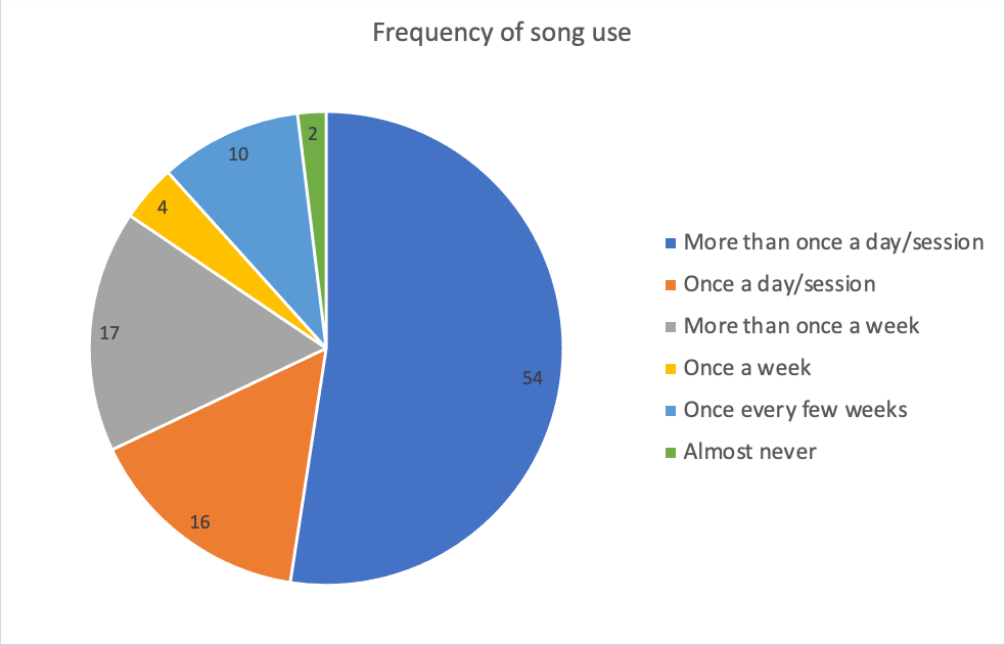
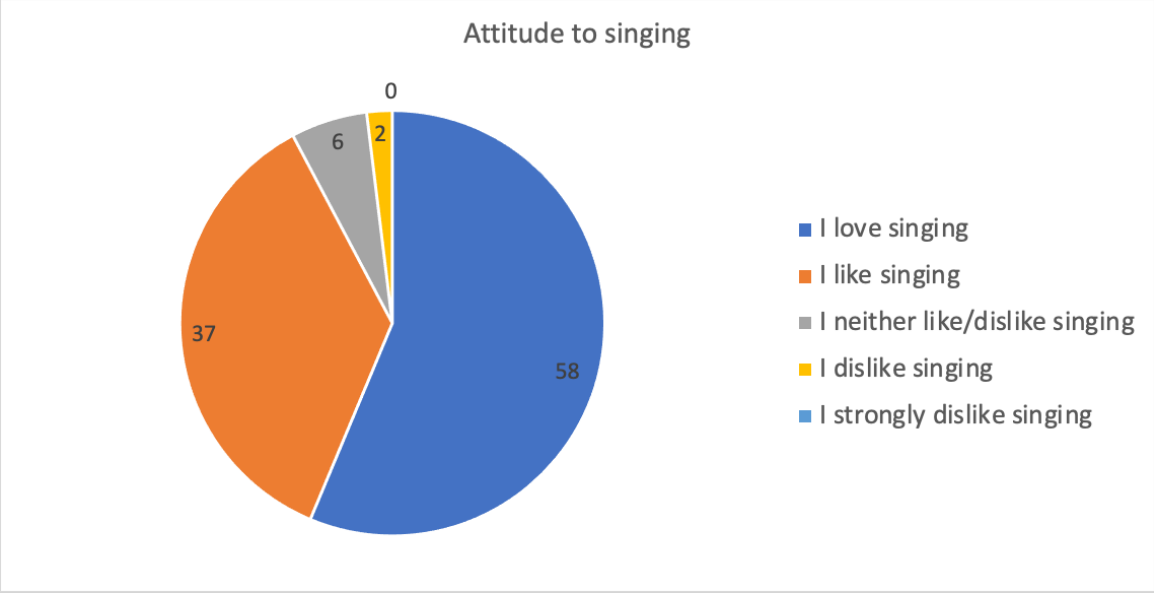


Figure H6.2 – Respondents' attitudes to singing



H7. RQ2B (Is there an association between teachers' singing ability and their attitude towards using songs?) was explored in Section 4.3.2. The majority of survey respondents had no specialist music training (n=76, 74%). A similar number (n=75, 73%) reported their singing ability as 'amateur' and 26 reported that they 'cannot sing' (see Figures H7.1 and H7.2). Only two participants were professional singers, and 27 (26.2%) reported receiving specialist music training. Such training variously included a bachelor's degree in music (n=8), 'A' Level music (n=3), Grade 4-8 instrument certificates (n=14), or long-term choir membership (n=6).

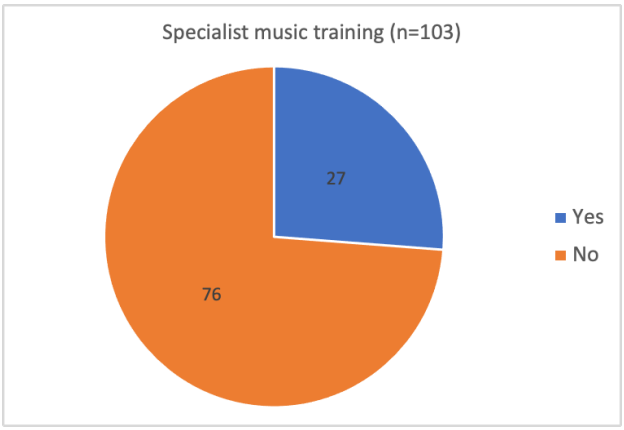


Figure H7.1 – Specialist music training

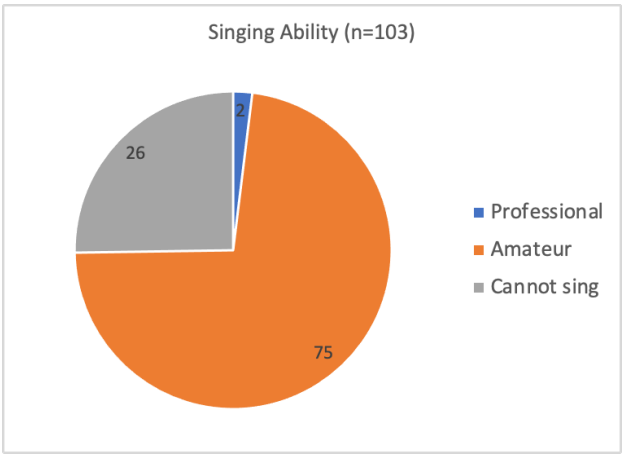
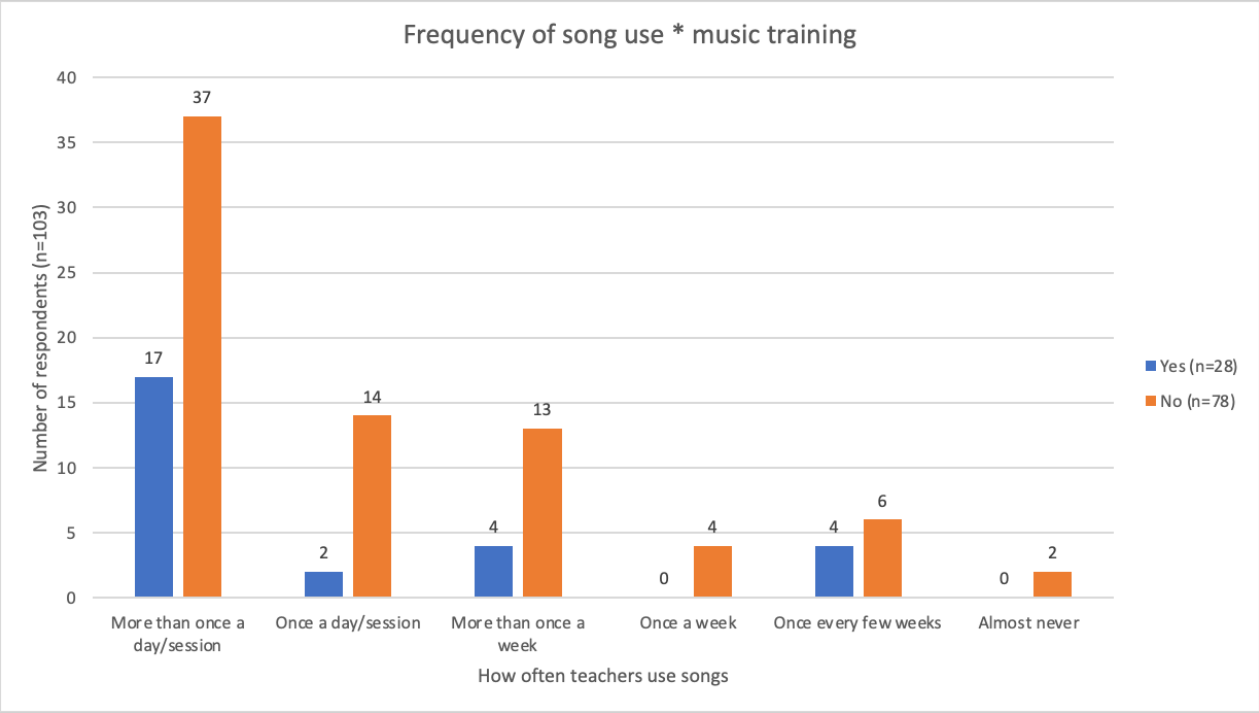


Figure H7.2 – Respondents' self-rated singing ability

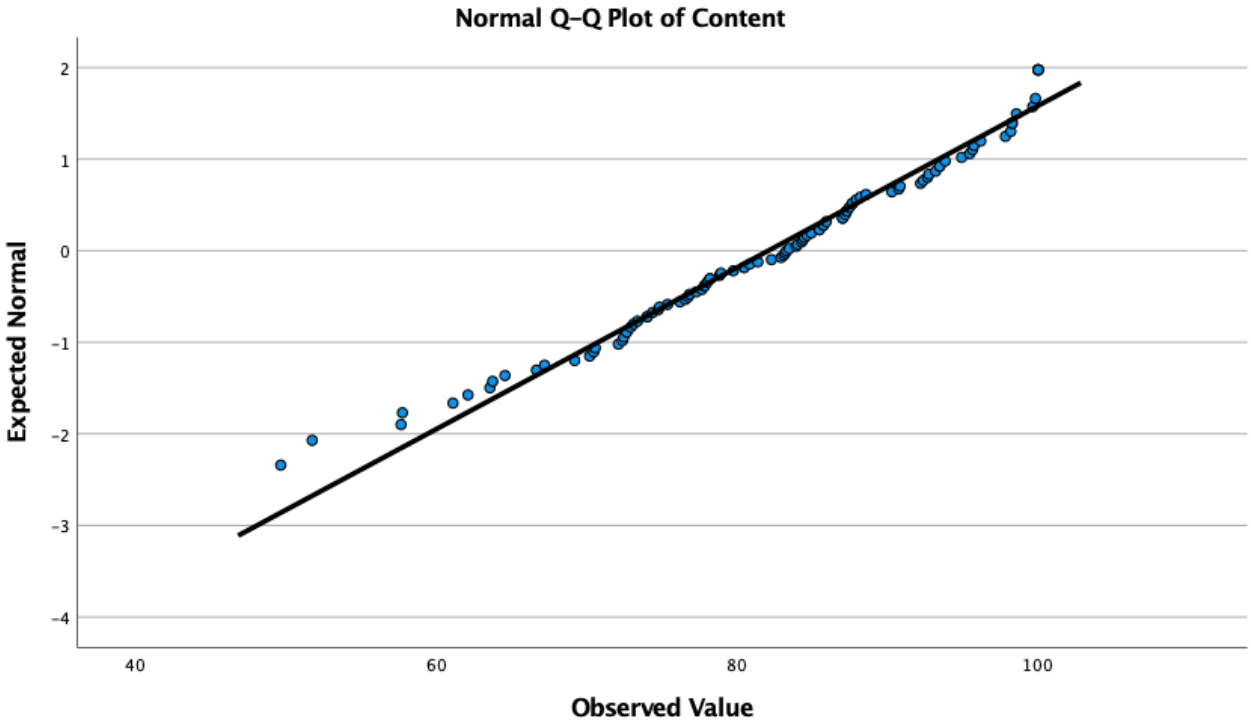
There was no evidence that teachers' musical training was associated with how frequently they used songs in class. The descriptive data indicated that teachers without any musical training were using songs at least once a day (n=14) or more than once a day (n=37), as evidenced in Figure H7.3. A chi-square test for association was conducted between teachers with or without musical training, and whether they used songs daily or less frequently. 72.9% of teachers who use songs every day do not have musical training, but there was no statistically significant association between frequency and musical training, $\chi 2(1) = .098$, $p = .755$. Thus musical training is not associated with how frequently teachers use songs in class.

Figure H7.3 – how frequently teachers use songs by whether they have specialist music training



H8. RQ3A (Is teachers' belief in songs' usefulness as pedagogical tools associated with their planning?) was explored with Spearman's rank order correlations because the aggregated 'Content' and 'plan specific songs' scores were positively skewed. Figure H8.1 shows the Q plots for 'Content' and 'plan specific songs'.

Figure H8.1 – Q plot of aggregated 'Content' and 'plan specific songs' scores



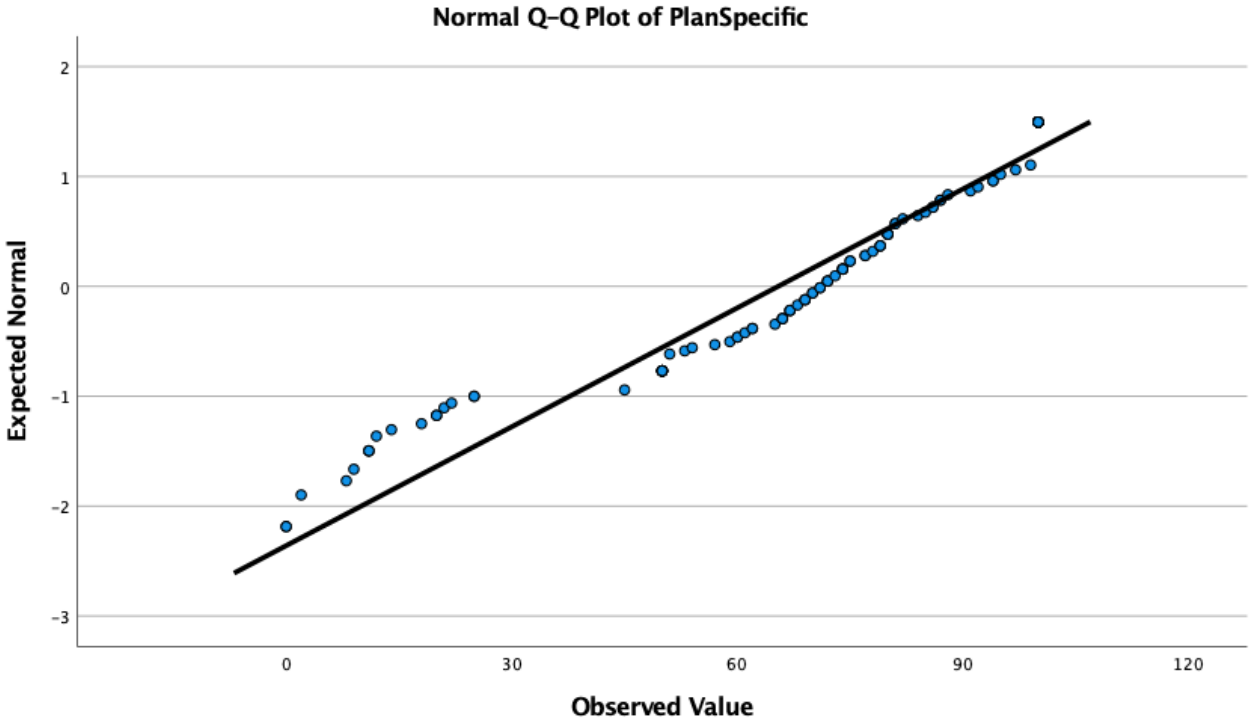
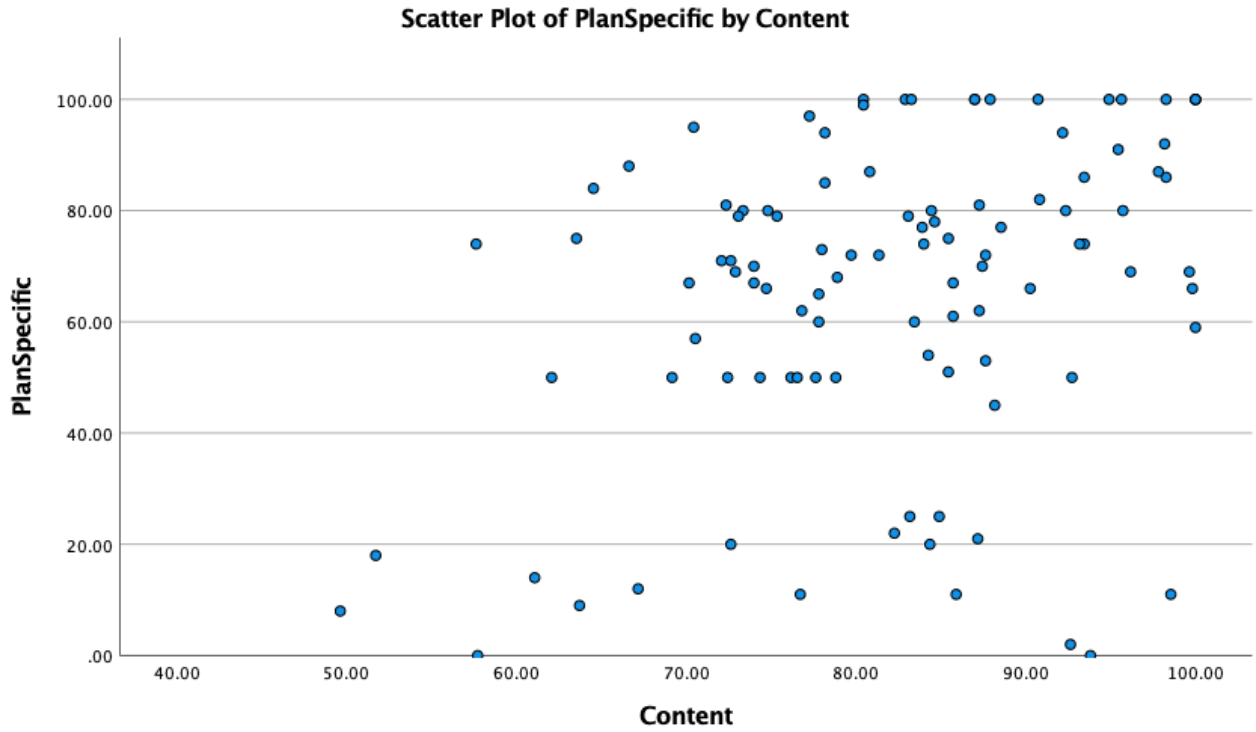


Table H8.1 – Skewness and kurtosis values for ‘Content’ and ‘plan specific songs’ scores

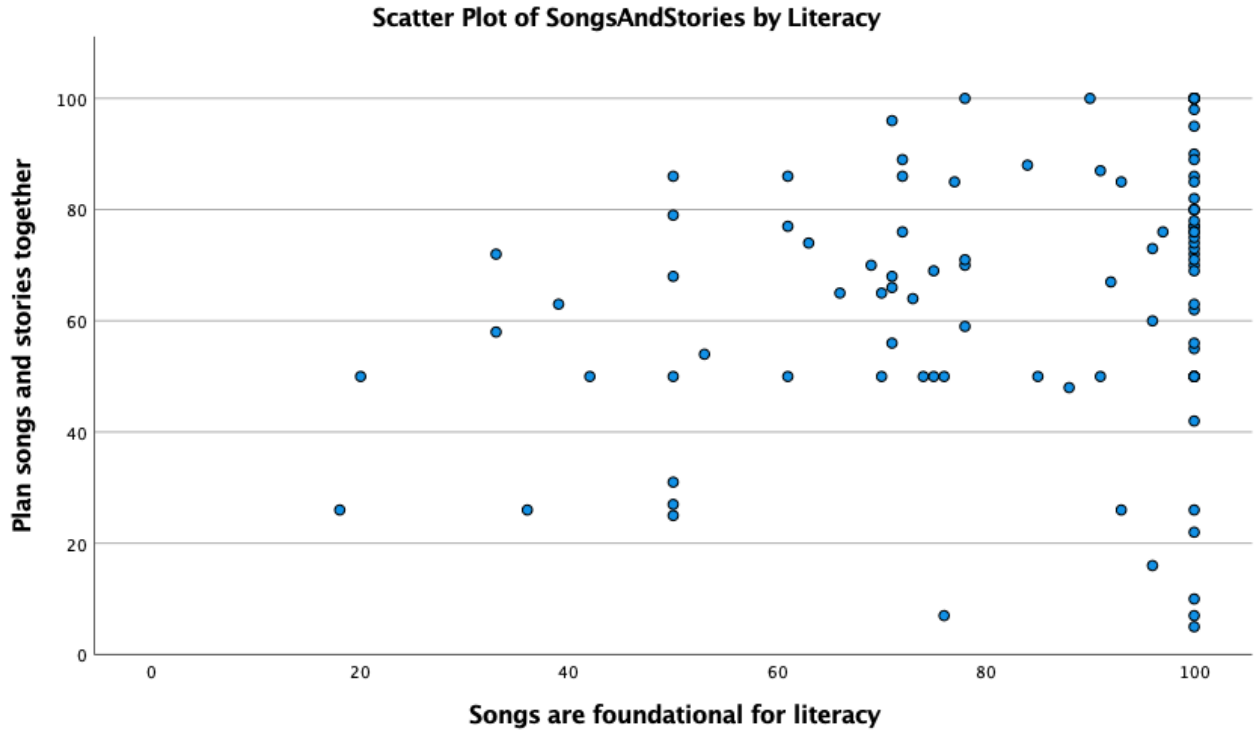
			Statistic	**Std. Error**
Content	Mean		82.0450	1.11622
	95% Confidence Interval for Mean	Lower Bound	79.8309	
		Upper Bound	84.2590	
	5% Trimmed Mean		82.5105	
	Median		83.2700	
	Variance		128.333	
	Std. Deviation		11.32840	
	Minimum		49.64	
	Maximum		100.00	
	Range		50.36	
	Interquartile Range		16.37	
	Skewness		**-0.465**	**0.238**
	Kurtosis		**-0.017**	**0.472**
‘I plan specific songs’	Mean		65.4078	2.73158
	95% Confidence Interval for Mean	Lower Bound	59.9897	
		Upper Bound	70.8258	
	5% Trimmed Mean		66.8970	
	Median		71.0000	
	Variance		768.538	
	Std. Deviation		27.72252	
	Minimum		0.00	
	Maximum		100.00	
	Range		100.00	
	Interquartile Range		35.00	
	Skewness		**-0.832**	**0.238**
	Kurtosis		**-0.130**	**0.472**

Figure H8.1.2 – Scatterplot of ‘Content’ and ‘plan specific songs’ to determine linear relationship



Further relationships between planning statements and beliefs about songs' uses were explored with the scatterplots in Figures H8.2 – H8.7.

Figure H8.2 – Scatterplots for RQ3A of planning statements 'I plan songs and stories together' and 'I plan specific songs' x belief that songs are foundational for literacy



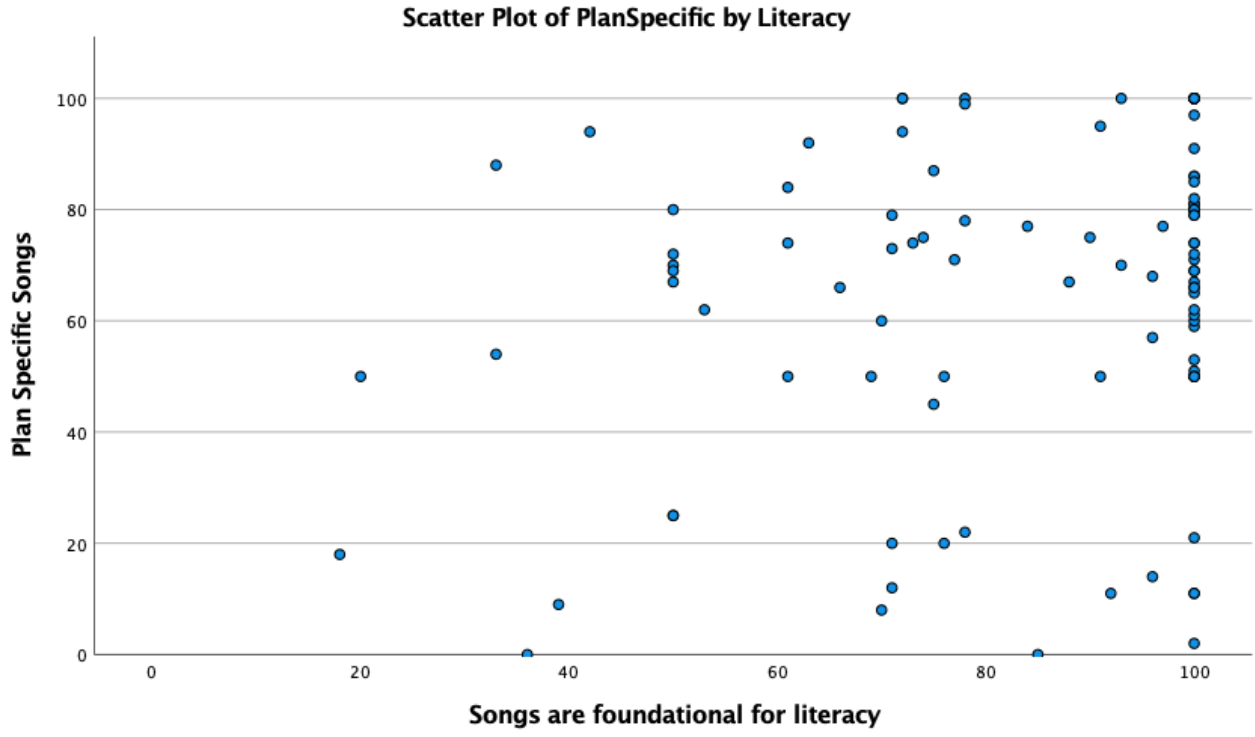


Figure H8.3 – Scatterplot of ‘plan specific songs’ x ‘songs help learn vocabulary’

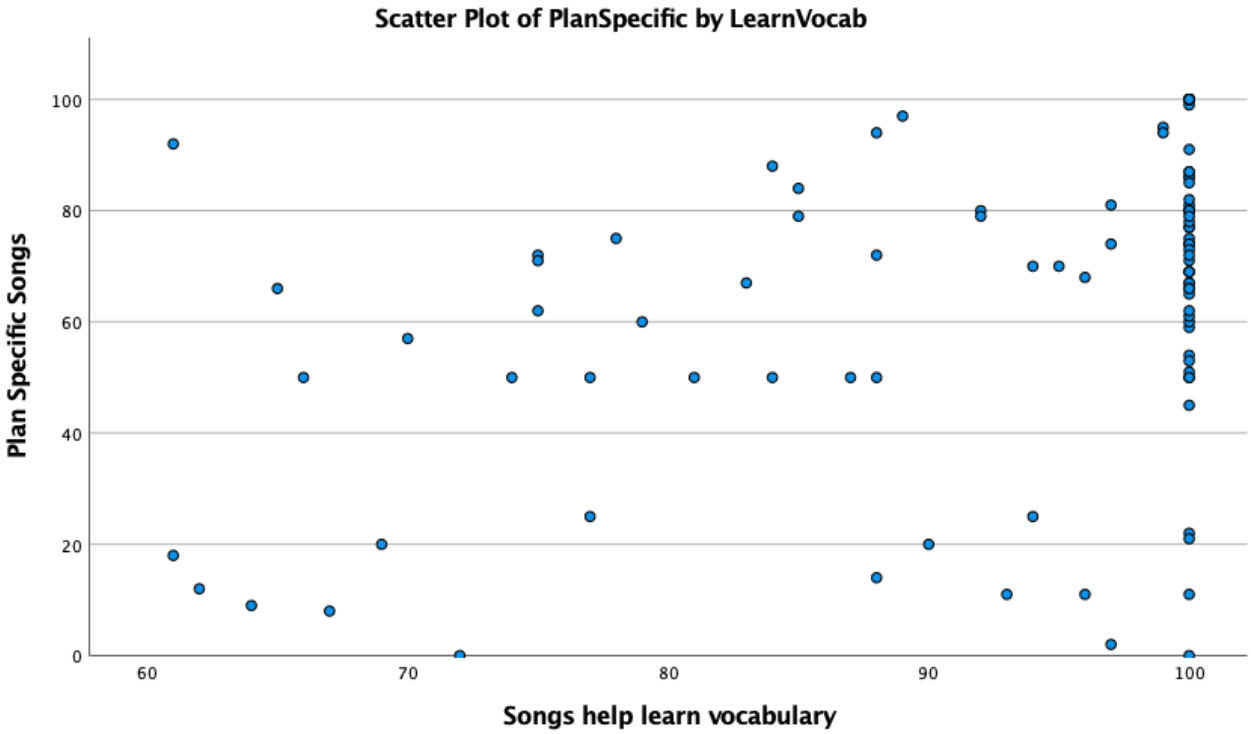


Figure H8.4 – Scatterplot of ‘plan specific songs’ x ‘songs help memorise something’

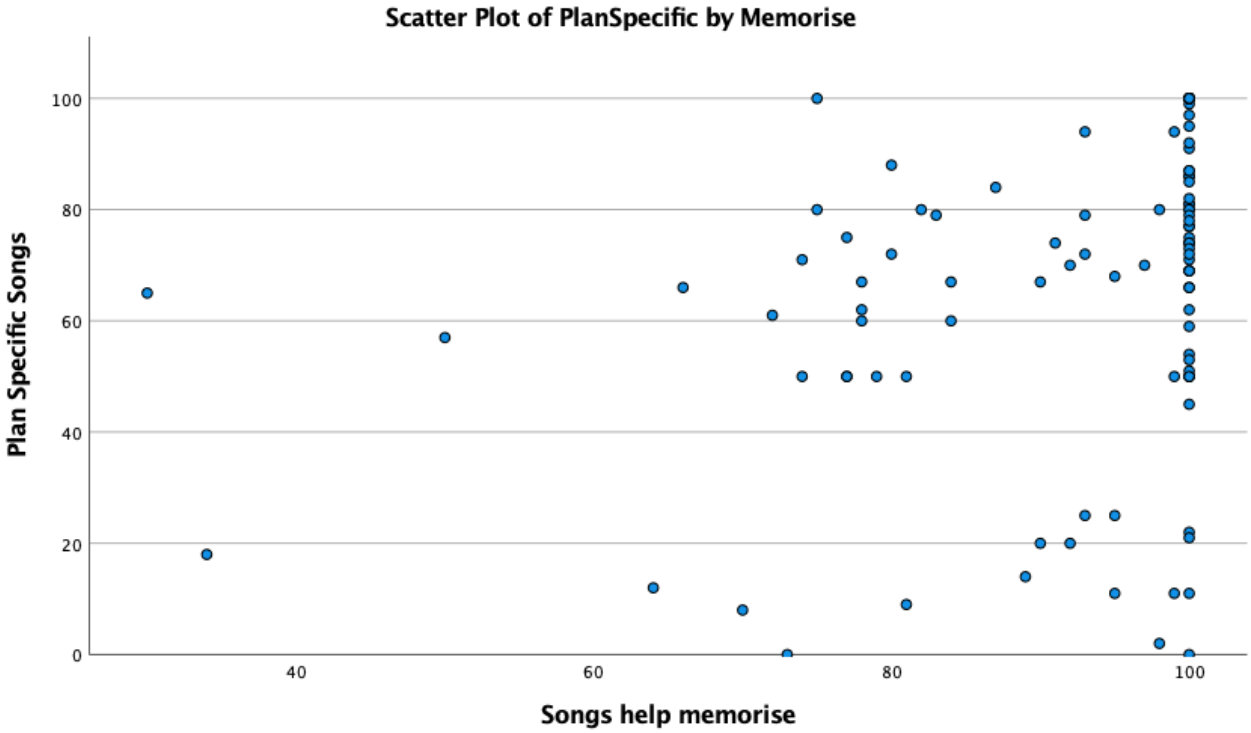


Figure H8.5 – Scatterplot of ‘plan specific songs’ x ‘songs help teach concepts’

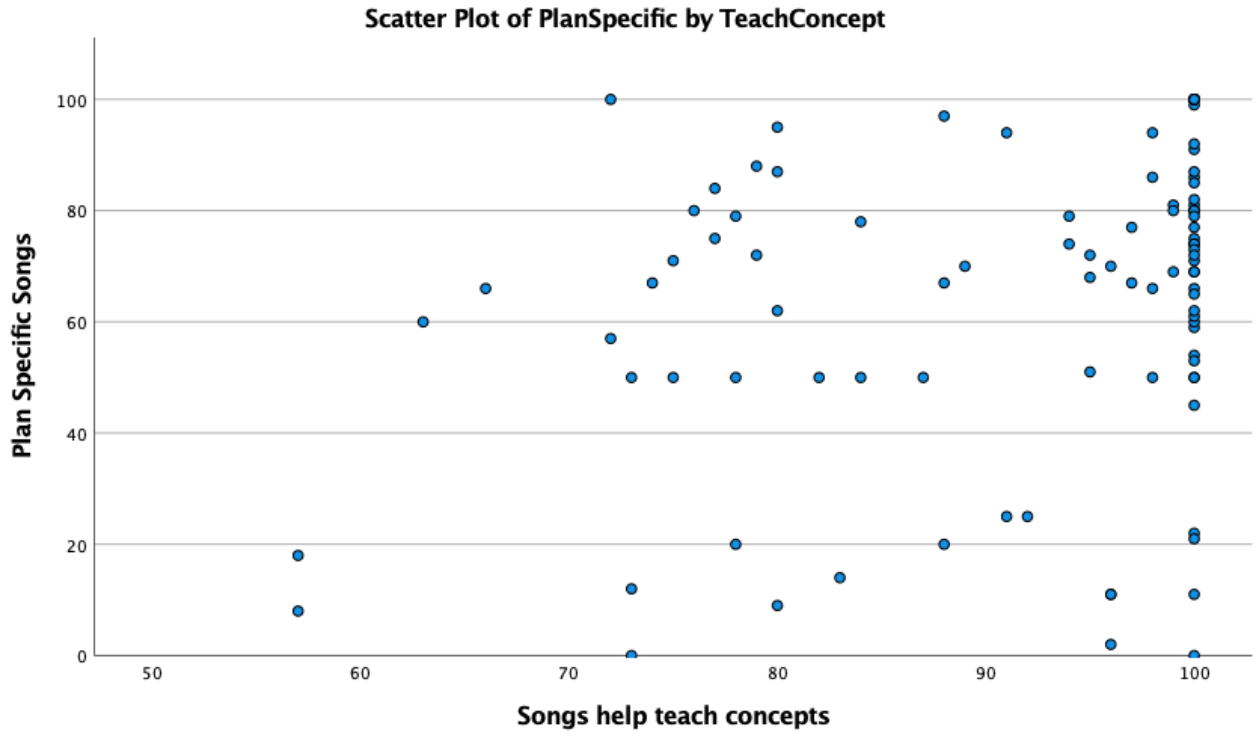


Figure H8.6 – Scatterplot of ‘plan specific songs’ x ‘songs help teach maths’

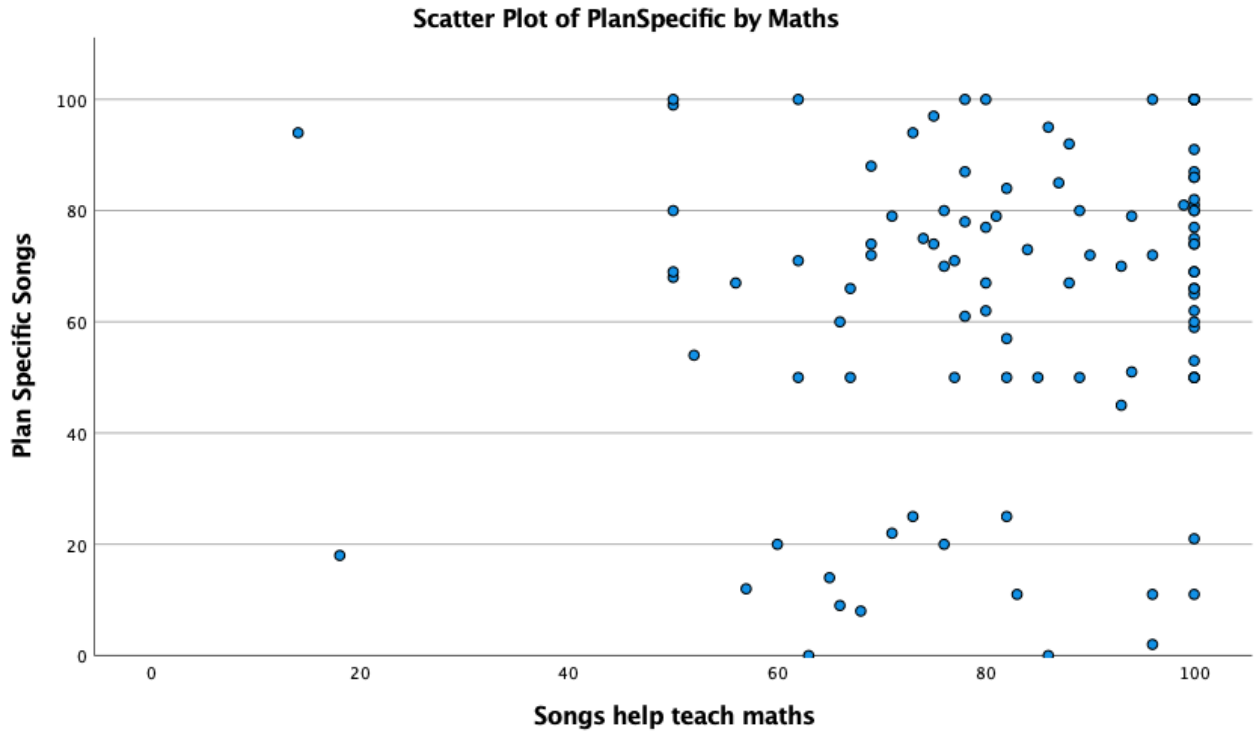


Figure H8.7 – Scatterplot of ‘plan specific songs’ x ‘songs help teach subjects’

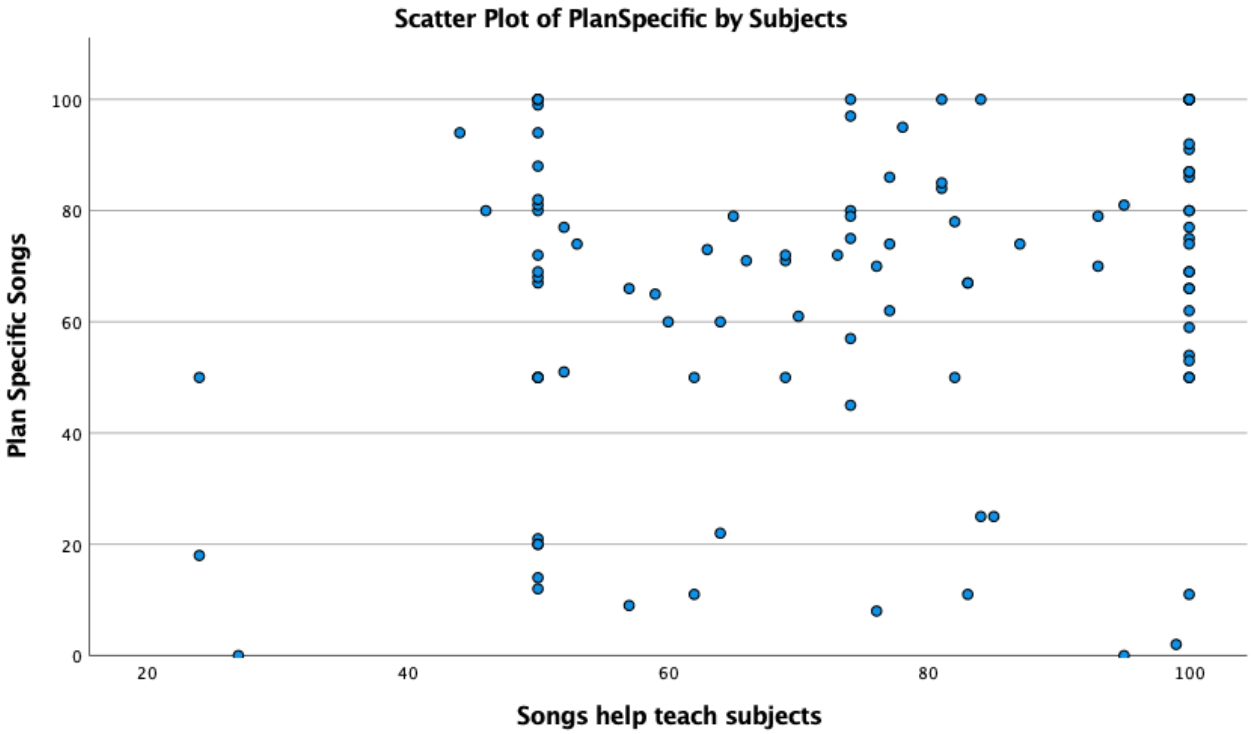


Table H8.2 – Skewness and kurtosis values for ‘literacy’ and ‘plan songs and stories together’ statements

Statement			Statistic	Std. Error
‘Songs are foundational for literacy’	Mean		83.23	2.11
	95% Confidence Interval for Mean	Lower Bound	79.04	
		Upper Bound	87.43	
	5% Trimmed Mean		85.35	
	Median		96.00	
	Variance		460.592	
	Std. Deviation		21.46	
	Minimum		18.00	
	Maximum		100.00	
	Range		82.00	
	Interquartile Range		29.00	
	Skewness		**-1.172**	**0.238**
	Kurtosis		**0.495**	**0.472**
‘I plan songs & stories to complement each other’	Mean		66.30	2.37
	95% Confidence Interval for Mean	Lower Bound	61.61	
		Upper Bound	70.99	
	5% Trimmed Mean		67.59	
	Median		70.00	
	Variance		576.663	
	Std. Deviation		24.01	
	Minimum		5.00	
	Maximum		100.00	
	Range		95.00	
	Interquartile Range		35.00	
	Skewness		**-0.647**	**0.238**
	Kurtosis		**-0.007**	**0.472**

Table H8.2.1 – Skewness and kurtosis values for ‘learn vocabulary’ and ‘plan specific songs’ statements

			Statistic	**Std. Error**
‘Songs help learn vocabulary’	Mean		92.5049	1.13599
	95% Confidence Interval for Mean	Lower Bound	90.2516	
		Upper Bound	94.7581	
	5% Trimmed Mean		93.7443	
	Median		100.0000	
	Variance		132.919	
	Std. Deviation		11.52905	
	Minimum		61.00	
	Maximum		100.00	
	Range		39.00	
	Interquartile Range		12.00	
	Skewness		**-1.421**	**0.238**
	Kurtosis		**0.766**	**0.472**
‘I plan specific songs’	Mean		65.4078	2.73158
	95% Confidence Interval for Mean	Lower Bound	59.9897	
		Upper Bound	70.8258	
	5% Trimmed Mean		66.8970	
	Median		71.0000	
	Variance		768.538	
	Std. Deviation		27.72252	
	Minimum		0.00	
	Maximum		100.00	
	Range		100.00	
	Interquartile Range		35.00	
	Skewness		**-0.832**	**0.238**
	Kurtosis		**-0.130**	**0.472**

Table H8.2.2 – Skewness and kurtosis values for ‘songs help teach subjects/maths/concepts’ and ‘songs help memorise something’

Subjects	Mean		74.2816	2.10270
	95% Confidence Interval for Mean	Lower Bound	70.1109	
		Upper Bound	78.4523	
	5% Trimmed Mean		75.1187	
	Median		74.0000	
	Variance		455.400	
	Std. Deviation		21.34011	
	Minimum		24.00	
	Maximum		100.00	
	Range		76.00	
	Interquartile Range		50.00	
	Skewness		**-0.244**	**0.238**
	Kurtosis		**-1.037**	**0.472**
Maths	Mean		82.6117	1.79181
	95% Confidence Interval for Mean	Lower Bound	79.0576	
		Upper Bound	86.1657	
	5% Trimmed Mean		84.1909	
	Median		85.0000	
	Variance		330.691	
	Std. Deviation		18.18491	
	Minimum		14.00	
	Maximum		100.00	
	Range		86.00	
	Interquartile Range		29.00	
	Skewness		**-1.193**	**0.238**
	Kurtosis		**1.851**	**0.472**

TeachConcept	Mean		91.8350	1.10922
	95% Confidence Interval for Mean	Lower Bound	89.6348	
		Upper Bound	94.0351	
	5% Trimmed Mean		92.9687	
	Median		99.0000	
	Variance		126.727	
	Std. Deviation		11.25733	
	Minimum		57.00	
	Maximum		100.00	
	Range		43.00	
	Interquartile Range		17.00	
	Skewness		**-1.258**	**0.238**
	Kurtosis		**0.595**	**0.472**
Memorise	Mean		91.5922	1.34688
	95% Confidence Interval for Mean	Lower Bound	88.9207	
		Upper Bound	94.2638	
	5% Trimmed Mean		93.4682	
	Median		100.0000	
	Variance		186.852	
	Std. Deviation		13.66937	
	Minimum		30.00	
	Maximum		100.00	
	Range		70.00	
	Interquartile Range		16.00	
	Skewness		**-2.231**	**0.238**
	Kurtosis		**6.101**	**0.472**

Figure H8.8 – Q plot of ‘songs help learn vocabulary’ scores

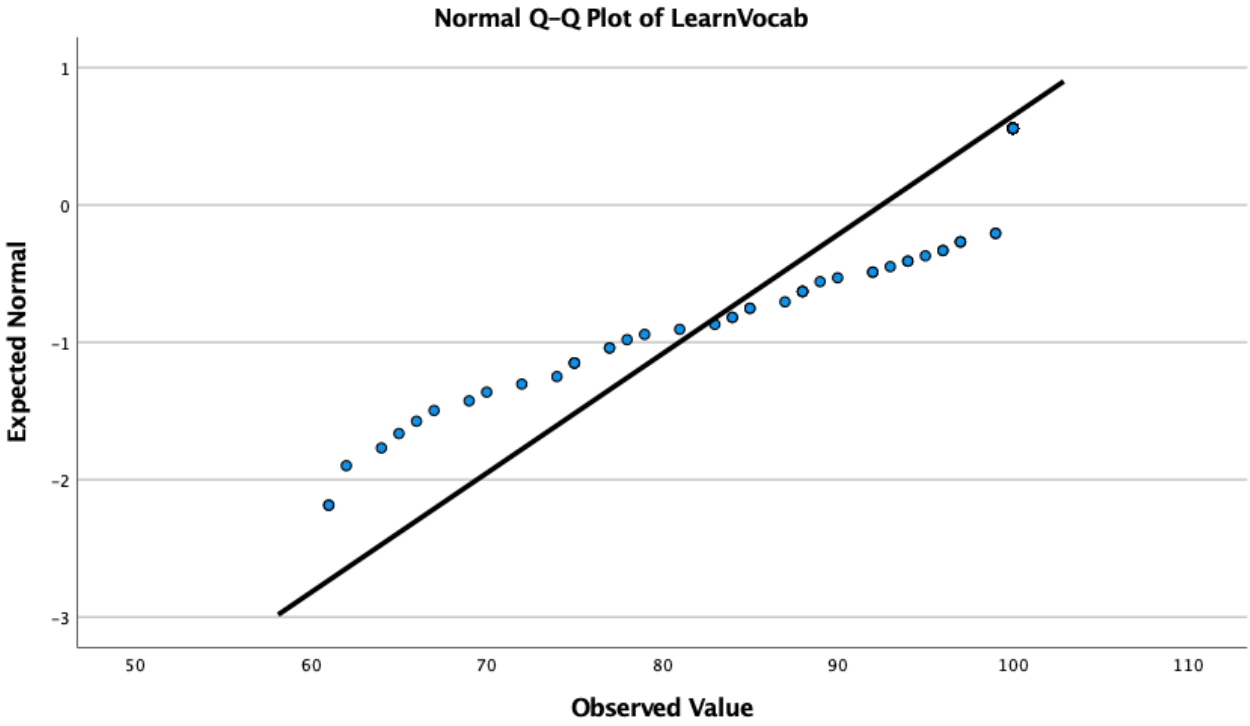


Figure H8.9 – Q plot of ‘songs help teach subjects’ scores

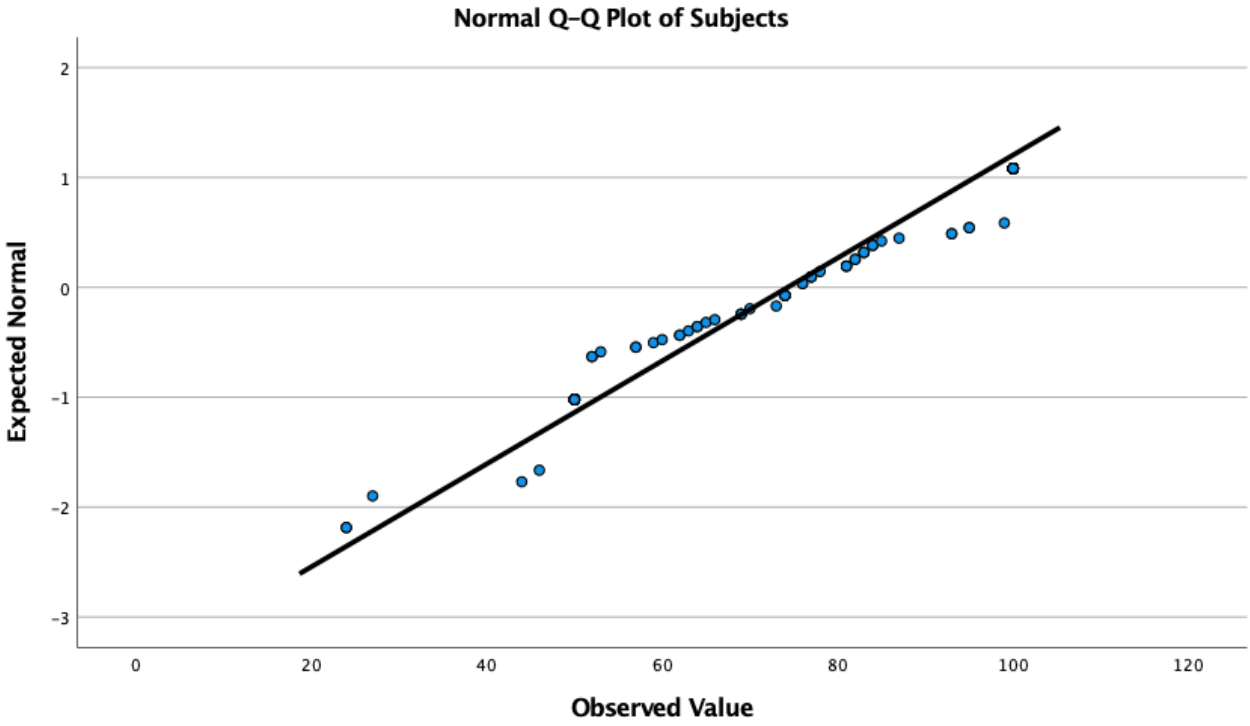


Figure H8.10 – Q plot of ‘songs help teach maths’ scores

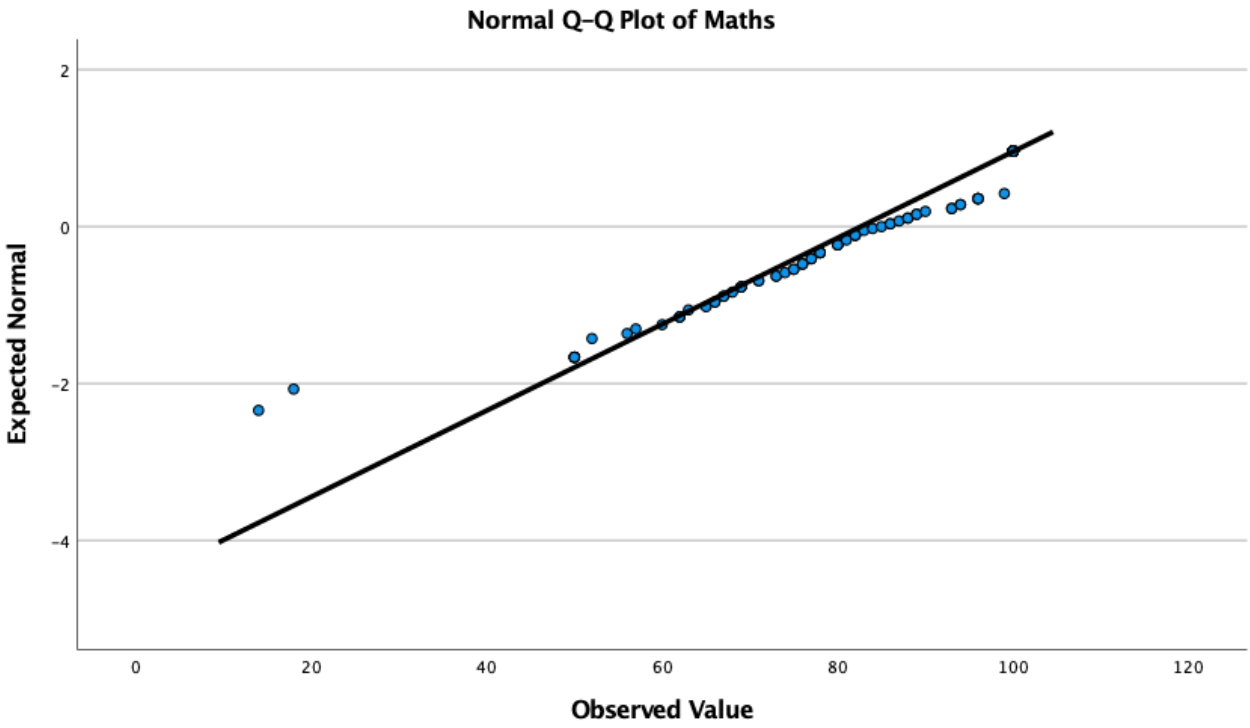


Figure H8.11 – Q plot of ‘songs help teach new concepts’ scores

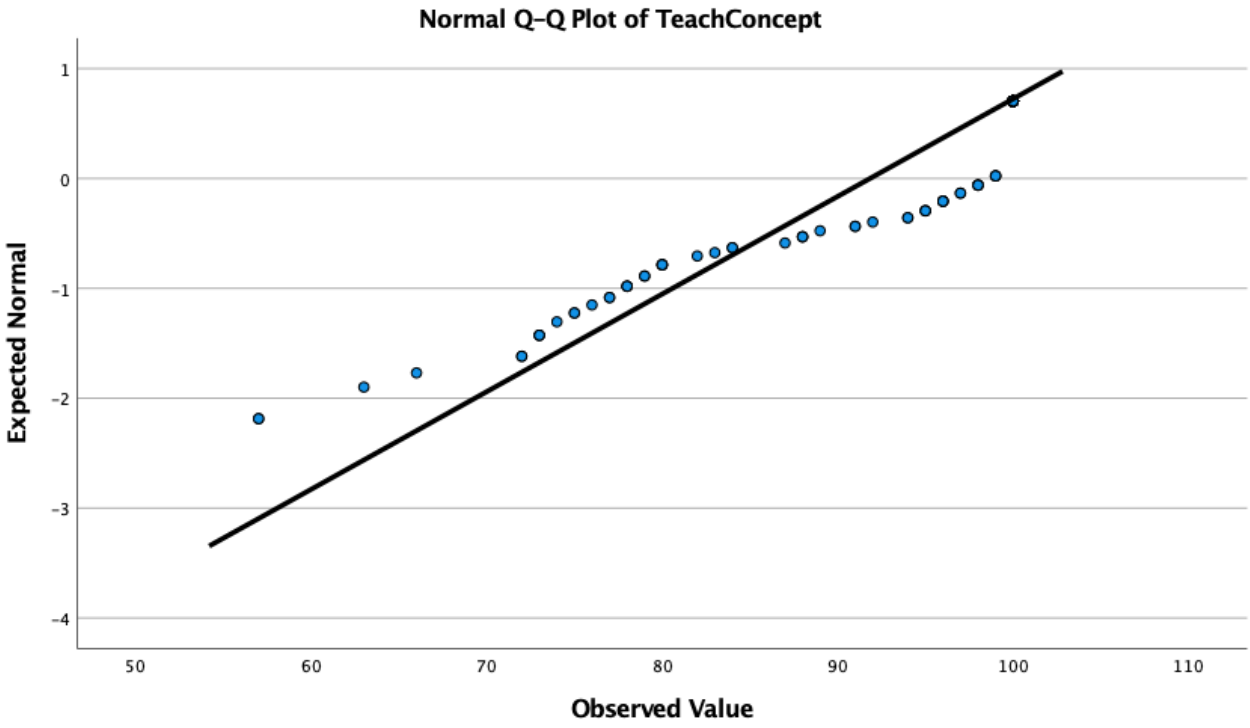
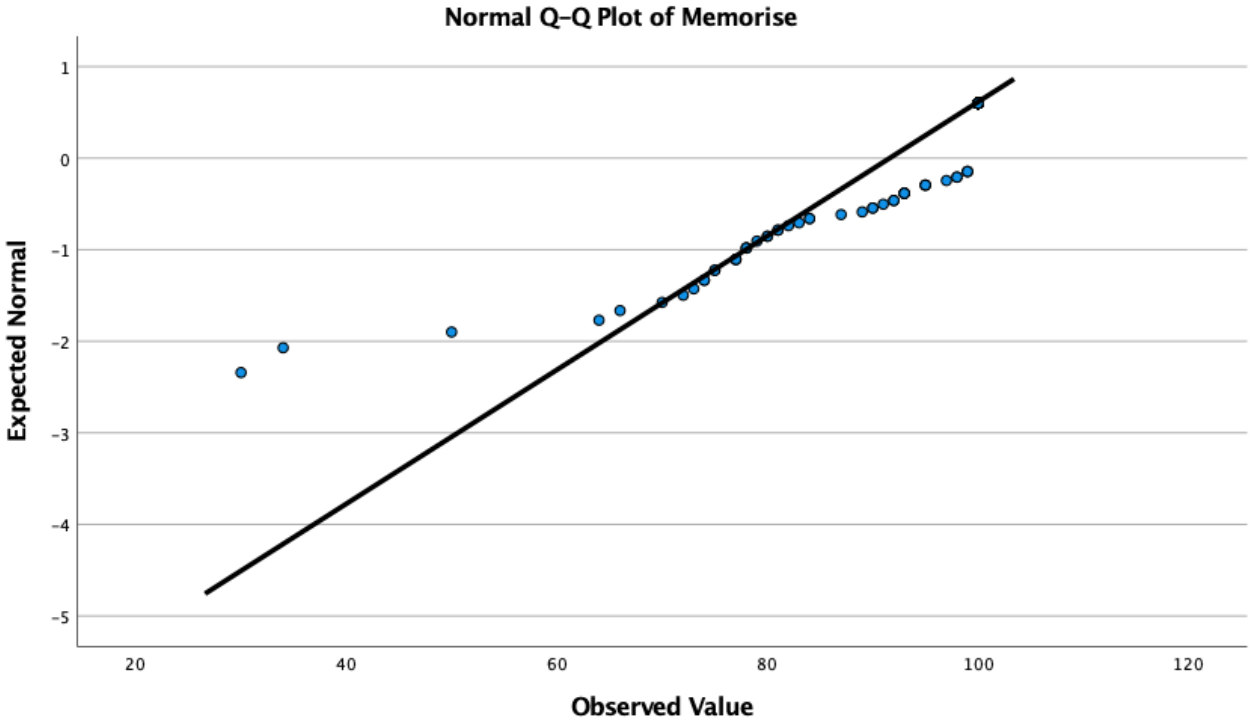


Figure H8.12 – Q plot of ‘songs help memorise something’ scores



H9. RQ4 (What empirical evidence would teachers like to see regarding the use of songs in early years and primary settings?) was explored in Section 4.5. Table H9.1 lists respondents' 'Other' free-text responses thematically. 9 respondents generated 16 questions.

Table H9.1 – additional research queries from participants

	Question	Theme
1	How do songs help children learn maths/ times tables?	Maths
2	Do songs support short-term or long-term memory recall best?	Memory
3	Do songs help with the teaching of grammar?	Grammar
4	Do songs help give order to the day for those with additional needs?	Routines/ SEN
5	Do songs encourage selectively mute children to speak?	SEN
6	Do songs aid learning for all children?	Inclusion
7	How does the use and impact of songs change with age?	Age
8	How can songs be used to help pre-literate children, for whom English is an Additional Language, share their heritage language in a classroom environment?	EAL
9	Can songs be used to help parents for whom English is an Additional Language engage with their child's school?	EAL
10	Do kids singing songs in a foreign language understand the words individually or the meaning of the song as a whole?	MFL
11	Do children with limited language benefit from songs that include signing?	Signing
12	When action are used, are they linking the action to a word or to the full meaning of the song?	Signing
13	Is there any research on the efficacy of singing and signing to build vocabulary – in English or MFL?	Signing
14	What is the best way of teaching the songs?	Pedagogy
15	What is the impact of singing on well-being?	Wellbeing
16	Is there an interface between music therapy and the use of songs by teachers in schools from the perspective of the practitioners?	Wellbeing

H10 – Power Analyses

Power analysis was conducted using G*Power Version 3.1, downloaded from https://www.psychologie.hhu.de/

Alpha-error probability and effect size are adopted from Field (2018) since no prior studies with a similar design and aim were found on this topic from which to draw effect size estimates.

H10.1 – Power Analysis for RQ1A – purposes of song use

Table H10.1.1 – Power analysis for RQ1A (ANOVA)

Statistical Test:	**Repeated measures, within-group ANOVA**
Non-centrality parameter	45.78
Critical F	1.83
Numerator df	10.67
Denominator df	261.37
Effect size	.5
Alpha error probability	.05
Level of power	.99

Table H10.1.2 – Power analysis for RQ1A (t-test)

Statistical Test:	**T-test**
Non-centrality parameter	2.03
Tails	2
Critical t	1.99
Effect size	.5
Alpha error probability	.05
Level of power	.52

H10.2 – Power Analysis for RQ1B – age group taught/attitude

Table H10.2.1 – Power analysis for RQ1B (ANOVA)

Statistical Test:	**Repeated measures ANOVA**
Non-centrality parameter	45.78
Critical F	1.83
Numerator df	10.67
Denominator df	261.37
Effect size	.5
Alpha error probability	.05
Level of power	.99

Table H10.2.2 – Power analysis for RQ1B (Mann-Whitney U)

Statistical Test:	**Mann-Whitney U**
Non-centrality parameter	1.98
df	62.93
Critical t	1.99
Effect size	.5
Alpha error probability	.05
Level of power	.50

H10.3 – Power Analysis for RQ1Ci – age group taught/planning

Table H10.3.1 – Power analysis for RQ1Ci (ANOVA)

Statistical Test:	**Repeated measures, within-group ANOVA**
Non-centrality parameter	98.37
Critical F	1.49
Numerator df	27.50
Denominator df	673.85
Effect size	.5
Alpha error probability	.05
Level of power	.99

Table H10.3.2 – Power analysis for RQ1Ci (t-test)

Statistical Test:	T-test
Non-centrality parameter	2.03
Tails	2
Critical t	1.99
Effect size	.5
Alpha error probability	.05
Level of power	.52

H10.4 – Power Analysis for RQ1Cii – age group taught/resources

Table H10.4 – Power analysis for RQ1Cii

Statistical Test:	Chi-square
Non-centrality parameter	20
df	1
Critical χ2	3.84
Beta error probability	.0059
Level of power	.99

H10.5 – Power Analysis for RQ1Ciii – frequency of song use/age group

Table H10.5 – Power analysis for RQ1Ciii

Statistical Test:	Chi-square (Fisher-Freeman-Halton exact)
Non-centrality parameter	21
df	3
Critical χ2	7.81
Alpha error probability	.05
Level of power	.98

H10.6 – Power Analysis for RQ2Ai – attitudes/presentation choices

Table H10.6 – Power analysis for RQ2Ai

Statistical Test:	Fisher's exact
Tails	1
Effect size	.5
Alpha error probability	.05
Level of power	.07
Actual alpha	.02

H10.7 – Power Analysis for RQ2Aii – frequency of song use/attitude to singing

Table H10.7 – Power analysis for RQ2Aii

Statistical Test:	Fisher's exact
Tails	1
Effect size	.5
Alpha error probability	.05
Level of power	.07
Actual alpha	.02

H10.8 – Power Analysis for RQ2B – singing ability/attitude

Table H10.8 – Power analysis for RQ2B

Statistical Test:	Chi-square (Fisher-Freeman-Halton exact)
Non-centrality parameter	25.75
df	6
Critical $\chi 2$	12.59
Alpha error probability	.05
Level of power	.98

H10.9 – Power Analysis for RQ3A – teachers' belief in songs as pedagogical tools/planning

Table H10.9 – Power analysis for RQ3A

Statistical Test:	**Spearman's rank-order**
Tails	2
Effect size	0.5
Critical z	1.96
Alpha error probability	.05
Level of power	.49

H10.10 – Power Analysis for RQ3B – teachers' belief in songs' pedagogical/behavioural/ social value x sing regardless of ability

Table H10.10 – Power analysis for RQ3B

Statistical Test:	**Spearman's rank-order**
Tails	2
Effect size	0.5
Critical z	1.96
Alpha error probability	.05
Level of power	.69

Appendix I – Semi-structured interview transcripts

Interview #1 - KS2 teacher

Speaker	Script
Researcher	OK so hi XXX, thank you for coming. So XXX can you tell me a bit about where you're teaching at the moment and so you know how long have you been there and what age group are you teaching?
Interviewee	No problem at all. So I I teach in XXXX in the Heart of England. I currently am teaching Year Four. I've been a primary school teacher now for the best part of six years including my training years. Mostly the middle phase of primary school, so I've been in sort of Year Three for a couple of three years, I've been in Year Five and now I'm in Year Four. I'm hoping to sort of stay in that kind of middle phase the next year or two. Generally, it's been a ...it's an interesting school 'cause it's a quite a pupil premium heavy school, so in the heart of XXXX. So it's got quite a lot of interesting, diverse community that we serve. And yeah, they're quite an interesting bunch of kids.
Researcher	Great, thank you. So just the next few questions about songs – that's the topic of the research. So what are your main reasons for choosing songs as an activity? If you were to choose songs, why would you choose them?
Interviewee	Yeah, so I often, I use quite a lot of songs in maths, believe it or not and teach some kind of concepts such as things like decimal points or times tables. Things like that. So I often find if the students kind of if it's quite an abstract kind of concept so you know. What's in terms of numbers so obviously they know number coming up from the school when they get to me, they need to kind of know their times tables pretty well, so we have a times tables test at the end of Year Four, so we often do things like times table troopers just to kind of get their brains in the kind of the sort of chanting the times tables and hopefully like aid that it's going to like their long term memory. And I find that songs are often what help facts and number figures and things like that to stick around a little bit longer.
Researcher	Great can you can you just tell me what is times tables troopers? Is that a program or a series of songs? What is that about?
Interviewee	It's I think it's a lot of them are on YouTube, which is obviously the source of quite a lot of things. But times table troopers is a like some songs that my musical lead has kind of downloaded for us. Not quite sure where they come from, but I know that they are we've got them like as an audio file. And it would be a scheme that we've bought in the past and their sort of like just songs based on the times tables that we kind of kind of produce and and you know, kind of use with the children. OK, they're quite funky.

Researcher Cool, so it's like it's helping to memorize the times tables through song. (Yeah). OK, brilliant, thank you for clarifying that. So how do you feel about using songs as part of your teaching practice?

Interviewee I, I think I'm quite comfortable using songs and things but I think it's a really important part of learning 'cause I often find that when you teach, you can kind of talk a bit too much and and the children kind of switch off a little bit, and I think that using songs and things like that really helps their attention kind of kick in. It's like a different part of their brain that they're using, and you know, and it's like they're still learning, but in a different kind of way. So if I feel the engagement with the children is much higher when we kind of use songs, they're very much excited to do so.

Researcher Great so you feel like the children also enjoy it? (Yeah). Uhm, now. Just thinking about planning. So how do you plan your song use? You've mentioned that you use this times table songs already. How often how often would you use them and do you plan a specific song or is it more that you block off the time to plan to do songs?

Interviewee So times table wise we've got a dedicated slot every single day. We usually use Times Table Rockstars, which is another kind of timetable platform. And the times tables songs or things like that I often use with in our maths lessons we've got a structure where we have something called the 'do now' where children have a task that they have to do. So it's often I often use, plan those songs in as like an introduction to their text to their lesson that they are kind of going to be learning just to kind of gauge engagement as well in terms of like assessment for learning for the children. So I'll see if they are joining in and they're really kind of confident with the times tables, for instance. And obviously I know the ones that I need to target and the ones that I kind of need to kind of um… you know, not kind of hammer them quite so much. As an assessment tool it's quite interesting, but in terms of planning and when and where, they they usually get planned in, but also vice versa. So I mean, if um if I think maybe in the afternoon that they didn't get a concept that I was teaching in the morning then maybe over lunch time I'll find a song to kind of refresh and and you know and can kind of be a bit more on the fly.

Researcher So on that when you're using songs on the fly, is that maybe you're assessing that you need to change the atmosphere or something, or you need to.

Interviewee Sometimes, like in terms of um behaviourally as well, you know if I feel that the kids have had enough of what they've been learning, or you know, starting to kind of, you know, some behaviours might start creeping in that you might not be wanting. It's often because they haven't they finish their work or they're switched off and things like that. So you know, you kind of need to kind of change up the atmosphere a little bit and then songs are brilliant for that. You know that they you know kind of get to use different kind of function in their brain and you know they don't necessarily have to write stuff. Often writing is a bit of a barrier for some of our children. So it's a way to kind of learn concepts without necessarily having to write them down.

Researcher Cool say when you talk about learning concepts you've mentioned maths. Are there other concepts that you might put through songs?

Interviewee Um, we've done things like languages and things as well. So our school mainly teaches French. Um and things like er teaching, say numbers and things like that in French. Obviously there's ample um ways of using music and things to teach those. Again YouTube's fantastic for that sort of stuff. So often hearing the stuff as well in songs is very important for them. So we put language in um say things like English, um we might kind of get, say if we're doing doing a traditional tale, or like a Viking tale or something like that then I often like putting on that kind of music in the morning to kind of get them into the atmosphere of what it might feel like to be in the Viking Times and things like that, so it's kind of like a an atmosphere thing as well.

Researcher Cool and so then you'd be playing it rather than all singing it. Or do you find did the kids start to get to know the songs and sing them?

Interviewee Yeah totally. For instance I was teaching Mayans in the autumn term. Obviously Mayans is quite a very, very different er society based [laugh] compared to XXX [district] in our in our XXXX [city] community. So in order to get them to get in the mood, if you like again I found a brilliant song which was based on a chart hit that they knew and it was all like Mayan facts and things like that instead and they still sing it to this day you know that's nearly huh eight months later. Impact. So that was all really good facts and stuff that they were learning about the Mayans and that was just purely, by chance to be fair that I found it, but I thought it would include it and that was like a bit of a plenary towards the end of the day when we've done all the work and then they've asked for it every single time since you know that we kind of... it obviously had quite an impact on them.

Researcher OK, thank you. So what do you think are the benefits of using songs in education? How would you sum it up?

Interviewee Um I think um positive like atmosphere and mood for the children. I think music is and songs um you know kids like to sing and dance and um on the most part so I think it's it's a very positive um behaviourally. I think that music and things that can help teach kind of concepts and [laugh] I keep saying the word concepts but you know things that the kids might not know. And then as like an introduction um and also in terms of like instead just of doing times tables by rote and by you know [sings] 2 * 2 is 4, all that sort of stuff, which is what you know we might have taught in the past. Now I think through songs and things I think they have a much lasting much more of a lasting effect for like long term memory and then getting it from that kind of working memory side into that really you know, embedded long term um and you know that would then help with their recall and all that sort of stuff. So I think they're really really positive um positive things. A good tool for teachers to use.

Researcher Thank you. So what queries do you have about using songs that might inform future research?

Interviewee	I think for me it might be kinda how that how songs can kind of aid it. I know they just kind of do [laugh] you know like that you put on the song and children sing along and things it's kind of would be quite interesting to find out what's going on like kind of scientifically. What they listen to him and how like whether it can be measured in terms of memory and cognition, that sorts of stuff that could be quite an interesting thing to find out about. And I guess just generally why songs are a good for children to listen to, like what? What is it about them that um most children like? You know? I guess I'm the why behind using songs.
Researcher	Yeah OK, thank you and I've got no more questions. So is there anything that I've forgotten to ask that you'd like to add?
Interviewee	Um no I think, I think that sort of sums it up.
Researcher	Great. Thank you very much.
Interviewee	Thank you very much.

Interview #2: Reception

Speaker	**Script**
Researcher	So XXX can you tell me a little bit about where you're teaching at the minute and how long you've been there, what kind of age group?
Interviewee	So I'm teaching at a Church of England school, St XXX's. I've been there hmmm fourth year now and I'm EYFS Lead and I've always been in Reception there.
Researcher	Uh huh so what kind of a demographic is it?
Interviewee	Errr a mixed bag? So it's near the university. So we have lots of children who come just for a little bit of time because their parents are doing a stint at the hospital. Ummm. So yeah lots of Black, Asian umm lots of different ethnic groups really which is one of the great things about the school.
Researcher	Great thank you. So umm. What are your, if you were choosing songs as an activity, what would be like your main reasons for choosing songs?
Interviewee	Ummm. Often it's for the enjoyment of it. As opposed to necessarily planning a set thing from the songs but I often feel I need to bring the class back together, or we need to calm down, or we just need to have umm a bit of fun in amongst all the other bits of the day. Umm. But if we're doing a specific story or theme and if I know a song that fits perfectly and then I'll always go to that one to do.
Researcher	So are there many of those like songs that fit perfectly with the story?

Interviewee Errrr I'm trying to think of some examples. Or rhymes. Ummm. What is the one with Little Red Riding Hood that's... very strange song from the wolf's perspective? I can't remember now. But he does a little chant. Ummm. Or if it rains it's just things that trigger the obvious ones, weather's always a good one. There's always a song for weather.

Researcher Right okay so if you see rain for example.

Interviewee Yeah.

Researcher Yes.

Interviewee Then it just pops in ohhh just saying the word sometimes triggers the song.

Researcher Yeah interesting thank you. Umm and so how do youuuu, how do you find the songs that you might use?

Interviewee Umm my childhood or memory when I was at school. And YouTube a lot of the moment but you have to filter out a lot in YouTube cos there's a lot of American umm high-pitched songs that drive me crazy that aren't the best. Ummm so I'm trying to actually at the moment find some decent umm not a scheme but a resource bank of songs to use in the classroom that aren't very very young nursery rhymes cos there is lots of very very young nursery rhymes but reception is quite a transitional year group. And they still need the singing but a lot of them have moved on from Row Row Your Boat.

Researcher Right yep. So umm what would you say that they need the singing for? That's interesting.

Interviewee I feel they still need it as a social activity. But they also... It's a really good way to help them remember vocabulary and they need to learn about music. Like high low, the different technical elements of songs and there's a big push with the new curriculum actually about the importance of teaching music and the skills and knowledge. Umm explicitly. Umm and also whenever we do maths one of the areas I use a lot of songs come to think of it is probably every day when we teach Maths. Always counting songs but you can every skill in maths you can find a song for from 3D shapes, doubling, umm and they love those.

Researcher Right okay so they love the maths ones. So how do you feel about about using songs?

Interviewee It feels quite natural in Early Years.

Researcher Umm hmm.

Interviewee But I burst into spontaneous song throughout the day if something rhymes or I'm like "[sings] who is listening?" and do all those chants and songs that just that seem to go and they'll copy them mimic them back. Ummm as a way rather than shouting or using the instrument if you just change your voice. It's a definite way to get attention.

Researcher Right well that's interesting so umm how often do you think you might use it as a way of getting attention?

Interviewee [Sigh] this class particularly a hundred times a day [laughs]. No probably about five to ten times a day.

Researcher So is that quite a go-to thing to do then to use songs as an attention grabber?

Interviewee Umm yep when they're lining up or definitely when it's a transition it's always a signal.

Researcher Excellent thank you. And how do the pupils feel about using songs?

Interviewee Umm. Most of them respond positively although I do get about five that sort of sit down now whenever a song comes on or there's music because they they just associate I don't know they don't want to join in very easily with it but most of them can't help themselves but join in. And we play music outside in the outside area and we're just about to build the stage area because they want to sing their own songs as well which we're to trying to harness at the moment.

Researcher So is that songs that they've composed? Or songs that they've learned?

Interviewee Yeah. Just things songs that they're familiar with and little songs that they just make up. Umm and then they all start copying each other. [laughs gently]

Researcher Oh that's interesting. So are they just like spontaneously making them up as they're playing?

Interviewee Yeah normally when they're in character. Ummm which is part of their play. Someone might go Nah-nah and they'll all start doing a bit of a nah-nah chant or if they've got the pom-poms or things that they want to perform with they naturally start wanting to do songs.

Researcher Yeah.
So that's quite spontaneous so do you plan your song use like if you do plan it, how do you plan it?

Interviewee Ummm. We'll generally just do a bit of a brainstorm with TAs and think about "right we're looking at this point next week about eggs and ducklings, do we know of any songs off the top of our head that springs to mind? Ummm. But more often than not it's not that planned. It's sort of "done this story. There's some time in the day it's the end of the day what links do I know?" and whatever pops into my head we'll sing.

Researcher Yep.

Interviewee Or sometimes it'll jog a memory for one of the children and they'll request a song with something that they've remembered. And sometimes they might sing it to the rest of the children.

Researcher Umm hmm. Right okay excellent. Umm so what. So how often do you think you might. How often do you think you might use songs as part of your...

Interviewee How many times a day?

Researcher Yeah so like how often in the day?

Interviewee Well we do one in the morning when we come in umm always one at the end of the day and then lots of songs throughout the day so probably at least five times a day.

Researcher Okay yes so a really regular regular frequent sort of part of the day. Great okay thank you. Um and so what do you think might be some of the benefits of using songs what would they be good for?

Interviewee Umm Good for building a sense of community and enjoyment and engagement. Umm. And then if we're using them for particular subject areas it it really helps to consolidate vocabulary or concepts ummm so that they're just THERE.

Researcher So how does it how does it consolidate vocabulary do you think?

Interviewee Umm through repetition. And everyone seems to remember things they've sung more than when if you just say them.

Researcher Yeah so do you notice a difference between songs and other kind of learning techniques you might use?

Interviewee Erm. [pause] Yeah if it's been a good song I'm just thinking of the one about 3D shapes they'll remember the trickier shape names. [laugh] Ummm. And I can tell the ones that umm they've heard through the song as opposed to the things that I've just tried to teach them that hasn't necessarily had a song associated with it.

Researcher Umm excellent thank you.

Interviewee Ummm it was dodecahedron or there's a song where they've got these shapes that aren't your commonly taught shapes and they remember those better than the ones I teach them all the time [laughing] in the activities because of the song stuck in their head.

Researcher Oh that's really interesting.

Interviewee [giggles amused at reflection]

Researcher Can you pinpoint like why that might like...

Interviewee I'd that's a very repetitive song and it's quite fast. And they it gets faster as it goes and they like the challenge of speeding it up.

Researcher Ummm. Excellent. So I'm researching how songs might be beneficial in education. Have you got any questions about what you know might be the benefits of songs that could sort of we could look at in research? Are there any like kind of like burning questions?

Interviewee Ummm I guess I wonder how often or how many times songs have to be sung before things really are concrete in their memory. That'd be quite interesting to know. Umm and is it particular types of songs even? Or melodies? That stick more than others?

Researcher Uh huh.

Interviewee Ummm I've never really thought that in depth actually about the types of songs and why some are you never forget. Ummm So that could be interesting.

Researcher When you say types of song what does that mean to you?

Interviewee Ummm I guess some songs like a nursery rhyme is just a little rhyme that you can say whereas some songs umm have got quite I don't know a beaty structure where they've got a chorus and a melody that keeps repeating. Or it might be the type of music that the songs do if it's a rap or if it's umm i don't know more tuneful.

Researcher Yep yep. Umm and like songs with actions or different genres? [Yeah]. Awesome so that's all of my questions have you got any other thoughts about songs or anything I might have forgotten to ask you?

Interviewee Ummm [thinks] no. I'm just trying to think if there's a difference between boys' and girls' engagement with songs. Cos it does tend to be at the moment the reluctant ones that *do* sit down for the song time. It does tend to be boys.

Researcher Right.

Interviewee And that's always worth thinking about.

Researcher Is that connected in your mind with any other like sort of habits they might have in that particular group?

Interviewee Ummm. Yeah I guess they're the you'd class them as the boisterous boys [laughs].

Researcher Mmhm.

Interviewee In general they sort of umm and they're the reluctant writers.

Researcher Right.

Interviewee So it's. That definitely could be all linked.

Researcher A bit of a resistance to something.

Interviewee	Hmmm [agreeing]. Or they don't like to comply. Right it's probably a bit of that too they don’t want to follow the flock or they feel like it's a bit young and immature I get some of them .
Researcher	Right thank you very much for your time.

Interview #3 – Primary One

Speaker	**Script**
Researcher	Thank you for joining me, XXX. Could you tell me please a little bit about where are you teaching at the minute? How long have you been there and what kind of school are you in?
Interviewee	No problem, so I'm teaching in XXX Primary School in which is in XXX which is not too far from XXX. And I've been here I think about 16 years now in this school. And I think for almost 13 of them, it's been in a Primary 1 class. So at the moment I have a Primary 1 class. Who are, I probably shouldn't say this, but it's the best class I've actually had in my entire career. So it's been a lovely year.
Researcher	That is nice, isn't it? And what kind of a school is it like demographically? Whereabouts does it sit do you think?
Interviewee	We are in quite a mixed area? But within our own school we don't have hugely high numbers of children from the lower SIMD, so we're kind of… And I think percentage wise we only have maybe about 15% of our children who are entitled to free meals. So we're kind of quite a good to average kinda demographic for our school.
Researcher	OK, thank you. So the next few questions are just about singing and songs as that's the topic of the research. So if you had to choose songs, what would be your main reasons for choosing songs as an activity?
Interviewee	I think primarily it would be enjoyment for the children and to help with their engagement levels. I have used songs, probably quite across the curriculum. Ummm I would say I've always used them for helping with certain concepts, in literacy and numeracy but I was also very lucky um two years ago to be involved in training where we actually looked at how we can use songs songs to develop health and well being aspects of the curriculum as well. And I was given the task of looking at how we could incorporate it into PE for the children at Primary 1 stage, and actually what we discovered was incredible because even the concepts of start and stop are so easy for the children to understand through the songs starting and stopping. It then helped with them being able

to link that with their physical movements of starting and stopping. So yeah, song is something that I think I have incorporated quite a lot across curricular areas. And it's something that I think the children look for once they've started kinda having that so often. It then becomes a natural part of their kind of skill set as well looking for a wee bit of song on. In fact, I think it was last week in class the children were doing quite a concentrated activity and one of the children actually asked for some songs to be put on in the background to help them concentrate.

Researcher That's really, really interesting. How do you use the songs in PE then to what? What kind of thing with the song be involved in?

Interviewee So I have used for start and stop so when the music starts that's when you've to move when the music stops. So the children are having to kind of not just listen for voice, but listening to the music. I have also used it for controlling body movements so things like can we listen to the speed of the song and match their movements to the same kind of timing? Ummm I've used kind of elements of the song sometimes like a certain word or a certain phrase, or a different voice coming in, and maybe they've to change their action that they've been asked to do. Umm I've also used the song for helping with the rhythm when they're learning ball skills like dribbling the ball and trying to keep it, with the beat of the song.

Researcher That's fascinating, thank you. Umm and do you use songs at all where the children sing as well?

Interviewee Well, [laughs] I think particularly this year, especially in Scottish schools because we have not been allowed to sing with the children at all since August, so it's actually been really significant to reflect on that because I think because we're not allowed to do at the moment, it kind of shows you how much you do do it and in your own practice. Because there's been so many times this year that I've said to the children, "Right we'll learn a song about this" and even the children are saying, "But we're not allowed to sing", so I think this year in particular has kind of highlighted for me, within my own practice how much I do use songs with the children.

Researcher That's really interesting. Thank you. So I think you've touched on this already, but how do you feel about using songs as part of your teaching practice?

Interviewee I would say prior to I would say maybe in the last kinda three to four years it's been quite a big focus for me as part of my personal choice, of professional development, and prior to that I think I thought that it didn't use song a lot, but I think the more training I was allowed to do, the more I became aware of where I would maybe have thought "oh we're just singing a wee song on for singing's sake" but actually the links to their academic development are stronger than I thought they were.

Researcher That's interesting, isn't it? Could you elaborate a little bit about that point there so you you know your understanding is it of how the songs may be linked to the academic learning of the children?

Interviewee Yeah, I mean things like umm I was quite lucky to do it in training with the NYCOS, which is the National Youth Choir of Scotland and one of the things that they did with us on the training was getting us to internalise songs. And actually looking at how that links with children being able to internalise when the reading. Was really quite interesting for me because I think as adults we presume that children can internalise and we ask them to read silently. Or can you sound that out in your head and then tell me what the word says? But actually, how do you teach a child to internalise? And I think using song for that was a big one for me. Umm also I've done quite a bit of training on phonological awareness as well for because of the stage of children I'm teaching and the links between even the rhythm when they're reading and using the rhythm of songs can help with that as well. And to help with their kind of fluid reading. Ummmm And I would say in maths concepts is I kind of tend to do song more for kind of helping with recall or things as well. Umm particularly in our school [laughs] umm the Primary Ones all famously learn my song about umm doubling numbers. Ummm and when sometimes when you actually see the children doing their kinda these tasks with addition and subtraction, you can sometimes hear them singing the wee songs to themselves to actually recall it so I think it helps connect in lots of different ways.

Researcher That's fantastic to hear. Thank you. Umm so your pupils, how do they feel about using songs?

Interviewee I would say, overall, the vast majority of them engage very well when there's song on. This year has been different because we've not been singing, but we've more been using songs, so I know one in particular that we use quite at lot is off of YouTube is Jack Hartman who does a lot of kind of number concept videos. So I think as the children are moving and although they're not able to sing out loud at the moment, you can sort of see the internalisation coming 'cause you can see them kinda mouthing the words. But I would say it's the movement and getting the children moving, moving about. Really helps I think with engagement levels and with their concentration. And I do quite often in the class get asked for particular songs that they've heard before if they can do them again. Even though at the moment they're not joining in with the singing they are definitely still enjoying using song.

Researcher Lovely thank you. So how do you plan your song use? So you've mentioned YouTube so maybe we could talk about where you find the songs and you know I would love to know do you plan specific songs in or is it a general singing time type of type of planning?

Interviewee Umm I would say a mixture of both, to be honest with you. In our school we subscribe to Charanga music. So I would more use that for my planned actual music lessons, but I tend to use Jack Hartmann, certain other songs on YouTube. Umm also there can be phonics songs from Jolly Phonics. And sometimes something that I've planned for. Sometimes it's just noticing the children maybe are a bit agitated or not concentrating as well, and actually just saying, “Right, come on, let's find a song that we can do that links with what we're doing.” So sometimes it's quite spontaneous and random and other times it is planned for. So I would say I use a mixture of both. This year because of remote learning, our school has also been using a platform for the children to use at home called Seesaw. And within that that there are lots of activities and lessons kinda in a generated bank. Um quite a lot of them are actually American teachers. And actually some of them have been really interesting. Maybe wee websites and places or songs that I hadn't heard of before that through looking at their lessons, I'm kinda finding songs or finding YouTube channels that I wouldn’t have being found before and then we can use some of them too.

Researcher That's lovely, thank you. So what do you think are the benefits of using songs in education?

Interviewee Umm I would say number one, I find engages the children well. And I think because it's a shared activity, there's no pressure of getting it right or wrong. Umm. I think as well it's quite often something that children that can help them with their memory and I have had feedback from parents over the last few years of some of the little songs that the children go home that we've been doing in class. And certainly the doubles song that I had spoke about earlier is one that a lot of the parents sometimes will say to me "Can we get the words for that song because we've been trying to sing at home and we want to join in with them." So I think it just really helped with their engagement and their enjoyment of concepts.

Researcher That's brilliant, thank you. So with umm thinking about research into songs, have you got as a teacher, have you got any questions that maybe could inform future research? So an area that you would like to know some answers about regarding how we use songs in education?

Interviewee Umm I think that one's a bit of a trickier question. I think because I have done so much professional learning over the last couple of years there's been so many things and so much research that I've seen, I've just thought, Wow why're we not using this more for us? I mean I don't know about another schools but I just feel as though in my own local authority, it's still not something that's valued at as much as the research that's already out there shows what it does for children and I think it still's quite often seen as that wee half hour at the end of the week. If you've got time do a wee bit of music. Whereas, I think I would like to know more about how do we get that message across to umm the powers that be as such that actually that there's a significant impact across all areas of learning for children using music and using song.

Researcher	That's really interesting. Thank you XXX. So I haven't got any more questions, so is there anything that I've forgotten to ask you about that you'd like to add about how we use songs?
Interviewee	Umm I would just say from my perspective I think kinda touching on what I've said about the value of it sometimes not being recognized. As all the professional learning that I've done in the last few years, none of it has been provided by my local authority. It's all been outside agencies that I've went to for training. So I don't know if that's something that maybe has an impact on teachers' confidence levels as well.
Researcher	That's really interesting, isn't it? What kind of training have you done?
Interviewee	Yeah, ummm I've kinda done some courses with NYCOS, which is the National Youth Choir of Scotland. I've also been very lucky to do some courses with Nicola Benedetti with the Benedetti Foundation. And I have also done a module in Dalcroze at the Royal Conservatoire of Scotland.
Researcher	OK, excellent thank you so much.

Interview #4 – KS2 Languages Teacher

Speaker	**Script**
Researcher	Thank you. Well thanks for joining me. Could you please tell me a little bit about where you're teaching and how long have you been teaching and what kind of a setting are you in and age groups and that kind of thing?
Interviewee	OK, so I teach at an independent prep school and I teach um Well, at the moment I'm teaching years three and four umm, but the modern languages provision runs from um say Year 1 really up to Year 6. Ummm and I have only been doing it since September. Umm I'm really I'm a TA. And I took on some German teaching in September and then another teacher left who was doing Spanish, so I volunteered for the experience to pick up the Spanish as well. And I've found I'm really enjoying it, so I'm hoping that I can umm start doing a PGCE in September and do it properly.
Researcher	Brilliant, thank you very much. So the next few questions are about songs because that's obviously the topic of my research project. So if you were to use songs, what would be your main reasons for choosing songs as an activity?

Interviewee Ummm I guess if I'm honest probably because I really like songs. Umm I've got a real strong belief that children can...well, actually anyone can learn things through song. Um that words just go in your head without thinking about it when you learn through a song. And I suppose it kind of started because when my own kids were really little, they absolutely loved going to mini discos at hotels abroad and I always noticed how all these kids would be like singing things in some random language not really knowing what they meant. But they would pick up the words. So I've always sort of followed my own little theory of language through mini disco I guess, and I get it… I guess it kind of stems from there. And then of course, when I started doing the teaching I joined things like that umm languages in primary school Facebook page and I just saw all the incredible stuff that was actually out there. Ummm you know that people were doing with using songs. Umm and I just think it's a really fun part of the lesson ummm to to introduce the vocab or then to use it in the song and for me in primary school as well it kind of it gives a nice structure, particularly to the beginning of a lesson. So in my German lessons I've used the Felix and Francie puppets from the Goethe Institute and they come with like a hello song that you do and a goodbye song and and and for me when I'm moving from room to room that's like a really nice way of starting the lesson and sort of defines the start of it for me. And so I in this, when I took on the Spanish, I kind of sort of semi made up a couple of equivalent greeting songs in Spanish. And again, it just really helps me. Say to the kids, “Right this is where our lesson is starting you're sitting down or standing up rather doing the song. This is where we begin.

Researcher Great, thank you. Can I just check that you can still hear me? Yes, yeah, OK, no, that's fine. Just because sometimes it's funny, you can't see somebody, isn't it? So what would you say? You've got songs at the start and the end of the class. Do how do you use songs? Kind of. Did the children sing them? Do you play them? What you do?

Interviewee Well, yes, obviously person… I mean when I'm introducing myself, sometimes I just sing them unaccompanied. Sometimes they're you know actually ones I’ve they're on YouTube or something to put them on. But like my my ones for the beginning in the end of the lesson I just sing them and then the children join in umm as soon as they can. I I mean, I've been quite lucky for my school has never been umm very strict on the COVID rules around singing, because we've got umm well I mean we have like about 19 or 20 kids in the class. But you know, if I split them in two then I was sort of following the official guidance there anyway. So and no one seemed that bothered. So I did carry on using songs and so yeah, the children sing them altogether and er they really like them. I hear them singing them in the playground and singing them to their younger brothers and sisters and that. So I do think they really go in their heads.

Researcher Excellent, thank you so you’ve touched on this a bit already, but how do you feel about using songs? As part of your teaching practice?

Interviewee Um to me it's almost like an essential part of it, really um and if not songs it some kind of sort of rhymes or or chanting, almost, you know, umm. I think with children that age, they just do seem to respond to it and it's it's. I guess it's something active that they can do as well, especially when you're learning new vocabulary. They're sort of more willing to have a go if it's part of a song rather than just saying a word to them, and they have to repeat back.

Researcher And how do you think the pupils feel about using them then?

Interviewee Um I'd say 90% of them, if not more, are positive um about singing. I mean, obviously there's there's the odd one. I look and their lips aren't really moving, and I don't. I don't make a big thing about everyone having to do it. cause I think even if they're listening it it's still worthwhile. But yes, surprisingly, I guess I mean I'm teaching Year 3s and 4s. Er you know who are probably still young enough to not be too embarrassed about it all. I haven't ever taught Year 5s and 6s, so I don't know whether I might get a different sort of feeling then, but from what I understand, um I think you're pretty safe with songs all the way through primary school and even Year 7.

Researcher Excellent, thanks, you thank you. So how do you plan the songs that you're using? So you've mentioned that you found a couple at the Goethe institute. So basically yeah, talk me through your planning. Like where do you find the songs? How do you how often do you use them?

Interviewee So I'd use um I've got my like routine songs, so to give you an example. So in German, virtually every lesson would start with singing this Hello song to the puppets umm which has just got like a couple of verses and then by popular request we normally sing a song about the days of the umm sorry the months of the year. So that would be like every lesson. Same with Spanish. There'd be like 2 routine songs that I sing at the beginning of every other children thing at the beginning of every lesson if not 3. And then... Other than that it's like as I'm planning umm the topics that we're doing. Umm I've kind of got in the back of my head songs that I've picked up over time so. Every time someone posts a song on one of the Facebook languages groups, you know I'd save it if I think I'm going to be able to use that. And sometimes I go looking for them on YouTube or on those Facebook groups, but often it's things that people have already mentioned and and then I have a big sort of saved section on Facebook of all the useful things people put on there, and in fact I'm a member of that there's an actual group teaching German with songs. It's not very active, but there's some stuff that's on there.

Researcher Brilliant, thank you. So could you tell me what do you think are the benefits of using songs in education? You've mentioned a few already, but what would you say?

Interviewee Well I think that memory for me is the is the main one – just as a memory aid. But also to break, yeah, I suppose it's like breaking up the lesson so you you it's a really useful bit of learning, but it doesn't feel to the children like learning or work. I think to them because they don't tend to do it in any other lesson really. Apart from music. Umm I think it feels like you're giving them something fun. Without realizing that you're doing it 'cause you want them to be, learning the vocab.

Researcher OK great so could you elaborate a little bit on like what kind of vocab do you think they might be picking up through the songs?

Interviewee Um so sometimes it it's really um what do you call it? Just really overt like like the days of the week and months of the year song. In both German and Spanish. You know obviously most of the song is just listing [laughs] known items. Um er umm I'm just trying to think so… just trying to think of some other songs. We do the same with my class routine songs at the beginning. They're basically just saying in German, like how are you? I'm fine. Umm that's some I've used recently. Yeah.

Researcher So it's the kind of language that they could then use, but not within a song?

Interviewee Yeah, yeah, definitely. I know I haven't used this in my lessons yet because they don't really need to, but actually funny enough with my daughter last night, she's Year 7 doing German and someone had posted um a link on Facebook to a song in German that taught you the er You know how how the verb 'To Be' went. And it was set to the tune of when the Saints come marching in. It was fantastic and I thought that was like that was like another really good example is there you know is is literally going through a verb, but set to music. If I get chance I'll definitely use something like that.

Researcher OK, great, thank you. Umm so ummm I'm obviously interested in researching about how we use songs. Have you got any queries about what songs in education might be used for that you know? If you could think about what what might inform future research topics? Because obviously as researchers we're interested in doing things that teachers find interesting so that it's useful. Have you got any thoughts on that?

Interviewee To find a way to present them or teach them first of all, umm or may or maybe maybe how older pupils respond. And like, do you do they need to be presented in a slightly different way as people get older? Um there's obviously with languages, I guess the embarrassment factor comes in more and more. Umm as the pupils get older. Like I see it a little bit even now you know you got the odd pupil who doesn't really enjoy the language lessons because they don't really get it and they're they're embarrassed to have a go. And I imagine that gets worse as they get older. Ummm so. So I'd still like to be able to get the memory benefits of doing songs.

Researcher	Yeah, it's a very interesting question. Thank you. So I actually have no more questions. So is there anything that I've forgotten to ask you that you'd like to add about songs and education at all?
Interviewee	Umm I can't think of anything.
Researcher	That's fine, just is sort of a space really to see if I've missed something that was your burning thing to talk about, but thank you very, very much. That's really helpful.

Interview #5 – KS1 Teacher

Speaker	**Script**
Researcher	Well thank you for joining me to have a little chat now. Could you tell me a little bit about where you're teaching at the minute? Like how long have you been teaching there, and what kind of class have you got? And what sort of school?
Interviewee	So I've been teaching in primary schools. This is my first year um as a newly qualified teacher umm and I'm teaching in the centre of XXX in a one-form entry primary school. I teach Year 1 which is children who start the year when they're five and finish when they're 6. Then the class is quite small. There's 19, but their profile is very mixed, so we've got 7 different languages spoken between six well seven, including English. Um in from the children and one um one other language spoken by one of the support staff. Um before though I um taught English as a foreign language for four years, um, and over that time it's been a mixture of um refugees, asylum seekers, infants, young learners, teenagers, adults. So um I've been teaching for four well five years and then one of the years was a placement year from my training year. So if you include that that's six years. But umm… And what else did you need to know?
Researcher	That's great. Thank you, so it's just to get an idea of, yeah, you know where we're at with your kind of school and everything. And then the next few questions are about using songs in education. Obviously that's the topic of the research project, so the first one is if you were to use songs, what would be your main reasons for choosing songs as an activity?

Interviewee Umm mainly to to engage the whole class. Um it's something that is an um aesthetic experience, something that um instead of it being passive for the children, you're kind of activating their whole body. Um it's something which um I use for young children in particular um because where they aren't literate um songs are a great way to um kind of put the words into their mouth of um whether that be and also by um having actions too. Um I also use songs because they um repeat and er stick and er once they do it's also very satisfying for the children to learn. [Hmm] There's also kind of along a lot, um songs, also kind of build, so you add add to your sort of repertoire class repertoire, and it can kind um if you build that up then 1) you can culminate in performing to parents and um giving the children that collaborative experience. And 2) you can kind of use it um for behaviour management or um helping with transitions. [Hmm um] Ummm and it just becomes another thing then that you can use in different ways. So even though the topic you might use this song to teach content, yeah and yeah. Yeah, um in the way that then it can be used for like in the day. Can can be used for other things umm yeah.

Researcher Cool, So what kind of content would you teach through songs?

Interviewee So umm I've I've got songs that I teach that are to help with counting and songs that help with like um topics in science or geography. Um there are songs which um help with um um movement because for young children you can't separate music and dance, um so um you kind of And so dance being whether that is like choreography and move [hmm mm] Actions, but actions in time. So um yeah, there are lots of songs which are used to get them active and their moving um. I've got songs that umm, let me think. ummm ummmm There's, so for the national curriculum it talks about using language in history umm to talk about the past. So even though it the song that one of them is about science, the reason I chose it was because it talks about 'a long time ago'. There's also umm another whole load of songs which are about dinosaurs, but again, it's kind of that element of history where you're talking about the past, so.

Researcher umm [That's interesting]. You mentioned transitions as well, so yeah, how would you? How would you weave a song in there?

Interviewee So. Then there's one girl in my class who has undergone trauma or experienced trauma and to be trauma informed umm is to build in kind of really small accomplishable goals. umm in the day with they keep on getting positive recognition so. Also cueing like when something when there is about to be a change. So instead of the transition just being "Line up and out we go" you have like 3 parts so the first one is to er the cue the second er and so it might be lining up in a particular place or sitting at the carpet, then the second one will be to do something which engages your body umm so umm it might be a call and response, or a song that they know and they join in, Umm erm that just kind of when they're in the line, ready to go they're kind of you're helping their body kind of regulate er break it down to prepare to for the next thing which will be then to move, which will be the change. Um yeah, there's also songs that I've used that I'm using now actually, to talk about feelings. And umm like the lyrics are umm "Teddy's feeling sad today. umm got to chase the blues away. We know just the very thing to do. Listen whilst we sing a song soon you want to jive along. This will bring a smile to me and you" so it kind of um goes through the different feelings and what we can do or what. Why singing a song will cheer us up. Then and then there's a song which I'm using as well, which is about body language. But looking at how animals. What the different body language of animals is like and then using that as the way to kind of deflect umm them. Then how we you know you can sing about that um and talk about that. And that helps children, kind of then be able to use that to then talk about their own bodies and how they're feeling um, or if, if they're feeling angry or threatened. umm what they can do and sort of? Or if it's the same for them or not? Umm so um Yeah.

Researcher That's really interesting thanks can I just, just a quick follow up on that. So what um what do you think maybe that a song does that a different technique might not achieve? Like what is the benefit of using a song in that situation?

Interviewee Umm I think it's um I think it's um There's kind of... Well, I think the fact that it repeats in your in your mind and sort of um like and also umm the memory of it. It lasts, it's much more lasting or and it's also hard. It's hard if it's like if if a child um once they know the song You just start singing the first part and they can't help but join in or pay attention to it. So if they're in a heightened state of emotion. And you've got this song to kind of, yeah, stop yourself from talking, but then you're still maintaining like the contact umm verbally umm It can, yeah, it can be that thing that helps. Umm I don't I can't think of anything else that would give you that that same level of like contact without it being physical. You know, like long distance.

Researcher That's really interesting. Thank you. So um How do you feel about using songs as part of your teaching practice?

Interviewee Umm I feel um yeah Really great. It's um, so I had a teacher at school who kind of reserved music for choir or er singing in assemblies and kind of. Well, I don't remember and I did actually go and volunteer at the school recently and and it wasn't used in the day. Um even though he was the teacher that was using music or like taught music throughout the school and um. It just became I just I'm it's a different yeah for me it's something which I think. Umm is great to have every day like it's for music as well. I trained as a musician and er I studied jazz. So kind of how I use the elements of music or how I can read a song but then just um take parts of it focus in on parts, open it up to use call and response. Be flexible with the material. That gives me kind of a different take on how I can use it in the day. Um and I do think it's yeah. And also the fact that. I was taught how to like memorise or kind of write a crib sheet sort of of the song rather than needing to literally follow the music. You can just take kind of a skeleton score or umm umm So in terms of how I how I feel using songs like. I feel like I'm. It's the one thing which I can definitely give them that other teachers wouldn't be able to. cause it's definitely an area of a strength for me, but. Umm and I also want to show the children like the process of rehearsing how we how you go from err at the very start, doing lots of my turn your turn where we're learning the lyrics. Or focusing on different elements of the music, like the melody or the rhythm or the or the rhyme at the end of each um couplet. Or um looking teaching the lyrics through images or having a story which we act out before we sing the song or kind of whatever the material was for, say, geography. Looking at maps but then going on to the song so. But the point is that rehearsing and that process of. Umm where it starts and having to to go through the process of. Me slowly retracting my presence in the sense of once they have started to learn the lyrics and I've got the visuals to help them and then I can just kind of mouth the words rather than singing along. But then eventually I'm not singing and it's just them and we're not using the visuals either but and to get from from not knowing a song to then performing it in front of parents with with no no visuals and no support from me. They then it's like. They then spark each other off like during lunch, during lunch or when they're sat at the tables or just randomly throughout the days. One child will start singing and then everybody joins in and they can't help it then. So it's um Yeah, that's that's kind of. umm I feel confident to do that, but it's umm I also feel like. umm kind of that is that is one of the reasons I'm doing it um to be able to provide that opportunity for the children in my class. So that's cool.

Researcher So how do your pupils feel about using songs?

Interviewee Umm. I think they love it. [laughs] I don't know if I'm biased, but umm. Oh I the other thing I think about it is and quite often music is reserved for those whose parents um pay for lessons or umm. Especially to learn an instrument or to go down where you're not just um. Yeah, umm kind of doing some whole class clapping or whole class like rhythmic effects or using instruments in a you know to kind of link it to your topic than the actual sort of. This process of rehearsing and then being able to get to performing um. Umm I think I think. It's vitally important for everyone to experience it, and so. Particularly for the children who wouldn't wouldn't have access umm. Yeah, because of socio economic reasons or just kind of. No, not knowing or not. Yeah, not being given the opportunities umm. And so yeah, it's one of those things that um. The children in my class, even. There's a different level of enjoyment, but um they all enjoy it. It's something they all you know they, umm it will they because they can belong to the class. It's something that we all do together is something that yeah, it's set up for the teacher to lead and it set up for call and response. So for young children, err It's not a It's not a "you need to listen now because I'm saying that you need to listen," it's a It's this is the the reward of by listening Er we learn the song and it kind of. Umm it kind of just yeah, sets up. Sets up that relationship like naturally um. Because yeah, cause they all join in altogether rather than rather than "Listen now I'm going to talk. I'm going to ask some questions and then only a few of you can answer" or "I want you to talk to each other" and some children engage in some children don't. It's like that… Once once the children are are listening, you know are it's a skill that you can now train through music as well.

Researcher Yeah. Sorry, I didn't mean to cut you off. Have you got…?

Interviewee No no I'm I've come off point.

Researcher That's alright, right? So can you describe for me how you might plan your song use so you know where do you go for songs? And yeah, so.

Interviewee Umm there's a website which um lots of schools have subscribed to, called Sing Up, and they have a whole list of songs um and you can search by topic or by er year group or hold all by sort of musical feature. Erm they have, it's designed for for non musicians, so it's designed to just be able to put in assembly. Um you load the song up you press play and it kind of like a karaoke goes through the lyrics and it has all the backing tracks already there. Um it does have all the music on it for musicians to be able to use but. And this year during lockdown um I... thankfully the school that I'm at hasn't thrown away any of its music um and hasn't and it has got pianos in the in the school. Um all of the books that that that contain the songs that I sang when I was at school [happy tone]. It's now owned by Collins Publishers, but it's originally was called then A&C Black. They were the publishers and they. Um They've got a whole list of um just like different set of books which have got. Like one of the ones I use is called umm "Songs about birds and beasts". It's all about animals um, but the content and the kind of. The quality of the material in it is is amazing It's like it's designed for use in er in schools. In assemblies it's got like linked um lesson activities you can do. Lots um kind of an extension of of what the song is about. The actual vocabulary in the songs is way more detailed than, so I don't know if you know the song. Cauliflowers fluffy and cabbages green? [sings] Strawberries sweeter than any I've seen. Beetroot purple and onions white. All grow steadily day and night. Yep. but the the point is is. Um compared to Sing Up. umm these songs are just full of content words. There's a section about birds or trees or names of like garden plants. There's a song in there which has has it all in already um Um yeah.

Researcher Sounds brilliant. Excellent, thank you. So how would you sum up what you think the benefits of using songs are in education?

Interviewee Um the benefits are that um. We, as humans, um are hardwired into using music, um to understand language. So um if we didn't have prosody or intonation We wouldn't understand people's intentions, and from what I've read umm It's it's something that has evolved alongside language, so when it's something that everybody. Umm has within them. Umm that um here for whatever reason um makes makes well we, we just do it. We enjoy singing. Um I'd say that it changes the dynamic of the teacher and the class. It becomes something that um you can in real time umm perform together um. And it's something that um there's always there's always more you can do or there's always um It's just like a… Yes, it's for me. It's like that sort of question is like saying what's the use of using written text in in education. You know, there's like it's the medium in which you can teach and learn so much so. Um and it's but it's a medium in which to rely on, every everybody can access it. You don't have to do er reading or writing. It can be cross generation, you know, intergenerational it can be shared with parents. It can be. It can be. Like the content that you that you um study. It can be an inclusive and it's something that you don't have to wait. You don't have to wait to learn to read, to be able to access. You know you'll be doing it as soon as you're born, so. Um yeah.

Researcher	Awesome, thank you. So I am obviously researching about songs. Have you got any queries about how um about the use of songs in education that might inform future research? So sort of things that you would like to find out the answers about.
Interviewee	It would be interesting to know um I think as you're doing like how it's used and what the general erm feeling is and umm, to what extent um teachers are relying on um resources that are like paid subscriptions where you just press play or or more and more like using videos from YouTube and and not teaching any anything in a musical way. Just OK. "Now it's time for you guys to just try and join in" and Erm to what extent has like the changes in the the education system in which like because so much relies on county councils and the music services that councils provide. But now there's umm a push with academies and free schools and left in like a less resources in local authorities. Um to what extent has that had an impact on um music making like in in schools? Um I'd say, yeah, but I personally be interested in kind of. Looking at the content of the songs and er um how that sort of has changed overtime 'cause it's some. I do think there's so much content um Yeah, just to give you an example. There could be a link between the sort of studies that they do in children's literature and how the themes of children's literature and the content words and how the amount of sort of like for. If you think about nature and stories used to be about woodland animals linked to our local environment um Whereas now the themes are much more global or looking at the environment, but not necessarily knowing the names of of things that you'd find in your local area and and how that's changed. I would suspect something similar has happened with songs that there's much that this kind of. Yeah, been a loss of of. Kind of the quality of the, you know the the vocabulary in the songs but. Um I know that they'd be huge studies it would be it wouldn't They'd be hard to do, but. Um yeah.
Researcher	Brilliant, thank you. That's a really interesting question. So I actually have no more questions. Is there anything I've forgotten to ask you that you'd like to add at the final stage?
Interviewee	Um er no, don't think so.
Researcher	Excellent, thank you very much.

Interview #6 – Childminder

Speaker	**Script**
Researcher	Well thank you so much for coming up. Could you just tell me a little bit about where you're teaching? What kind of experience you've got? And what sort of place you teach in, that sort of thing.

Interviewee OK, so I'm a registered childminder. I work with assistants. And we live in XXX and we look after between 6 and 9 children a day and I've been childminding for just coming up to seven years.

Researcher Excellent, thank you. So the next few questions about songs, which is what the research is about. Obviously. So if you were to use songs, what would be your main reason for choosing songs as an activity?

Interviewee Um so it's part of our routines and rituals of the day, so we do it everyday to enhance provision so might enhance an invitation to play, to talk about the weather, to tidy up, to say thank you and please before our snacks and lunch, that sort of thing. So it might be spontaneous singing, so something might happen. Thunder and lightning, like last week appeared suddenly. And I was on my lunch break and burst into the burst into the playroom singing, you know, Thunder and lightning. So yeah, it's just really seizing the opportunity. Obviously sometimes we have an idea of what we're gonna sing, but sometimes we go off in different directions to what we think we're going to do so.

Researcher Brilliant so so how do you feel about using songs as part of your practice?

Interviewee Umm so it doesn't bother me at all. Yeah, I mean, I, I'm not a very good singer. I'm not going to pretend I am, but I I quite enjoy singing. Um I try to… Rotate songs as much as possible so the children don't become sort of bored, especially when I've got like now a lot of three year olds. Obviously they've heard songs for a long time, so we try and mix them up. Sometimes we do them in different versions, but yeah, no. Enjoy enjoy singing and the children love singing.

Researcher So yeah. Oh great yeah. So that was my next question. So how did the the children feel about using songs?

Interviewee So some of the old ones screech really loud. So sometimes we have to... there's one little girl in particular that like almost screams to God. So we sometimes we we were trying to teach the older children to actually listen to each other and to sing at the same time because they're all trying to overpower each other, which is wonderful that they're so enthusiastic but sometimes we need to rein them in just a little bit because they can. When I've got smaller children that can then otherwise put their hands over their ears because it can be too loud. But I think from a communication and language point of view it's brilliant. I've got children. We've got two one year olds at the moment that are joining in humming. Even if they can't get all of the words out saying the odd words and bouncing and around and just joining in with the rhythm, even if they're not actually at that singing stage. Uh huh. Brilliant.

Researcher Alright, that's that's lovely. Thank you. So you already mentioned about you know sort of spontaneous use and that sort of thing. And what would you say you do about planning songs? Do you have anything? Any thoughts about where you might find them, for example? Or how often you use them?

Interviewee So I think over the years I've changed to be honest with you, so sometimes I might pick up a book such as. A Barefoot book, so to give you an example for umm "The Journey Home from Grandpa's" or um "A Journey to Guatemala" so that with that the teach, the children. We read the book. We sing the song. We watch the two-minute video on YouTube and we bring it all together. We started off, we break it up and we add to that. So I can do it that way. Sometimes it might be via an invitation to play or a provocation that the child's interested in currently learning. So it might be that I do it as a whole group or I might just be present and in the moment with the child. Say for instance, we're talking about fire engines and we might just sing Fireman Sam. So there isn't for... sometimes, as I said I, I might we go with the theme. Well it's not a theme. We go with... Because I'm a 'curiosity approach' umm setting, we go with the seasons so I tend to follow seasonality rather than lots of themes. But obviously children have their own ideas. So over the years it it's whatever works with you know with children. But little [emphasised] ones When I have a small bunch. So at the moment I got loads of as I said, 3 three year olds that are confident. You know gonna turn 4 and go to school in 12 months, so I'll go back to a small bunch again and then with those it will then be embedding regular favourite songs so that I encourage the children's vocabulary to increase and their singing literation.

Researcher Brilliant thank you. I'm so you mentioned vocabulary there. What do you think are of some of the benefits of using songs in education?

Interviewee Ohmygosh, it's just amazing, isn't it? I mean, you just can't um, you know it's, it... Well. Children pick up on a beat, a tone, a rhythm and they can't help theirselves but join in. It's it's not very often over the years, that I've had a child that doesn't want to join in. I mean, obviously they don't have to. I'm not going to make anybody do anything they don't want to. We can look to assist with I don't know musical instruments or sometimes you know we might listen to it, you know. Listen to nursery rhymes, we might watch it on the TV. Lots of different ways that we interject it or just read it. Sometimes as a story to start off with before we we sing. We just try really to To follow the interests of what that it those individual child children are and recognize, recognize it. But it's amazing you know it it, especially when they're sort of 18 months and they're picking up those new words they're like sponges.

Researcher That's interesting, thank you very much. I'm so I'm I'm starting to do some research about songs and I'd like to do the research that matters to teachers, so I wondered, have you got any questions about like songs in education that then you know, be something that we would go on and research and look into in a bit more detail? So anything that you, anything you've wondered about really.

Interviewee No, I mean, yeah, for me the only thing I find is is that the old fashioned nursery rhymes, original nursery rhymes aren't particularly being embraced anymore now. Because my my husband's my assistant and my daughter because me and my husband we aren't young we're what I'm 45 and he's 46, um we find that traditionally a lot of the very old fashioned nursery rhymes are aren't necessarily sung anymore and we try to keep those going. Um we we do I mean, for instance at the moment our three year olds and even the two year olds they're singing. You know the song [sings] "Asia or Africa and North and South America" but that song - the continents? They smashed it and I'm like totally shocked that I've got all this bunch of new 3 year olds and they all know the the continents of the world. So I do think there is a place for education in it and um definitely it should be encouraged, but where you would go with actual research, I'm not. I'm not sure 'cause I'm not. Yeah, not a researcher [laughs]

Researcher That's fine.

Interviewee Yeah there's definitely benefits to it. So so the continent song. And also I I I still do and I've never heard this song ever. But my daughter was taught it Who's about to turn 18 Um at a nursery, which is [sings] "Sunday, Monday, Tuesday, Wednesday" and I still sing that and I and all of the children or know the days of the week. But I've never heard. I've never been to a play group. I've never heard another childminder nobody ever sings it and yet it's just something so simple to embed days of the week and continents and things like that and they enjoy it.

Researcher Yeah, so it sounds like there's something about memory there, like are songs a good way of memorising new new ideas?

Interviewee Yeah, I tell my 10 year old this when it comes to times tables. And she's like 'Man, that's not cool to listen to songs that are times tables.' [laughs]

Researcher Brilliant. Right excellent, so I've got no more questions. Is there anything I forgot to ask about that you'd like to add? Something that you've been um...

Interviewee No. I mean, the only one thing is is that I'm quite strong on which you haven't asked it. I suppose is that we're very, very good as a setting at making up songs and to encourage children to obviously think outside of the actual nursery rhyme. Have imagination, the power of their brains and how they can. You know, run with just sometimes silly songs. It doesn't really make a difference, but we're passionate about encouraging it. You know a bit like a helicopter story, but we have like helicopter songs, so a child might start song and we might carry on with the song and take it in a different direction. So we try to not just, you know, set the mould. [laughs] You know the magic of play! [laughs]

Researcher That's brilliant. I don't know about helicopter songs.
Is that when you add a new…?

Interviewee	There's helicopter stories so and then I've just adapted it to helicopter songs. So a helicopter story is basically so like I would start the story and I might say to you, I went out for a walk one day and I found a piece of wood and then you would go on and you would say I don't know… I picked up the piece of wood and it was green and mouldy. And then the next child would say it. And it's encouraging children to be independent. To have an opinion. To think and imagine and and and just be imaginative really and and spark magical play. we do that with song, so um the children are really, really good. cause they're all as barmy as me I think. We all just, you know, we just sing sometimes silly songs, sometimes really cool songs, clever songs, so you know we might just you know [sings] "we're going on a walk, We going on a walk," you know we just we just make songs up.
Researcher	Yeah, excellent. Oh that's brilliant. Thanks so much. Thanks for your time.

Interview #7 – Preschool Teacher

Speaker	**Script**
Researcher	Well thank you very much for joining me. Could you just tell me to start with a little bit about where you are teaching? So what kind of age group and what kind of setting are you teaching?
Interviewee	So I work in a preschool in a little village in sort of a rural sort of semi… It's next to a town and we've got quite good transport links we have from 2 to going-to-school age so. Our eldest at the moment is going to be just five before he goes into school because of where the school year starts. So 4 and 11 months. Yeah, it's a umm a committee run preschool so we have quite a lot of control over what we do and how we do it.
Researcher	OK, brilliant, thank you and how long have you been teaching?
Interviewee	About 15 years.
Researcher	OK alright thanks. So the next few questions are about songs, cause that's my research area so if you if you were to use songs what would be your main reasons for choosing songs as an activity?
Interviewee	Uhm? Because it's something that everybody can join in with. It doesn't matter what level of language you have or your abilities, or it's something that would encompass all of the children and all of their needs. And it provides a large. Sort of scope for learning, so you could use songs for umm teaching umm numbers or around language. Or it could just be about getting the children physically active umm. It has such a broad sort of spectrum of learning through songs, but primarily it's something that actually the children really enjoy, but also encompasses all of their their abilities and their needs in one hit really.

Researcher Thank you, it's really interesting. So how do you feel about using songs as part of your practice?

Interviewee Oh, we love it. We do we do a lot of songs so we have we have a set time every day where we we do sit down and sing different songs but we also encompass we do sort of incorporate songs into different activities as well. So. We have a circle time every morning that there are some songs that are associated with circle time and then we obviously have a specific sort of singing session. But we have musical instruments out all of the time so that it encourages children to A) sort of explore sounds, but they can make up their own little songs and we often find some children sat umm singing versions of of songs, which is quite entertaining and I've got a member of staff that is just forever singing. It doesn't matter what she's doing, she's singing something and generally ends up with the children joining in as well. So with songs is a major part of what we do. Not necessarily planned, but it's just sort of there in everything really.

Researcher Interesting, thank you. So you've touched on it a bit already, but what how do the pupils or the children feel about songs? How do they get on with them?

Interviewee They like them, they they really do enjoy them and we have some of our littlies who are um… We've got a sort of three or four two year olds that are really struggling with language and sort of speaking, but really love to come and join in the songs because there's no pressure they can do the actions they can join in with the words that they know. And we know what it is that they're singing, so we'll then sing along with them and model it and that. But they they do also love it if you change the words. So when we sing sort of um 'wind the bobbin up', we have a game at the end where sometimes we sing that you know you put your hands on your knees and sometimes we choose other body parts and more often than not, they'll tell us that that's not the right word, but that's not where it is, and it becomes a fun game. Yeah. We we have very few children that don't join in the singing that don't like singing. And I think sometimes it's the um It's not that they don't necessarily like the singing, it's sometimes the expectation that they might have to sing on their own so as to I know that I've got one little boy who sings beautifully with us and he comes and he joins in and and and that, but we've put stuff up on umm We have a learning journey that's an online thing on Tapestry, so that goes. We can put stuff up on there and mum and dad can access that. And we can put videos up and we've put videos up of the children singing and then mum has obviously at some point or dad has gone "Oh can you sing me that song that you were singing nursery?" and the child's like "No. No. Not having any of that." Um but obviously you know sometimes solo singing is is quite a Oh so daunting sort of prospect for a child, especially if they're not so confident with all of the words that you're sort of put on the spot. And some people really don't enjoy that, but they're quite happy to come and sing as a group and and that. But yes, the children generally really enjoy it, and they'll come and join in.

Researcher Lovely thank you. So you mentioned that you're quite spontaneous with the songs. So how do you plan your song use and where do you find songs? How do you kind of deliver them as well? Is it singing um you know with your voices? Or do you play a website or a video? Or tell me a bit about your planning.

Interviewee So we have a song time every morning where we we sit and we do, you know we sing some songs and we have Umm a bag of umm song props. So we will ask the children to choose a song and if they can't think of 1 off the top of the head of the name of the song, then they'll come and choose a prop that might go with that song. And sometimes it's a lucky dip that they just put their hand in and pull one out. And we have a conversation about whether or not we can think of any songs that a sheep might be belong to. Um and sometimes um They'll they'll come and specifically, look for the sheep because they want to sing 'Baa Baa, Black Sheep.' We have children that are quite happily tell us what songs they want to sing. Sometimes we will teach them some new songs, so if we're sort of doing some stuff around a topic um sort of winter songs, that sort of thing then we will have resourced some songs generally from Google searches that we'll have been… We have been on sort of Google searches, um YouTube's very good for finding the tunes, and that sort of thing, and then we, as adults, generally learn them, and we sing the song and then we get them to join in with it. We occasionally do um some songs with Makaton um and we use some resources from Singing Hands and they have they have some like videos and DVDs on YouTube where we learn the signs along with with the songs. So we would put that on as well and we would do it to that. And we do have a Jo Jingles session once a week where we have a practitioner comes in from Jo Jingles and does a session with the children and includes musical instruments and dancing and that sort of thing. But there's generally some songs in there that we've not. We're not necessarily familiar with, so we get to learn some new songs through that as well.

Researcher Brilliant lovely thank you. So what would you say or what do you think of the benefits of using songs in education if you were to sum them up?

Interviewee It's a easy resource. You don't need any. You don't need any fancy equipment. You don't need any fancy. Sort of resources or anything, it's something that can be done on the spot. It um And everybody can do it. It is not something that you need a lot of of training and access to. You know everybody can sing. Not everybody could necessarily sing well, but children generally don't care that. But everybody can sing. Umm and They... it encompasses so, you know, it covers so many different areas of learning. That it's very simple and easy to do. Um and covers such a lot of things, because obviously you've got all the language development and the learning of new vocabulary and the rhyming and they the different patterns of speech that that go in that. But you've got the breathing. It's very good for children to calm down because you have to breathe in a

certain way in order to be able to sing it. So it naturally regulates your breathing. Uhm, and music generally is quite calming and soothing, so children do generally respond to it. I've yet to find a child that doesn't respond to being sung to when they're upset, but also you've got all the physical aspects of it in terms of learning action songs, and the different actions and being able to get your fingers into certain ways to make Incy Wincy Spider go up um or um when you're singing um Tommy Thumb, you've got to be able to get your fingers and identify, um isolate individual fingers, which is quite a challenge for small children. And then you've got all the the, the, the number sections, and you know there's generally a lot of numbers involved in a lot of children's rhymes, and they learn different concepts in in the process in terms of going up and down and round and round and all of those things. So it's it's one of those activities that is so broad in what you can cover, but is very, very simple and very easy to to do. And you can do it anywhere.

Researcher Brilliant, thank you. So obviously I'm researching about how we use songs in education and then maybe going to look into um trying to do some experiments, perhaps about proving that one aspect or different things that songs can do to build up some evidence and have you got any queries about you know how songs might help or about the use of songs in education that you've ever wondered about? Like what songs actually do?

Interviewee I think for me it's it's um we have a you know when we sing number rhymes particularly, they always come down. They always count down from 5. There are very few number rhymes that actually count up. There's only really a handful and I think sometimes when we're using them for sort of teaching number concepts and that that that then becomes really problematic. Because you're. You're coming, you're always coming down from 5 and taking away rather than adding and going. Going up, there are only a handful. But the I think the other one would be sort of the the use of. Songs to support sort of. The PHE or PHED sort of side of things and that sort of emotional regulation and confidence.

Researcher So what would you be wondering about in that respect?

Interviewee So like what aspects of emotional well being song support or? Yeah, as to how, how effective they actually are at doing, doing that. And this, I think it is a um a missed opportunity to be honest, I don't think a lot of people necessarily take singing particularly seriously.

Researcher OK lovely, thank you. So I actually have no more questions. Is there anything I've forgotten to ask that you'd like to add to what you've already said?

Interviewee No, I don't think so.

Researcher OK, perfect thank you.

Appendix J – Interview codebook

Table J1 contains the codebook that was used for coding interviews and for inter-rater reliability checks.

Table J1 – Interview Codebook

	Code	Description	Example 1	Example 2
1	Songs for teaching concepts	Songs used for teaching subjects (e.g. languages/ geography/history), concepts (e.g. maths/ spatial awareness)	"I use quite a lot of songs in maths...and teach some kind of concepts such as things like decimal points or times tables"	"Ummm. Or if it rains it's just things that trigger the obvious ones, weather's always a good one. There's always a song for weather."
2	Songs for behaviour/ management	songs used for routines, transitions, engaging pupils back on task	"I often find that when you teach, you can talk a bit too much and the children kind of switch off a little bit, and I think that using songs and things like that really helps their attention kind of kick in"	"Ummm. Or if it rains it's just things that trigger the obvious ones, weather's always a good one. There's always a song for weather."
3	Songs for language development	songs used for teaching vocabulary, literacy or pronunciation	"It's a really good way to help them remember vocabulary"	"And to help with their kind of fluid reading."
4	Songs for social/bonding	songs used for circle time, group activities, social reasons	"I feel they still need it as a social activity."	"And I think because it's a shared activity, there's no pressure of getting it right or wrong."
5	Performing songs	How teachers or children perform songs (e.g. playing a YouTube video, or singing themselves)	"we've got them as like an audio file"	"I mean when I'm introducing myself, sometimes I just sing them unaccompanied."
6	Finding song resources	How teachers find songs to use (e.g. Googling, YouTube search, own memory)	"YouTube is obviously the source of quite a lot of things"	"Umm my childhood or memory when I was at school."
7	Planning	How teachers plan song use: specific songs, songs by subject, spontaneous not planned.	"Often it's for the enjoyment of it. As opposed to necessarily planning a set thing from the songs"	"if um if I think maybe in the afternoon that they didn't get a concept that I was teaching in the morning then maybe over lunch time I'll find a song to kind of refresh and and you know and can kind of be a bit more on the fly."
8	Planning - age group specific	How age of children affects the planning of songs.	"when they get to me, they need to kind of know their times tables pretty well, so we have a times tables test at the end of Year Four, so we often do things like Times Table Troopers just to kind of get their brains in the kind of the sort of chanting the times tables and hopefully like aid that it's going to like their long-term memory."	"Um I try to... Rotate songs as much as possible so the children don't become sort of bored, especially when I've got like now a lot of three year olds. Obviously they've heard songs for a long time, so we try and mix them up. Sometimes we do them in different versions, but yeah, no."

9	Frequency of song use	How often teachers use songs	"so I often, I use quite a lot of songs in maths"	"We have a circle time every morning that there are some songs that are associated with circle time and then we obviously have a specific sort of singing session."
10	Training	What training teachers have for using music/songs	"I think because I have done so much professional learning over the last couple of years there's been so many things and so much research that I've seen, I've just thought, Wow why're we not using this more for us?"	"It is not something that you need a lot of of training and access to. You know everybody can sing."
11	Attitude to using songs	How teachers/children feel about using songs	"I think I'm quite comfortable using songs and things but I think it's a really important part of learning"	"Always counting songs but you can every skill in maths you can find a song for from 3D shapes, doubling, umm and they love those."
12	Ability/attitude	How singing ability affects attitude to using songs	" Umm so it doesn't bother me at all. Yeah, I mean, I, I'm not a very good singer. I'm not going to pretend I am, but I I quite enjoy singing."	"You know everybody can sing. Not everybody could necessarily sing well, but children generally don't care that. But everybody can sing."
13	Benefits - pedagogical tool	Any perceived benefits of using songs as a teaching tool	"we often do things like Times Table Troopers just to kind of get their brains in the kind of the sort of chanting the times tables and hopefully like aid that it's going to like their long-term memory."	"So I think it just really helped with their engagement and their enjoyment of concepts."
14	Benefits - behaviour/class management	Any perceived benefits of using songs as a classroom management/ behaviour tool	"I feel the engagement with the children is much higher when we kind of use songs"	"But I burst into spontaneous song throughout the day if something rhymes or I'm like "[sings] who is listening?" and do all those chants and songs that just that seem to go and they'll copy them mimic them back. Ummm as a way rather than shouting or using the instrument if you just change your voice. It's a definite way to get attention."
15	Research queries	What questions teachers have about using songs in education	"I think for me it might be kinda how that how songs can kind of aid it. I know they just kind of do [laugh] you know like that you put on the song and children sing along and things it's kind of would be quite interesting to find out what's going on like kind of scientifically."	"Ummm I guess I wonder how often or how many times songs have to be sung before things really are concrete in their memory. That'd be quite interesting to know. Umm and is it particular types of songs even? Or melodies? That stick more than others?"

16	Other (song and brain)	How songs interact with brain	"it's like a different part of their brain that they're using"	"You know that they you know kind of get to use different kind of function in their brain and you know they don't necessarily have to write stuff."

J2 – Interview excerpts tabulated by theme

Interview excerpts are organised by theme and presented in the same order as Chapter 5, Qualitative Results. Full interview transcripts are available in Appendix I.

Table J2.1 – Teaching concepts			
Theme	**Interviewee**	**Excerpt (number and quotation)**	
Teaching concepts in maths, literacy, history, science, geography	I. KS2	I. J2.1	"I use quite a lot of songs in maths...and teach some kind of concepts such as things like decimal points or times tables" (KS2, J2.1)
	II. KS1	II. J2.2	"So umm I've I've got songs that I teach that are to help with counting and songs that help with like um topics in science or geography." (KS1, J2.1)
	III. P1	III. J2.3	"I have used songs, probably quite across the curriculum. Ummm I would say I've always used them for helping with certain concepts, in literacy and numeracy" (P1, J2.3)
	IV. Reception	IV. J2.4	"One of the areas I use a lot of songs come to think of it is probably every day when we teach Maths. Always counting songs but you can every skill in maths you can find a song for from 3D shapes, doubling, umm and they love those." (Reception, J2.4)
Respite from writing	I. KS2	I. J2.5	"Often writing is a bit of a barrier for some of our children. So it's a way to kind of learn concepts without necessarily having to write them down." (KS2, J2.5)
Physical learning	I. P1	I. J2.6	"And actually what we discovered was incredible because even the concepts of start and stop are so easy for the children to understand through the songs starting and stopping. It then helped with them being able to link that with their physical movements of starting and stopping." (P1, J2.6)
	II. Preschool	II. J2.7	"But also you've got all the physical aspects of it in terms of learning action songs, and the different actions and being able to get your fingers into certain ways to make Incy Wincy Spider go up, um or um when you're singing um Tommy Thumb, you've got to be able to get your fingers and identify, um isolate individual fingers, which is quite a challenge for small children." (Preschool, J2.7)

Mnemonic value	I. Reception	I. J2.8	"Ummm it was dodecahedron or there's a song where they've got these shapes that aren't your commonly taught shapes and they remember those better than the ones I teach them all the time [laughing] in the activities because of the song stuck in their head." (Reception, J2.8)
	II. P1	II. J2.9	"And I would say in maths concepts is I kind of tend to do song more for kind of helping with recall or things as well. Umm particularly in our school [laughs] umm the Primary Ones all famously learn my song about umm doubling numbers." (P1, J2.9)
	III. KS2	III. J2.10	"Just to kind of get their brains in the kind of the sort of chanting the times tables and hopefully like aid that it's going to like their long-term memory." (KS2, J2.10)

Table J2.2 – Behaviour/classroom management			
Theme	**Interviewee**	**Excerpt**	
Engagement	I. KS2	I. J2.11	"just to kind of gauge engagement as well in terms of like assessment for learning for the children" (KS2, J2.11)
	II. KS1	II. J2.12	"Umm mainly to to engage the whole class." (KS1, J2.12)
	III. P1	III. J2.13	"Umm I would say number one, I find engages the children well." (P1, J2.13)
Positive change to classroom atmosphere	I. KS2	I. J2.14	"Um I think um positive like atmosphere and mood for the children. I think music is and songs um you know kids like to sing and dance and um on the most part so I think it's it's a very positive um behaviourally." (KS2, J2.14)
	II. Reception	II. J2.15	"I often feel I need to bring the class back together, or we need to calm down, or we just need to have umm a bit of fun in amongst all the other bits of the day." (Reception, J2.15)
Avoid overusing voice	I. Reception	I. J2.16	"I'm like "[sings] who is listening?" and do all those chants and songs that just that seem to go and they'll copy them mimic them back. Ummm as a way rather than shouting or using the instrument if you just change your voice. It's a definite way to get attention." (Reception, J2.16)
	II. KS1	II. J2.17	"And you've got this song to kind of, yeah, stop yourself from talking, but then you're still maintaining like the contact umm verbally umm It can, yeah, it can be that thing that helps. Umm I don't I can't think of anything else that would give you that that same level of like contact without it being physical. You know, like long distance." (KS1, J2.17)
	III. KS2	III. J2.18	"I often find that when you teach, you can talk a bit too much and the children kind of switch off a little bit, and I think that using songs and things like that really helps their attention kind of kick in." (KS2, J2.18)

Routines and rituals	I. P1	I. J2.19	“Well, [laughs] I think particularly this year, especially in Scottish schools because we have not been allowed to sing with the children at all since August, so it's actually been really significant to reflect on that because I think because we're not allowed to do at the moment, it kind of shows you how much you do do it and in your own practice.” (P1, J2.19)
	II. Preschool	II. J2.20	"We have a circle time every morning that there are some songs that are associated with circle time and then we obviously have a specific sort of singing session.” (Preschool, J2.20)
	III. Reception	III. J2.21	"Well we do one in the morning when we come in umm always one at the end of the day and then lots of songs throughout the day so probably at least five times a day.” (Reception, J2.21)
	IV. Childminder	IV. J2.22	“Um so it's part of our routines and rituals of the day, so we do it everyday to enhance provision” (Childminder, J2.22)
	V. KS2 Languages	V. J2.23	"There'd be like 2 routine songs that I sing at the beginning of every other children thing at the beginning of every lesson if not 3.” (KS2 Languages, J2.23)
Managing transitions	I. KS1	I. J2.24	“Also cueing like when something when there is about to be a change. So instead of the transition just being, "Line up and out we go," you have like 3 parts so the first one is to er the cue the second er and so it might be lining up in a particular place or sitting at the carpet, then the second one will be to do something which engages your body umm so umm it might be a call and response, or a song that they know and they join in, Umm erm that just kind of when they're in the line, ready to go they're kind of you're helping their body kind of regulate er break it down to prepare to for the next thing which will be then to move, which will be the change.” (KS1, J2.24)
	II. KS2 Languages	II. J2.25	“And again, it just really helps me. Say to the kids, "Right this is where our lesson is starting you're sitting down or standing up rather doing the song. This is where we begin.” (KS2 Languages, J2.25)
	III. Reception	III. J2.26	"Umm yep when they’re lining up or definitely when it’s a transition it’s always a signal.” (Reception, J2.26)

Table J2.3 – Language development			
Theme	**Interviewee**	**Excerpt**	
Consolidating vocabulary	I. Reception	I. J2.27	"And then if we’re using them for particular subject areas it it really helps to consolidate vocabulary or concepts ummm so that they’re just THERE.” (Reception, J2.27)
Phonological awareness	I. P1	I. J2.28	"I've done quite a bit of training on phonological awareness as well for because of the stage of children I'm teaching and the links between even the rhythm when they're reading and using the rhythm of songs can help with that as well.” (P1, J2.28)

Introduce new vocabulary	I. Reception II. KS2 Languages	I. J2.29 II. J2.30	"It's a really good way to help them remember vocabulary." (Reception, J2.29) "I guess it's something active that they can do as well, especially when you're learning new vocabulary. They're sort of more willing to have a go if it's part of a song rather than just saying a word to them, and they have to repeat back." (KS2 Languages, J2.30)
Engage preliterate children in literacy	I. KS1	I. J2.31	"Um it's something which um I use for young children in particular um because where they aren't literate um songs are a great way to um kind of put the words into their mouth of um whether that be and also by um having actions too." (KS1, J2.31)
Rich vocabulary of traditional songs	I. KS1 II. Childminder	I. J2.32 II. J2.33	"The actual vocabulary in the songs is way more detailed than, so I don't know if you know the song. Cauliflowers fluffy and cabbages green? [sings] Strawberries sweeter than any I've seen. Beetroot purple and onions white. All grow steadily day and night. Yep. but the the point is is. Um compared to Sing Up. umm these songs are just full of content words. There's a section about birds or trees or names of like garden plants. There's a song in there which has has it all in already." (KS1, J2.32) "For me the only thing I find is is that the old fashioned nursery rhymes, original nursery rhymes aren't particularly being embraced anymore now. Because my my husband's my assistant and my daughter because me and my husband we aren't young we're what I'm 45 and he's 46, um we find that traditionally a lot of the very old fashioned nursery rhymes are aren't necessarily sung anymore and we try to keep those going. Um we we do I mean, for instance at the moment our three year olds and even the two year olds they're singing. You know the song [sings] "Asia or Africa and North and South America" but that song - the continents? They smashed it and I'm like totally shocked that I've got all this bunch of new 3 year olds and they all know the the continents of the world." (Childminder, J2.33)
Language acquisition	I. Childminder II. Preschool	I. J2.34 II. J2.35	"But it's amazing you know it it, especially when they're sort of 18 months and they're picking up those new words they're like sponges." (Childminder, J2.34) "We have some of our littlies who are um… We've got a sort of three or four two year olds that are really struggling with language and sort of speaking, but really love to come and join in the songs because there's no pressure they can do the actions they can join in with the words that they know. And we know what it is that they're singing, so we'll then sing along with them and model it and that." (Preschool, J2.35)

Table J2.4 – Social purposes			
Theme	**Interviewee**	**Excerpt**	
Building class community	I. Reception	I. J2.36	"I feel they still need it as a social activity.” (Reception, J2.36)
	II. Reception	II. J2.37	"Good for building a sense of community and enjoyment and engagement.” (Reception, J2.37)
	III. KS1	III. J2.38	"Umm it will they because they can belong to the class. It's something that we all do together is something that yeah, it's set up for the teacher to lead and it set up for call and response.” (KS1, J2.38)
Songs as shared activity without pressure	I. P1	I. J2.39	"And I think because it's a shared activity, there's no pressure of getting it right or wrong.” (P1, J2.39)
Collaborative experience of building class repertoire	I. KS1	I. J2.40	"There's also kind of along a lot, um songs, also kind of build, so you add add to your sort of repertoire class repertoire, and it can kind um if you build that up then 1) you can culminate in performing to parents and um giving the children that collaborative experience.” (KS1, J2.40)
Avoid teacher talk/children listen approach	I. KS1	I. J2.41	"So for young children, err. It’s not a It's not a "you need to listen now because I'm saying that you need to listen," it's a It's this is the the reward of by listening er we learn the song and it kind of. Umm it kind of just yeah, sets up. Sets up that relationship like naturally um. Because yeah, 'cause they all join in altogether rather than rather than "Listen now I'm going to talk. I'm going to ask some questions and then only a few of you can answer" or "I want you to talk to each other" and some children engage in some children don’t." (KS1, J2.41)
	II. KS2	II. J2.42	"I often find that when you teach, you can talk a bit too much and the children kind of switch off a little bit, and I think that using songs and things like that really helps their attention kind of kick in” (KS2, J2.42)
Songs to teach appropriate volume levels	I. Childminder	I. J2.43	"So we sometimes we we were trying to teach the older children to actually listen to each other and to sing at the same time because they're all trying to overpower each other, which is wonderful that they're so enthusiastic but sometimes we need to rein them in just a little bit because they can. When I've got smaller children that can then otherwise put their hands over their ears because it can be too loud.” (Childminder, J2.43)

Table 3 – Song presentation			
Theme	**Interviewee**	**Excerpt**	
Audio files	I. KS2	I. J3.1	"We've got them as like an audio file." (KS2, J3.1)

Teacher sings unaccompanied	I. Reception	I. J3.2	"I burst into spontaneous song throughout the day." (Reception, J3.2)
	II. Childminder	II. J3.3	"So it might be spontaneous singing, so something might happen. Thunder and lightning, like last week appeared suddenly. And I was on my lunch break and burst into the burst into the playroom singing, you know, Thunder and lightning." (Childminder, J3.3)
	III. Preschool	III. J3.4	"I've got a member of staff that is just forever singing. It doesn't matter what she's doing, she's singing something and generally ends up with the children joining in as well." (Preschool, J3.4)
	IV. KS2 Languages	IV. J3.5	"I mean when I'm introducing myself, sometimes I just sing them unaccompanied." (KS2 Languages, J3.5)
Children compose songs	I. Reception	I. J3.6	"Yeah. Just things songs that they're familiar with and little songs that they just make up. Umm and then they all start copying each other." (Reception, J3.6)
	II. Childminder	II. J3.7	"As a setting at making up songs and to encourage children to obviously think outside of the actual nursery rhyme. Have imagination, the power of their brains and how they can. You know, run with just sometimes silly songs. It doesn't really make a difference, but we're passionate about encouraging it. You know a bit like a helicopter story, but we have like helicopter songs, so a child might start song and we might carry on with the song and take it in a different direction. So we try to not just, you know, set the mould. [laughs] You know the magic of play!" (Childminder, J3.7)
	III. Preschool	III. J3.8	"But we have musical instruments out all of the time so that it encourages children to A) sort of explore sounds, but they can make up their own little songs and we often find some children sat umm singing versions of of songs, which is quite entertaining." (Preschool J3.8)
Teacher scaffolds song rehearsal/ performance	I. KS1	I. J3.9	"Umm and I also want to show the children like the process of rehearsing how we how you go from err at the very start, doing lots of my turn your turn where we're learning the lyrics. Or focusing on different elements of the music, like the melody or the rhythm or the or the rhyme at the end of each um couplet. Or um looking teaching the lyrics through images or having a story which we act out before we sing the song or kind of whatever the material was for, say, geography. Looking at maps but then going on to the song so. But the point is that rehearsing and that process of. Umm where it starts and having to to go through the process of. Me slowly retracting my presence in the sense of once they have started to learn the lyrics and I've got the visuals to help them and then I can just kind of mouth the words rather than singing along. But then eventually I'm not singing and it's just them and we're not using the visuals either but and to get from from not knowing a song to then performing it in front of parents with with no no visuals and no support from me." (KS1, J3.9)

External music subscription (e.g. Charanga) for planned music lessons	I. P1 II. KS1	I. J3.10 II. J3.11	"In our school we subscribe to Charanga music. So I would more use that for my planned actual music lessons but I tend to use Jack Hartmann, certain other songs on YouTube." (P1, J3.10) "Umm there's a website which um lots of schools have subscribed to, called Sing Up, and they have a whole list of songs um and you can search by topic or by er year group or hold all by sort of musical feature. Erm they have, it's designed for for non musicians, so it's designed to just be able to put in assembly. Um you load the song up you press play and it kind of like a karaoke goes through the lyrics and it has all the backing tracks already there. Um it does have all the music on it for musicians to be able to use but." (KS1, J3.11)
YouTube	I. P1 II. Childminder III. KS2 Languages	I. J3.12 II. J3.13 III. J3.14	"This year has been different because we've not been singing, but we've more been using songs, so I know one in particular that we use quite at lot is off of YouTube is Jack Hartman who does a lot of kind of number concept videos." (P1, J3.12) "We read the book. We sing the song. We watch the two-minute video on YouTube and we bring it all together. We started off, we break it up and we add to that." (Childminder, J3.13) "Sometimes they're you know actually ones I've they're on YouTube or something to put them on.” (KS2 Languages, J4.

Table 4 – Resources			
Theme	**Interviewee**	**Excerpt**	
YouTube	I. Reception	I. J4.1	"And YouTube a lot of the moment but you have to filter out a lot in YouTube cos there’s a lot of American umm high-pitched songs that drive me crazy that aren’t the best." (Reception, J4.1)
	II. KS2	II. J4.2	"YouTube is obviously the source of quite a lot of things.” (KS2, J4.2)
	III. KS2	III. J4.3	"Um and things like er teaching, say numbers and things like that in French. Obviously there's ample um ways of using music and things to teach those. Again YouTube's fantastic for that sort of stuff." (KS2, J4.3)
	IV. P1	IV. J4.4	“I tend to use Jack Hartmann, certain other songs on YouTube." (P1, J4.4)
	V. KS2 Languages	V. J4.5	"Sometimes they're you know actually ones I've they're on YouTube or something to put them on.” (KS2 Languages, J4.5)
	VI. KS1	VI. J4.6	"It would be interesting to know um I think as you're doing like how it's used and what the general erm feeling is and umm, to what extent um teachers are relying on um resources that are like paid subscriptions where you just press play or or more and more like using videos from YouTube and and not teaching any anything in a musical way. Just OK. "Now it's time for you guys to just try and join in.” (KS1, J4.6)
	VII. Preschool	VII. J4.7	"um YouTube's very good for finding the tunes, and that sort of thing.” (Preschool, J4.7)

Teachers' memory	I. Reception II. KS1	I. J4.8 II. J4.9	"Umm my childhood or memory when I was at school." (Reception, J4.8) "all of the books that that that contain the songs that I sang when I was at school [happy tone]." (KS1, J4.9)
Song-story books	I. Childminder	I. J4.10	"So sometimes I might pick up a book such as a Barefoot book, so to give you an example for umm "The Journey Home from Grandpa's" or um "A Journey to Guatemala" so that with that the teach, the children." (Childminder, J4.10)
Song websites	I. P1 II. KS1	I. J4.11 II. J4.12	"This year because of remote learning, our school has also been using a platform for the children to use at home called Seesaw. And within that that there are lots of activities and lessons kinda in a generated bank. Um quite a lot of them are actually American teachers. And actually some of them have been really interesting. Maybe wee websites and places or songs that I hadn't heard of before that through looking at their lessons, I'm kinda finding songs or finding YouTube channels that I wouldn't have being found before and then we can use some of them too." (P1, J4.11) "Umm there's a website which um lots of schools have subscribed to, called Sing Up, and they have a whole list of songs um and you can search by topic or by er year group or hold all by sort of musical feature." (KS1, J4.12)
Times Tables Troopers	I. KS2	I. J4.13	"Times table troopers is some songs that my musical lead downloaded for us" (KS2, J4.13)
Traditional school song books	I. KS1	I. J4.14	"And this year during lockdown um I... thankfully the school that I'm at hasn't thrown away any of its music um and hasn't and it has got pianos in the in the school. Um all of the books that that that contain the songs that I sang when I was at school [happy tone]. It's now owned by Collins Publishers, but it's originally was called then A&C Black. They were the publishers and they. Um They've got a whole list of um just like different set of books which have got. Like one of the ones I use is called umm "Songs about birds and beasts". It's all about animals um, but the content and the kind of. The quality of the material in it is is amazing. It's like it's designed for use in er in schools. In assemblies it's got like linked um lesson activities you can do." (KS1, J4.14)
External music sessions	I. Preschool	I. J4.15	"And we do have a Jo Jingles session once a week where we have a practitioner comes in from Jo Jingles and does a session with the children and includes musical instruments and dancing and that sort of thing. But there's generally some songs in there that we've not. We're not necessarily familiar with, so we get to learn some new songs through that as well." (Preschool, J4.15)

Table 5 – Planning			
Theme	**Interviewee**	**Excerpt**	
Spontaneously burst into song	I. Reception	I. J5.1	"Then it just pops in ohhh just saying the word sometimes triggers the song." (Reception, J5.1)
	II. Reception	II. J5.2	"Ummm. But more often than not it's not that planned. It's sort of "done this story. There's some time in the day it's the end of the day what links do I know?" and whatever pops into my head we'll sing." (Reception, J5.2)
	III. Childminder	III. J5.3	"So it might be spontaneous singing, so something might happen. Thunder and lightning, like last week appeared suddenly. And I was on my lunch break and burst into the burst into the playroom singing, you know, Thunder and lightning." (Childminder, J5.3)
Planned times tables rehearsal	I. KS2	I. J5.4	"When they get to me, they need to kind of know their times tables pretty well, so we have a times tables test at the end of Year Four, so we often do things like Times Table Troopers just to kind of get their brains in the kind of the sort of chanting the times tables and hopefully like aid that it's going to like their long-term memory." (KS2, J5.4)
Songs linked to topic	I. Childminder	I. J5.5	"Sometimes it might be via an invitation to play or a provocation that the child's interested in currently learning. So it might be that I do it as a whole group or I might just be present and in the moment with the child. Say for instance, we're talking about fire engines and we might just sing Fireman Sam. So there isn't for... sometimes, as I said I, I might we go with the theme. Well it's not a theme. We go with… Because I'm a 'curiosity approach'umm setting, we go with the seasons so I tend to follow seasonality rather than lots of themes. But obviously children have their own ideas. So over the years it it's whatever works with you know with children." (Childminder, J5.5)
	II. Preschool	II. J5.6	"So if we're sort of doing some stuff around a topic um sort of winter songs, that sort of thing then we will have resourced some songs generally from Google searches that we'll have been We have been on sort of Google searches." (Preschool, J5.6)
	III. Reception	III. J6.7	"Ummm. We'll generally just do a bit of a brainstorm with TAs and think about "right we're looking at this point next week about eggs and ducklings, do we know of any songs off the top of our head that springs to mind?" (Reception, J5.7)
	IV. KS2 Languages	IV. J5.8	"Other than that it's like as I'm planning umm the topics that we're doing. Umm I've kind of got in the back of my head songs that I've picked up over time so." (KS2 Languages, J5.8)
Songs to begin/end FL lessons	I. KS2 Languages	I. J5.9	"So in my German lessons I've used the Felix and Francie puppets from the Goethe Institute and they come with like a hello song that you do and a goodbye song and and and for me when I'm moving from room to room that's like a really nice way of starting the lesson and sort of defines the start of it for me." (KS2 Languages, J5.9)

Part of daily routines	I. Childminder	I. J5.10	"Um so it's part of our routines and rituals of the day, so we do it everyday to enhance provision." (Childminder, J5.10)
	II. Preschool	II. J5.11	"So with songs is a major part of what we do. Not necessarily planned, but it's just sort of there in everything really." (Preschool, J5.11)
	III. Reception	III. J5.12	"[Sigh] this class particularly a hundred times a day [laughs]. No probably about five to ten times a day." (Reception, J5.12)
Ongoing formative assessment of children's needs	I. P1	I. J5.13	"Sometimes it's just noticing the children maybe are a bit agitated or not concentrating as well, and actually just saying, "Right, come on, let's find a song that we can do that links with what we're doing." (P1, J5.13)
	II. KS2	II. J5.14	"So I'll see if they're joining in and they're really kind of confident with the times tables, for instance. And obviously I know the ones that I need to target and the ones that I kind of need to kinf of um... you know, not hammer them quite so much." (KS2, J5.14)
	III. Reception	III. J5.15	"I often feel I need to bring the class back together, or we need to calm down, or we just need to have umm a bit of fun in amongst all the other bits of the day." (Reception, J5.15)

Table 6 – Frequency

Theme	Interviewee	Excerpt	
Frequently throughout the day	I. Reception	I. J6.1	"Well we do one in the morning when we come in umm always one at the end of the day and then lots of songs throughout the day so probably at least five times a day." (Reception, J6.1)
	II. Childminder	II. J6.2	"So we do it everyday to enhance provision so might enhance an invitation to play, to talk about the weather, to tidy up, to say thank you and please before our snacks and lunch, that sort of thing." (Childminder, J6.2)
	III. Preschool	III. J6.3	"We do a lot of songs so we have we have a set time every day where we we do sit down and sing different songs but we also encompass we do sort of incorporate songs into different activities as well." (Preschool, J6.3)
	IV. P1	IV. J6.4	"Because there's been so many times this year that I've said to the children, "Right we'll learn a song about this" and even the children are saying, "But we're not allowed to sing", so I think this year in particular has kind of highlighted for me, within my own practice how much I do use songs with the children." (P1, J6.4)
Daily maths songs	I. Reception	I. J6.5	"One of the areas I use a lot of songs come to think of it is probably every day when we teach Maths." (Reception, J6.5)
	II. KS2	II. J6.6	"So times table wise we've got a dedicated slot every single day" (KS2, J6.6)
Songs to begin/end FL lessons	I. KS2 Languages	I. J6.7	"So I'd use um I've got my like routine songs, so to give you an example. So in German, virtually every lesson would start with singing this Hello song to the puppets umm which has just got like a couple of verses and then by popular request we normally sing a song about the days of the umm sorry the months of the year. So that would be like every lesson. Same with Spanish." (KS2 Languages, J6.7)

Covid-19 highlighted song frequency	I. P1	I. J6.8	"Because there's been so many times this year that I've said to the children, "Right we'll learn a song about this" and even the children are saying, "But we're not allowed to sing", so I think this year in particular has kind of highlighted for me, within my own practice how much I do use songs with the children." (P1, J6.8)

Table 7 – Attitudes

Theme	Interviewee	Excerpt	
Children generally enjoy songs	I. Reception	I. J7.1	"Always counting songs but you can every skill in maths you can find a song for from 3D shapes, doubling, umm and they love those." (Reception, J7.1)
	II. Childminder	II. J7.2	"Enjoy enjoy singing and the children love singing." (Childminder, J7.2)
	III. Preschool	III. J7.3	"Yeah. We we have very few children that don't join in the singing that don't like singing." (Preschool, J7.3)
	IV. P1	IV. J7.4	"And I do quite often in the class get asked for particular songs that they've heard before if they can do them again. Even though at the moment they're not joining in with the singing they are definitely still enjoying using song." (P1, J7.4)
	V. KS2 Languages	V. J7.5	"Um I'd say 90% of them, if not more, are positive um about singing. I mean, obviously there's there's the odd one. I look and their lips aren't really moving, and I don't. I don't make a big thing about everyone having to do it. cause I think even if they're listening it it's still worthwhile." (KS2 Languages, J7.5)
	VI. KS2	VI. J7.6	"When we kind of use songs, they're very much excited to do so." (KS2, J7.6)
	VII. KS1	VII. J7.7	"Umm. I think they love it. [laughs] I don't know if I'm biased, but umm." (KS1, J7.7)
Singing feels natural, essential or important	I. Reception	I. J7.8	"It feels quite natural in Early Years." (Reception, J7.8)
	II. P1	II. J7.9	"And it's something that I think the children look for once they've started kinda having that so often. It then becomes a natural part of their kind of skill set as well looking for a wee bit of song on." (P1, J7.9)
	III. KS2 Languages	III. J7.10	"Um to me it's almost like an essential part of it, really um and if not songs it some kind of sort of rhymes or or chanting, almost, you know, umm." (KS2 Languages, J7.10)
	IV. KS2	IV. J7.11	"I think I'm quite comfortable using songs and things but I think it's a really important part of learning." (KS2, J7.11)

Children cannot help joining in	I. KS1	I. J7.12	"They then it's like. They then spark each other off like during lunch, during lunch or when they're sat at the tables or just randomly throughout the days. One child will start singing and then everybody joins in and they can't help it then." (KS2, J7.12)
	II. Childminder	II. J7.13	"You just can't um, you know it's, it... Well. Children pick up on a beat, a tone, a rhythm and they can't help theirselves but join in. It's it's not very often over the years, that I've had a child that doesn't want to join in. I mean, obviously they don't have to. I'm not going to make anybody do anything they don't want to." (Childminder, J7.13)
	III. Reception	III. J7.14	"Umm. Most of them respond positively although I do get about five that sort of sit down now whenever a song comes on or there's music because they they just associate I don't know they don't want to join in very easily with it but most of them can't help themselves but join in." (Reception, J7.14)
Children request songs	I. P1	I. J7.15	"And I do quite often in the class get asked for particular songs that they've heard before if they can do them again. Even though at the moment they're not joining in with the singing they are definitely still enjoying using song." (P1, J7.15)
	II. KS2	II. J7.16	"They've asked for it every single time since you know that we kind of... it obviously had quite an impact on them." (KS2, J7.16)
Children sing songs to siblings/family	I. KS2 languages	I. J7.17	"The children sing them altogether and er they really like them. I hear them singing them in the playground and singing them to their younger brothers and sisters and that." (KS2 Language, J7.17)
	II. P1	II. J7.18	Umm. I think as well it's quite often something that children that can help them with their memory and I have had feedback from parents over the last few years of some of the little songs that the children go home that we've been doing in class. And certainly the doubles song that I had spoke about earlier is one that a lot of the parents sometimes will say to me "Can we get the words for that song because we've been trying to sing at home and we want to join in with them." (P1, J7.18)
Reluctance increases as children mature	I. KS2 languages	I. J7.19	"But yes, surprisingly, I guess I mean I'm teaching Year 3s and 4s. Er you know who are probably still young enough to not be too embarrassed about it all. I haven't ever taught Year 5s and 6s, so I don't know whether I might get a different sort of feeling then, but from what I understand, um I think you're pretty safe with songs all the way through primary school and even Year 7." (KS2 Languages, J7.19)
	II. Reception	II. J7.20	"I'm just trying to think if there's a difference between boys' and girls' engagement with songs. Cos it does tend to be at the moment the reluctant ones that *do* sit down for the song time. It does tend to be boys. [Right.] And that's always worth thinking about. [Is that connected in your mind with any other like sort of habits they might have in that particular group?] Ummm. Yeah I guess they're the you'd class them as the boisterous boys [laughs]. [Mmhm.] In general they sort of umm and they're the reluctant writers. [Right.] So it's. That definitely could be all linked." (Reception, J7.20)

Teacher attitudes not linked to singing ability	I. Childminder	I. J7.21	"Umm so it doesn't bother me at all. Yeah, I mean, I, I'm not a very good singer. I'm not going to pretend I am, but I I quite enjoy singing." (Childminder, J7.21)
	II. Preschool	II. J7.22	"You know everybody can sing. Not everybody could necessarily sing well, but children generally don't care that. But everybody can sing." (Preschool, J7.22)
Music is teacher's particular speciality	I. KS1	I. J7.23	"So in terms of how I how I feel using songs like. I feel like I'm. It's the one thing which I can definitely give them that other teachers wouldn't be able to. cause it's definitely an area of a strength for me, but." (KS1, J7.23)

Table 8 – Benefits			
Theme	**Interviewee**	**Excerpt**	
Mnemonic 'song stuck in my head', long-term memory benefits	I. Reception	I. J8.1	"Ummm it was dodecahedron or there's a song where they've got these shapes that aren't your commonly taught shapes and they remember those better than the ones I teach them all the time [laughing] in the activities because of the song stuck in their head." (Reception, J8.1)
	II. Childminder	II. J8.2	"Just something so simple to embed days of the week and continents and things like that and they enjoy it." (Childminder, J8.2)
	III. P1	III. J8.3	"Ummm and when sometimes when you actually see the children doing their kinda these tasks with addition and subtraction, you can sometimes hear them singing the wee songs to themselves to actually recall it so I think it helps connect in lots of different ways." (P1, J8.3)
	IV. KS1	IV. J8.4	"Um I also use songs because they um repeat and er stick and er once they do it's also very satisfying for the children to learn." (KS1, J8.4)
	V. KS2	V. J8.5	"Now I think through songs and things I think they have a much lasting much more of a lasting effect for like long term memory and then getting it from that kind of working memory side into that really you know, embedded long term um and you know that would then help with their recall and all that sort of stuff." (KS2, J8.5)
	VI. KS2 Languages	VI. J8.6	"Well I think that memory for me is the is the main one – just as a memory aid." (KS2 Languages, J8.6)
(Re)engaging children	I. P1	I. J8.7	"Sometimes it's just noticing the children maybe are a bit agitated or not concentrating as well, and actually just saying, "Right, come on, let's find a song that we can do that links with what we're doing." (P1, J8.7)
	II. P1	II. J8.8	"But I would say it's the movement and getting the children moving, moving about. Really helps I think with engagement levels and with their concentration." (P1, J8.8)
	III. KS2	III. J8.9	"I feel the engagement with the children is much higher when we kind of use songs." (KS2, J8.9)

Improve class mood	I. KS2	I. J8.10	"Sometimes, like in terms of um behaviourally as well, you know if I feel that the kids have had enough of what they've been learning, or you know, starting to kind of, you know, some behaviours might start creeping in that you might not be wanting. It's often because they haven't they finish their work or they're switched off and things like that. So you know, you kind of need to kind of change up the atmosphere a little bit and then songs are brilliant for that." (KS2, J8.10)
	II. Reception	II. J8.11	"I often feel I need to bring the class back together, or we need to calm down, or we just need to have umm a bit of fun in amongst all the other bits of the day." (Reception, J8.11)
Change usual routines	I. KS2 Languages	I. J8.12	"But also to break, yeah, I suppose it's like breaking up the lesson so you you it's a really useful bit of learning, but it doesn't feel to the children like learning or work. I think to them because they don't tend to do it in any other lesson really. Apart from music. Umm I think it feels like you're giving them something fun. Without realising that you're doing it 'cause you want them to be, learning the vocab." (KS2 Languages, J8.12)
Support curriculum (maths, literacy, topics, music skills)	I. KS2	I. J8.13	"I think that music and things that can help teach kind of concepts and [laugh] I keep saying the word concepts but you know things that the kids might not know." (KS2, J8.13)
	II. KS1	II. J8.14	"There's, so for the national curriculum it talks about using language in history umm to talk about the past. So even though it the song that one of them is about science, the reason I chose it was because it talks about 'a long time ago'. There's also umm another whole load of songs which are about dinosaurs, but again, it's kind of that element of history where you're talking about the past, so." (KS1, J8.14)
	III. KS2 languages	III. J8.15	"Umm I've got a real strong belief that children can... well, actually anyone can learn things through song. Um that words just go in your head without thinking about it when you learn through a song." (KS2 Languages, J8.15)
	IV. P1	IV. J8.16	"I have used songs, probably quite across the curriculum. Ummm I would say I've always used them for helping with certain concepts, in literacy and numeracy." (P1, J8.16)
	V. Preschool	V. J8.17	"And it provides a large. Sort of scope for learning, so you could use songs for umm teaching umm numbers or around language. Or it could just be about getting the children physically active umm. It has such a broad sort of spectrum of learning through songs." (Preschool, J8.17)
Easy, accessible, simple, free resources	I. Preschool	I. J8.18	"It's an easy resource. You don't need any. You don't need any fancy equipment. You don't need any fancy. Sort of resources or anything, it's something that can be done on the spot. It um And everybody can do it." (Preschool, J8.18)
	II. KS2	II. J8.19	"So I think they're really really positive um positive things. A good tool for teachers to use." (KS2, J8.19)

Table 9 – Research queries			
Theme	**Interviewee**	**Excerpt**	
How to facilitate songs' mnemonic benefits	I. Reception	I. J9.1	"Ummm I guess I wonder how often or how many times songs have to be sung before things really are concrete in their memory. That'd be quite interesting to know. Umm and is it particular types of songs even? Or melodies? That stick more than others?" (Reception, J9.1)
	II. KS2	II. J9.2	"What they listen to him and how like whether it can be measured in terms of memory and cognition, that sorts of stuff that could be quite an interesting thing to find out about." (KS2, J9.2)
Lack of teacher training	I. P1	I. J9.3	"Umm I would just say from my perspective I think kinda touching on what I've said about the value of it sometimes not being recognised. As all the professional learning that I've done in the last few years, none of it has been provided by my local authority. It's all been outside agencies that I've went to for training. So I don't know if that's something that maybe has an impact on teachers' confidence levels as well." (P1, J9.3)
Lack of awareness of song benefits	I. P1	I. J9.4	"I mean I don't know about another schools but I just feel as though in my own local authority, it's still not something that's valued at as much as the research that's already out there shows what it does for children and I think it still's quite often seen as that wee half hour at the end of the week. If you've got time do a wee bit of music. Whereas, I think I would like to know more about how do we get that message across to umm the powers that be as such that actually that there's a significant impact across all areas of learning for children using music and using song." (P1, J9.4)
	II. Preschool	II. J9.5	"I think it is a um a missed opportunity to be honest, I don't think a lot of people necessarily take singing particularly seriously." (Preschool, J9.5)
How songs support children's wellbeing	I. Preschool	I. J9.6	"So like what aspects of emotional well being song support or? Yeah, as to how, how effective they actually are at doing, doing that." (Preschool, J9.6)
What makes effective song content or presentation for learning	I. Reception	I. J9.7	"Ummm I've never really thought that in depth actually about the types of songs and why some are you never forget. Ummm, so that could be interesting." (Reception, J9.7)
	II. KS2	II. J9.8	"Maybe maybe how older pupils respond. And like, do you do they need to be presented in a slightly different way as people get older?" (KS2 Languages, J9.8)