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Factors influencing music teaching among primary and early childhood education and care generalist teachers: a meta-narrative review

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A growing body of research has explored factors influencing music teaching among pre-service and in-service generalist teachers in primary and early childhood education and care (ECEC). To synthesise this diverse field, we conducted a systematic meta-narrative review, identifying six overarching meta-narratives across 249 peer-reviewed studies from 38 countries (1995–2023). Using clear inclusion criteria, systematic searches, quality appraisals, and iterative analysis, and framed by the Model of the Determinants and Consequences of Teachers' Professional Competence, our meta-narratives shed light on the individual and contextual factors influencing generalist teachers' music-teaching competence and strategies, as well as how various teacher-training approaches have integrated these factors to support their professional development as music teachers. We explore general tendencies, commonalities, and discrepancies across studies, offering insights into the professional development of music-teaching generalists, and provide recommendations and outline implications for policymakers, researchers, and educators.

KEYWORDS

early childhood education and care (ECEC), primary education, generalist teachers, systematic literature review, teacher education, music education, music teaching competence, music teaching confidence

1 Introduction

Teachers are foundational to our educational systems, shaping society's future by guiding and educating young learners. Generalist teachers—those responsible for delivering multiple subject areas—often teach music in both primary and early childhood education and care (ECEC) settings. With their long-term engagement across several years and subjects, they are uniquely positioned to provide children with sustained and holistic musical experiences through both teaching music as a subject and integrating it across multiple disciplines. However, the quality and quantity of music teaching depend on the professional competence of these teachers (Kunter et al., 2013a). Unlike specialists, who typically have substantial musical training, 'jack-of-all-trades' generalists often report having limited musical experience and insufficient training during their initial teacher education (ITE). Despite limited training,

a high responsibility is placed on generalists' ability and confidence to adequately deliver music education.

Music teaching among generalists has intrigued many researchers, resulting in a rich, diverse, and multidisciplinary body of music pedagogy research encompassing a variety of methodological and theoretical traditions and approaches. However, the breadth and complexity of this research can pose challenges for scholars, policymakers, and educators seeking to make sense of the field. In our initial exploration, we found the discourse fragmented and difficult to navigate. To address this, we adopted a systematic meta-narrative review approach (Wong et al., 2013) with the following primary objective:

To systematically search, appraise, synthesise and analyse peer-reviewed research (1995–2023)—primarily in English—that addresses factors that influence music teaching among primary and ECEC generalist teachers.

Our study further examines how personal and contextual factors have shaped generalist teachers' music-teaching practices and how teacher training has integrated these factors to support their professional development. Our systematic review has synthesised six overarching meta-narratives from 249 peer-review studies (see [Supplementary material](#) "Comprehensive Overview of Meta-Narratives and Corpus"). This review is, to our knowledge, the first to systematically summarise peer-reviewed research on this topic and represents the first meta-narrative review in the field of music education.

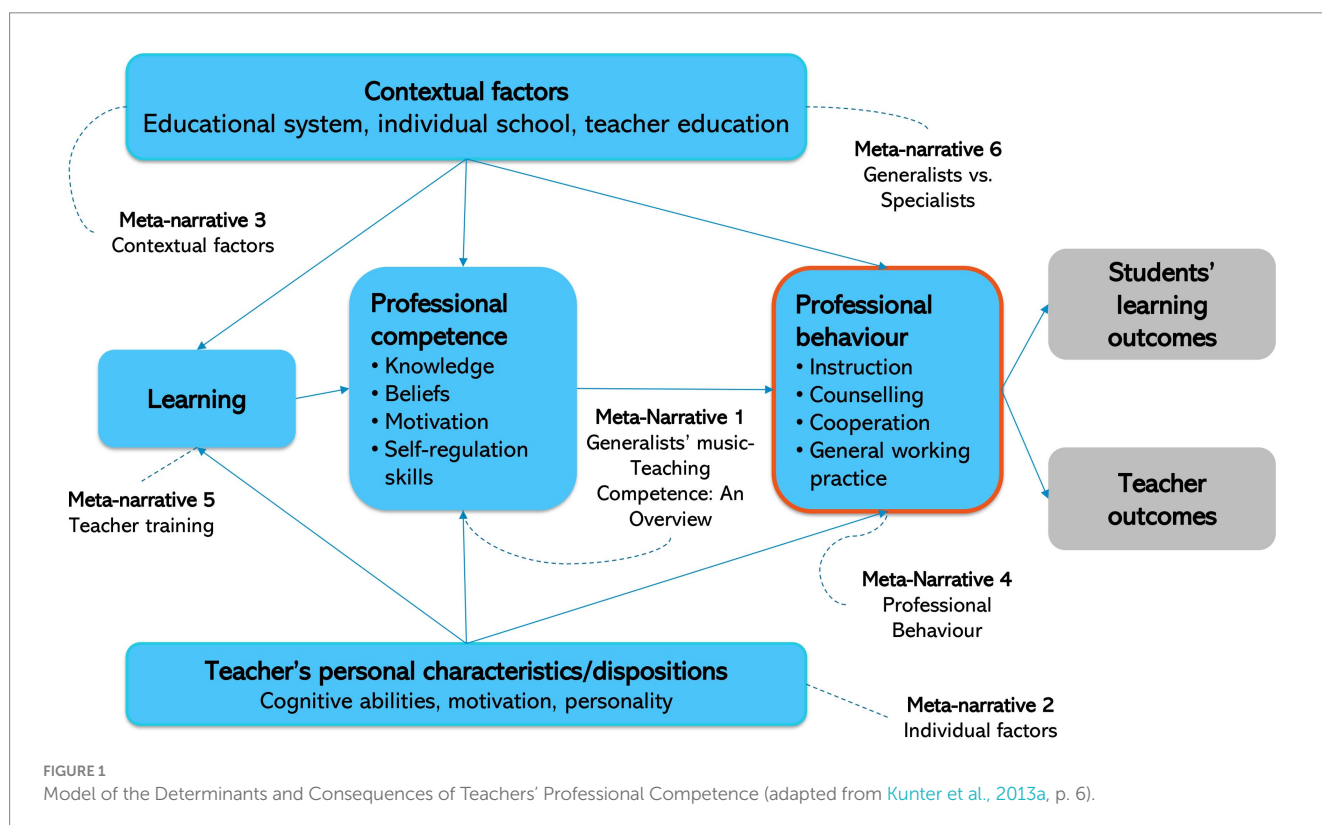
Our review has considered *teaching* in the broad sense, including not only traditional classroom teaching but also informal,

spontaneous, and improvised musical activities typically found in many ECEC contexts. Additionally, given the range of educational systems represented in our literature, we have adopted *ECEC* as an umbrella term for early learning institutions, including preschools, kindergartens, and nurseries, and have used the term *primary* to refer to elementary and similar levels up to the secondary school level.

2 Theoretical framework

We ground our research objective within the field of teacher professionalisation by employing Kunter et al.'s (2013a) "Model of the determinants and consequences of teachers' professional competence" (see [Figure 1](#)) as our theoretical framework. This model outlines various dimensions and factors that influence the transformation of professional competence into behaviour. In our study, we define 'professional behaviour' as the act of teaching music by generalist teachers in their respective settings.

The model outlines three primary dimensions that shape professional behaviour: (1) Context, (2) Teachers' personal characteristics, and (3) Professional competence. In our study, professional competence pertains to pedagogical content knowledge (PCK), which integrates pedagogical and musical competence essential for music teaching (Shulman, 1986). Additionally, a modern understanding of competence involves not only cognitive and physical abilities (i.e., pedagogical knowledge and musical skills) but also beliefs, motivational characteristics, and self-regulation skills—particularly affective-motivational characteristics that facilitate the transformation of competence into classroom behaviour.



The context dimension further influences this transformation, encompassing generalist teachers' learning environment (e.g., teacher education, professional development opportunities) as well as the specific school or ECEC institution where the generalists are employed (e.g., geographical location, size, resources, and staff). Whether teachers utilise these contextual resources often depends on personal characteristics, such as cognitive abilities, motivation, and personality.

Together, these dimensions shape the development of teachers' professional behaviour throughout their careers, which in turn influences their personal outcomes (e.g., career advancement, occupational well-being) as well as their students' outcomes (e.g., competencies, motivation). We applied this framework in two key ways: (1) to guide our literature review, and (2) to synthesise and analyse overarching trends observed across the literature. Its breadth also enabled us to integrate both individual and contextual factors, thereby accommodating the diverse theoretical approaches represented across the 249 included studies. Although student and teacher outcomes (highlighted in grey in [Figure 1](#)) are crucial components of the theoretical model, underscoring the importance of teachers' competence and behaviour, they were not central to our corpus and therefore were not the primary focus of our analysis.

3 Methodology

3.1 The meta-narrative approach

This review follows the Realist and Meta-Narrative Evidence Syntheses: Evolving Standards (RAMESES) guidelines for searching, appraising, summarising, and discussing literature on complex topics ([Wong et al., 2013](#)). The approach is grounded in six guiding principles: pragmatism, pluralism, historicity, contestation, reflexivity, and peer review. Given the diversity of theoretical and methodological perspectives found in research on our topic, the pluralistic and pragmatic nature of the meta-narrative approach provided a semi-structured framework that balances interpretation with systematic searching, appraisal, and synthesis ([Greenhalgh et al., 2011](#)). Rather than prioritising certain methods over others, we embraced the richness of this diversity and appraised each research source within its respective research tradition ([Greenhalgh et al., 2018](#)).

3.2 Scoping, searching and appraising the literature

Through extensive discussions over the years with music educator colleagues, in-service and pre-service generalist teachers, and music pedagogy researchers—alongside our own teaching experiences—we formed the view that music teaching among generalist teachers is a complex phenomenon. Additionally, an initial 'territory mapping exercise', involving unstructured and informal literature searches ([Wong et al., 2013](#)), revealed several papers underscoring this complexity. As we familiarised ourselves with how various authors conceptualised generalists' musical competence, it became evident that both a pragmatic review methodology and a suitable theoretical framework were necessary to account for the expanding array of concepts related to musical competence. This realisation led us to

adopt the theoretical framework of [Kunter et al. \(2013a\)](#) and the meta-narrative methodology.

Following the preliminary search phase, we conducted systematic searches for peer-reviewed literature using specific search strings, supplemented by informal searches and double-sided snowballing. Systematic searches included multiple combinations of relevant terms (see [Table 1](#)) using the 'advanced search' functions in Scopus (Elsevier), ProQuest, and Web of Science (Clarivate). We also experimented with informal search strings in less advanced search engines such as Google Scholar, Research Rabbit, and various catalogues of doctoral theses.

The search process further benefited from double-sided snowballing ([Contandriopoulos et al., 2010](#)), which involved examining references within papers (prospective snowballing) and identifying later studies that cited them (retrospective snowballing) ([Conn et al., 2003](#)). Thus, the 'snowball' of potential literature kept growing until it reached its limit. Our literature searches were continuously informed by our theoretical framework, a growing body of appraised literature, and iterative meetings within the research team ([Wong et al., 2014](#)).

When a potential candidate for our meta-narrative emerged from either the snowballing or the systematic searches, it was appraised based on the following criteria:

- 1 Is the source empirically and theoretically relevant to our research objective?
- 2 Is the source a doctoral thesis or a peer-reviewed journal article?
- 3 Were the studies published between 1995 and 2023?
- 4 Are the studies written in English?

The initial appraisal involved scanning abstracts and titles. If a source appeared potentially relevant, we conducted an in-depth reading to further check for its relevance to our review. To confirm peer-review status, we verified journals for proper external peer-review, ISSN identifications, academic editorial boards, and authorship guidelines, using the Norwegian Register for Scientific Journals, Series, and Publishers ([Norwegian Directorate for Higher Education and Skills, 2024](#)). For publishers not listed in the Norwegian registry, we manually searched and appraised the publishers. While peer-review is not necessarily a hallmark of 'quality' and may be considered as a multi-modal, biased, and diverse process in academia ([Tennant and Ross-Hellauer, 2020](#)), we trusted the publisher's reported peer-review. Nevertheless, we maintained a personal record, emphasising sources with higher perceived impact and quality in our synthesis. Research sources from publishers with non-peer-reviewed, unclear or ambiguous peer-review processes were excluded. In line with meta-narrative review methodology ([Wong et al., 2013](#)), appraisal was conducted qualitatively, with emphasis on each study's relevance, contribution, and credibility, rather than through numerical quality scoring. This approach enabled us to evaluate studies within their respective contexts and to integrate insights across diverse research traditions.

A few exceptions to the inclusion criteria were made. The majority of our corpus consists of empirical research, but three conceptual papers not involving generalist teachers directly were included for their high quality and relevance (see [Supplementary material—Refs. 26, 31, 124](#)). Additionally, seven seminal papers from before 1995 were included for their impact and high relevance to our research topic (see

TABLE 1 Systematic searches: keyword configuration system.

Databases	Advanced searches included configuration of keywords separated vertically within columns (OR) and horizontally between columns (AND)					
	Music	Framework (Kunter et al., 2013a)		Institution	Generalist	Teacher and student
Advanced systematic searches:	Music	Individual factors	Contextual factors	ECEC institutions	Generalist	Student
ProQuest	Musical	Competence	Status	ECE	Non-specialist	Teacher
Web of science		Confidence	Specialist	ECEC	Non-music major	Educator
Scopus		Ability	Generalist	Preschool	Classroom teacher	Worker
Informal searches: Google Scholar, Research Rabbit Various catalogues for doctoral theses*		Skill	Classroom	Kindergarten		Employee
		Knowledge	Teamwork	Nursery		Child-care
		Beliefs	Collaboration	Nurture		personnel
		Motivation	Support	Institution		Pre-service
		Self-efficacy	System	Grade R		In-service
		Self-concept	Professional	K-6		
		Self-recognition	behaviour	K-12		
		Self-regulation	Teach	Primary school		
		Attribution	Sing	Primary		
		Interest	Play	Elementary		
		Attitude	Plan	Junior High		
		Usefulness	Facilitate	Middle-school		
		Empowerment	Organize			
		Musicality	Instruct			
		Voice shame				
	Enthusiasm					

* DART-Europe E-theses Portal * Open Access Theses and Dissertations (OATD) * DUO (Digital Access to Research Theses, University of Oslo's Open Research Archive) * EBSCO Open Dissertations Project * Global ETD Search via the Networked Digital Library of Theses and Dissertations (NDLTD) * Bielefeld Academic Search Engine (BASE).

[Supplementary material](#)—Refs. 46, 91, 92, 171, 202, 208, 230). Additionally, after consulting colleagues and reviewing Nordic journals in music education, we included research written in Norwegian and Swedish (see [Supplementary material](#)—Refs. 18, 19, 41, 50, 102, 117, 119, 156, 218, 225, 227, 234), as no relevant studies in Danish were found. These sources were added primarily in order to supplement the existing Nordic literature available in English.

3.3 The individual and collective review process

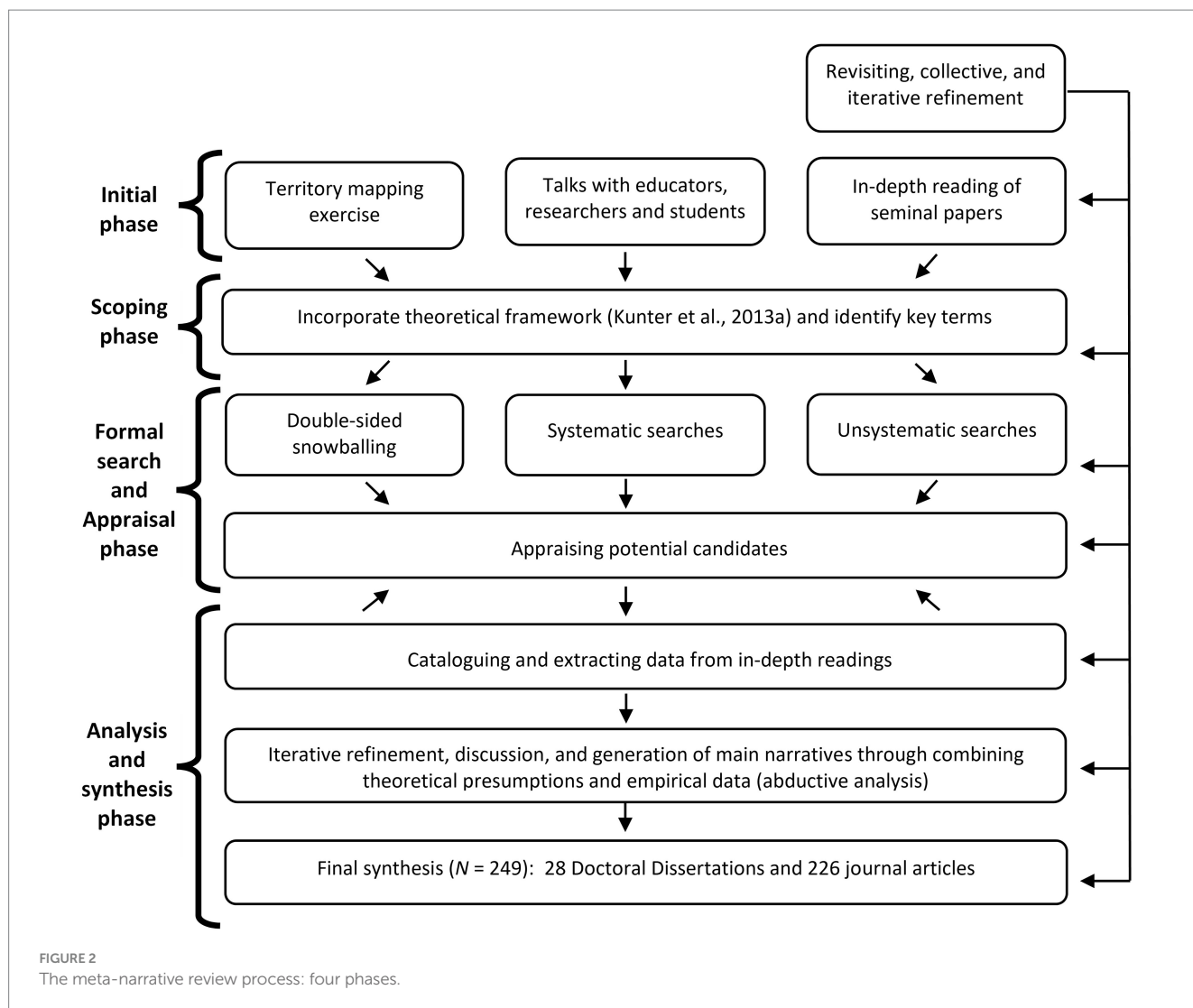
Although the review process is presented somewhat linearly (see [Figure 2](#)), there was overlap and continual revisitation among phases as they gradually informed each other during the emerging findings. To tackle a complex and extensive body of literature, reflexivity is recommended, which involves continuous reflection, both individually and collectively as a team ([Wong et al., 2013](#)). The combined efforts of four researchers, each contributing complementary methodological and theoretical expertise in ECEC and primary music education, were essential for maintaining a rigorous review process and making sense of the data. To strengthen analytical rigour, we engaged in iterative synthesis and team-based cross-checking, with all four authors reviewing and refining interpretations at different stages. Iterative meetings and discussions within the ‘inner circle’ facilitated ongoing refinement of our methodological process, literature appraisal, synthesis, and analysis. Additionally, the project was presented to an external audience on two formal occasions ([Nguyen, 2023](#); [Nguyen et al., 2024](#)), during which

discussions and feedback from a collective of music pedagogy researchers were invited. Moreover, informal conversations with teachers, students and expert educators/researchers revealed new insights, which further informed the review process.

3.4 Analysis and synthesis

Unlike traditional narrative inquiries, which collect stories through interviews, observations, and texts, we synthesised and analysed ‘stories’ conveyed by the appraised and included literature ($n = 249$). We treated every research source as an individual and unique perspective on our research topic ([Polkinghorne, 1995](#)). To capture the essence of each study, we divided the research among team members based on areas of expertise. Each team member conducted in-depth readings and extracted key elements, including background and contextual data, the theoretical framework, methodological details, main findings, discussions, and implications. These data were then catalogued and categorised in the knowledge and reference manager Citavi (Version 6, Swiss Academic Software GmbH, Wädenswil, Switzerland), resulting in detailed summaries ranging from 500 to 2,000 words, depending on each source’s complexity. Citavi enabled us to aggregate, categorise, and thematically organise the data, resulting in a comprehensive overview for further analysis and discussion. The empirical data analysis phase spanned approximately 12 months, involving continuous and iterative individual and collective sessions.

Our analysis and interpretation of the narrative data were guided by abductive reasoning, which involved reflecting on empirical



findings through the lens of our theoretical framework and preconceptions (Alvesson and Sköldbberg, 2017). Additionally, following Riessman's (2008) guidelines, we conducted a thematic narrative analysis to interpret patterns, themes, commonalities, and discrepancies across the corpus (Wong et al., 2014). Reflexivity, described by Wong et al. (2014) as the continuous process of individual and team reflection on emerging findings (p. 6), was crucial in our effort to ensure that our meta-narratives accurately and truthfully represented the corpus (Riessman, 2008, pp. 186–187). To transparently present and discuss the meta-narratives, we reference studies using a numbered system alongside author names. Readers can consult our [Supplementary material](#) “Comprehensive Overview of Meta-Narratives and Corpus” for the complete list of references with additional details.

4 Results

4.1 Methodological characteristics of the corpus

Our analysis identified a diverse corpus with a range of methodological and theoretical approaches represented across

qualitative, quantitative, and a smaller subset of mixed-methods studies (see Table 2). Key features included a strong representation of Western contexts (e.g., Europe, New Zealand, Australia, and North America) and a balanced representation of both ECEC and primary generalist teachers. Qualitative studies exhibited a range of specified and unspecified methodological approaches, with case studies being the most common choice. Interviews were the most common data-gathering method, followed by observations and textual sources (e.g., open-ended surveys, and reflection diaries). The quantitative research, largely cross-sectional, was primarily based on self-reported surveys and was complemented by quasi-experimental studies investigating the effects of various teacher-training approaches. Most authors contributed one or two papers, though certain researchers—such as Bautista, De Vries, Ehrlin, Joseph, and Russell-Bowie—were more prominently represented.

4.2 Meta-narrative 1: generalists' music-teaching competence: an overview

4.2.1 Clarification of competence

All studies addressed ‘music-teaching competence’ in some way, encompassing diverse conceptualisations ranging from specific

TABLE 2 Methodological characteristics of the corpus (N = 249).

Research design	Data generation and analysis	Sample	Country and region	
Doctoral dissertation (18)	Data generation methods	Generalists (227)	Countries (38)	South Korea (3)
Journal articles (228)	Qualitative	Specialists (115)	Australia (56)	Spain (7)
Qualitative (150)	Interview (111)	Primary (152)	Austria (1)	Switzerland (1)
Conceptual (3)	Textual sources (98)	Pre-service (80)	Botswana (1)	Sweden (10)
Action research (9)	Observation (76)	In-service (72)	Brazil (2)	Turkey (6)
Narrative (17)	Quantitative surveys	ECEC (100)	Canada (7)	Taiwan (4)
Case study (41)	Self-reports (135)	Pre-service (36)	China (9)	United Kingdom (31)
Ethnographic (9)	Observation (7)	In-service (64)	Croatia (7)	England (25)
Phenomenological (6)	Qualitative analysis	Teacher trainers (18)	Cyprus (3)	Scotland (4)
Grounded theory (4)	Interpretative (154)	Sample sizes	Finland (8)	Wales (2)
Longitudinal (13)	Quantitative analysis	1–10 (51)	France (1)	USA (53)
Other or not specified (75)	Inferential statistics: differences (78)	11–50 (54)	Ghana (2)	Uganda (1)
Quantitative (133)	Inferential statistics: relationship (39)	51–100 (40)	Greece (4)	Zimbabwe (1)
Cross-sectional (89)	Inferential statistics: descriptive only (38)	101–500 (78)	Hungary (1)	Regions (6)
Quasi-experimental (37)	Unclear analytical method (60)	501+ (13)	Italy (4)	Oceania (63)
RCT (1)		Unspecified (10)	Ireland (8)	Europe (111)
No control group (32)			Kosovo (1)	Asia (22)
Other or not specified (7)			Latvia (1)	Africa (17)
Mixed-methods (23)			Malaysia (2)	North America (60)
Theoretical framework			Namibia (3)	South America (2)
Yes (115)			Netherlands (3)	
Not specified (134)			New Zealand (6)	
			Norway (12)	
			Samoa (1)	
			Singapore (4)	
			Slovenia (2)	
			South Africa (9)	

affective-motivational constructs to broader notions such as ‘musical expertise’ (see [Supplementary material](#)—Ref. 202, p. 52), ‘music skills and understandings’ (see [Supplementary material](#)—Ref. 208, p. 248), ‘ability to teach music’ (see [Supplementary material](#)—Ref. 171, p. 125), and ‘ability to act in relation to a particular task, situation, relationship, or interaction’ (see [Supplementary material](#)—Ref. 80, p. 34). Rather than a unified understanding of generalists’ competence to teach music, the literature has presented a fragmented landscape, with each study offering a piece of a larger puzzle. Collectively, these studies have contributed to an overall understanding of the multifaceted interplay between skills, knowledge, and motivational variables that shape generalists’ competence to teach music (Kunter et al., 2013b).

Competence has been further differentiated into musical (e.g., singing and instrument-playing) and pedagogical (e.g., teaching and lesson planning) skills, with many authors stressing the importance of integrating both (see [Supplementary material](#)—Refs. 80, 81, 109, 113, 143). According to Kim and Choy (Ref. 142 in [Supplementary material](#)), musical competence alone does not necessarily predict confidence in teaching, suggesting that technical proficiency must be supported by pedagogical strategies. Barişeri (Ref. 20 in [Supplementary material](#)), drawing on Shulman (1986), explored this dualism by examining both subject and pedagogical knowledge. Hennessy (Ref. 107 in [Supplementary material](#)) expanded on this, arguing that even those with substantial musical qualifications still require pedagogical competence, since “confidence to teach does not develop merely through possessing relevant subject knowledge and skills” (p. 696).

These perspectives underscore a debate over how to balance musical expertise with pedagogical competence. While some authors have highlighted musical proficiency as essential, others have argued that it is not sufficient on its own.

4.2.2 Generalists’ competence to teach music

Our corpus has depicted a bleak picture of generalists’ competence to teach music, characterised by limited musical experience, infrequent extracurricular engagement, and inadequate preparation during their ITE (see [Supplementary material](#)—Refs. 5, 19–24, 27–28, 52, 72, 73–74, 78, 83, 87, 90–91, 124, 127–128, 143, 148, 156, 163, 171, 176, 178, 187, 192, 195, 204, 208, 213, 216, 221, 223–224, 232, 243). For example, Stevens (Ref. 216 in [Supplementary material](#)) and Carrie (Ref. 52 in [Supplementary material](#)) found that many in-service primary generalists could not recall relevant musical training from their ITE. Similarly, generalist teachers pointed to insufficient pre-service and in-service professional development opportunities in music (see [Supplementary material](#)—Ref. 213). Additionally, several studies have reported that even when formal training was available, it was often too limited to build sufficient competence (see [Supplementary material](#)—Refs. 71, 116, 221, 242).

While limited musical training has appeared to be a common issue across teacher education programmes, we observe contextual variations. Joseph (Ref. 128 in [Supplementary material](#)) noted country-specific variations, with Australian pre-service primary generalists receiving 42 h of music training—far less than in Finland

(270 h) or South Korea (160 h). Drawing from our experience with Norwegian ITE, an individual must complete a five-year Master's programme in order to become a primary school generalist teacher and technically—if not selecting any pre-service music courses—be 'qualified' to teach music without any formal musical training. According to Statistics Norway (SSB), in 2013/2014, 38% of primary school music teachers in Norway lacked formal musical training (Lagerström et al., 2014), meaning that, paradoxically, pupils may possess more musical experience than their teachers. Similar cases of non-mandatory musical training in generalist teacher qualification have been reported (see [Supplementary material](#)—Refs. 116, 140, 193, 242).

Limited musical competence among generalists has been particularly evident in studies representing Western and African contexts. For example, American in-service ECEC teachers ($n = 293$) lacked confidence in singing due to a perceived lack of skill (see [Supplementary material](#)—Ref. 177). Similarly, in an Australian context, a study of 850 in-service teachers and 76 principals from various primary schools indicated ineffective music teaching mainly due to time constraints, and teachers lacking competence (see [Supplementary material](#)—Ref. 202). Conversely, even though many Asian studies reported similar tendencies (see [Supplementary material](#)—Refs. 11, 26, 28, 157, 159), some studies have shown more positive trends, with generalist teachers in Asia exhibiting higher confidence in music teaching than their counterparts in Western and African countries, exemplified in contexts such as South Korea (see [Supplementary material](#)—Refs. 145, 159), Taiwan (see [Supplementary material](#)—Refs. 248), Malaysia (see [Supplementary material](#)—Refs. 54, 61), and China (see [Supplementary material](#)—Refs. 3, 55, 76). For example, South Korean ECEC generalists ($N = 606$) expressed confidence in teaching music, regularly conducted diverse musical activities, and showed eagerness for additional professional training (see [Supplementary material](#)—Ref. 158). Similarly, Chinese ECEC generalists ($n = 284$) reported high confidence and happiness when teaching music (see [Supplementary material](#)—Ref. 76). Qualitative studies have provided further insights in this regard. For example, Acker and Nyland (Ref. 3 in [Supplementary material](#)) found that four Chinese exchange students excelled during their practical placements in Australian ECEC centres, leveraging their strong pre-service musical experiences to bridge cultural and language barriers through music. Taken together, these findings suggest that contextual and cultural differences may shape the amount and quality of musical education that generalists receive, which could help explain some of the disparities observed between Asian and Western generalist teachers.

4.3 Meta-narrative 2: individual factors

4.3.1 Personal dispositions

Our synthesis indicates a strong link between generalist teachers' personal musical experiences and their disposition towards teaching music, encompassing both formal (school and extracurricular) and informal (e.g., family and friends) experiences (see [Supplementary material](#)—Refs. 70, 97, 122, 125, 137, 148, 166–167, 180, 185, 196, 199–200, 201, 205–206, 220, 230). For instance, Ruismäki and Tereska (Ref. 200 in [Supplementary material](#)) found that generalist teachers' personal music education history—including

the influence of their music teachers—was a source of both positive and negative experiences. Studies have further indicated that experiences like these influence generalist teachers' self-concepts in music (see [Supplementary material](#)—Refs. 196, 199). ITE has also served as a significant source of musical experience. Gubbins (Ref. 98 in [Supplementary material](#)) noted that teacher preparation programmes can profoundly impact generalists' ability to deliver quality musical education, a point also supported by De Vries (Ref. 64 in [Supplementary material](#)), who found that generalist teachers with more than 20 h of musical pre-service training were more likely to teach music than those with fewer training hours. The quantity and quality of musical experiences have generally correlated with a stronger self-perception of competence and confidence, as indicated by self-reported data from multiple quantitative studies (see [Supplementary material](#)—Refs. 70, 148, 185, 199–200, 202, 205–206).

Previous negative experiences, especially those involving criticism or lack of support, have been shown to hinder teachers' willingness to engage in music-teaching. For example, Richards (Ref. 195 in [Supplementary material](#)) found that such experiences discouraged ECEC teachers from teaching music. Conversely, positive experiences have fostered confidence and positive attitudes towards teaching music (see [Supplementary material](#)—Ref. 2). However, we observe across the literature that, due to the heightened sensitivity about musical abilities that they provoke—particularly in terms of voice—negative experiences often outweigh positive ones. While positive experiences have typically occurred in informal social settings, negative ones have been more common in formal educational settings, often leaving a lasting, detrimental impact on musical identity (see [Supplementary material](#)—Refs. 230–231). Our corpus has consistently shown generalist teachers harbouring negative self-perceptions related to their voice (see [Supplementary material](#)—Refs. 50, 155, 180), as well as anxiety (see [Supplementary material](#)—Refs. 1, 13, 97, 106, 180), self-perceived 'tone-deafness' (see [Supplementary material](#)—Refs. 223, 224), and misconceptions about their musicality (see [Supplementary material](#)—Refs. 89, 234).

A four-year survey of 1,019 first-year pre-service ECEC teachers in Norway found that 67.4% of them considered themselves "a little musical" or "not musical" (see [Supplementary material](#)—Ref. 234, p. 308). Respondents often based these ratings on their perceived abilities in singing, instrument-playing, sight-reading, and listening skills (see [Supplementary material](#)—Ref. 234, p. 316). A narrow, talent-oriented view of musicality—often suggesting that some individuals are inherently more 'musical' than others—was found to be prevalent among many generalists in our study (see [Supplementary material](#)—Refs. 33, 38, 46, 56, 98, 151, 155, 162, 175, 180, 181, 187, 209, 245). Classroom teachers, for example, often equated musicality with performance skills, reinforcing a talent-based concept of musicality (see [Supplementary material](#)—Ref. 181). Some authors have argued that this view is perpetuated by policies and curricula deeply rooted in Western classical ideals, which has limited generalist teachers' approaches to music teaching and their perceptions of both their own and children's musicality. As a result, music has been seen as a challenging subject to teach, sometimes attributed to the impression formed during ITE that teaching music demands specialised skills (see [Supplementary material](#)—Ref. 108).

To address such challenges, many authors have advocated for a broader, more inclusive view of musicality—one that values creativity, improvisation, play, and informal music-making. These approaches

have often drawn inspiration from inclusive learning strategies (e.g., Lucy Green and Christopher Small) and traditional folk and indigenous practices (see [Supplementary material—Supplementary material](#)—Refs. 33, 43, 50, 87, 100, 105, 126, 135, 151, 175, 209, 215, 225, 238). Bodkin (Ref. 43 in [Supplementary material](#)) found that Māori and Samoan teachers typically demonstrated higher musical confidence than their Western (Pākehā) counterparts, largely due to cultural traditions “where participation and togetherness were key concepts of musicking” (p. 237). This participatory approach, Bodkin suggested, could benefit music education, offering a contrast to performance-focused Western views. Joseph and Trinick (Ref. 135 in [Supplementary material](#)), meanwhile, observed that incorporating African and Māori musical activities fostered confidence, social cohesion, and cultural understanding among pre-service teachers. Similarly, Niland and Holland (Ref. 183 in [Supplementary material](#)) reported that sharing musical-cultural identities could empower ECEC generalists when engaging in music-making with children. We observe that these informal and inclusive approaches may not only broaden the concept of musicality but also ease generalist teachers’ apprehensions, making it more accessible for them to teach music.

4.3.2 Affective-motivational factors

We observe across our corpus that generalist teachers’ negative musical identity often limits their confidence to teach music. ‘Confidence’ has generally been defined as the “beliefs in one’s own abilities,” shaped by various experiences (see [Supplementary material](#)—Ref. 13, p. 11) or, as Holroyd and Harlen described, “a feeling of self-assurance, a feeling that some task can probably be completed with the knowledge and skills one possesses and without having to call on others for rescue” (as cited in Ref. 106, p. 326 in [Supplementary material](#)). Authors have generally agreed that confidence is a critical affective-motivational component linked to professional competence in music teaching. For example, Hallam et al. (Ref. 103 in [Supplementary material](#)) found a significant positive correlation between pre-service generalists’ musical expertise and confidence, noting that “[t]he greater the level of musical expertise, the more confident that the teachers were in relation to all aspects of teaching music and being effective teachers overall” (see [Supplementary material](#)—Ref. 103, p. 226).

Beyond general confidence, several authors have applied specific motivational frameworks to investigate music teaching among generalists, including attribution theory (see [Supplementary material](#)—Ref. 160–161), expectancy-value theory (see [Supplementary material](#)—Ref. 88), perceived control theory (see [Supplementary material](#)—Ref. 110), psychological ownership (see [Supplementary material](#)—Ref. 115), and self-efficacy judgments (see [Supplementary material](#)—Refs. 25–26, 48, 53, 55, 68, 83, 88, 90, 111, 114–115, 166–167, 182, 194, 196, 210, 220, 231, 240). Self-efficacy—the most frequently used framework ($n = 37$)—has been defined as the belief in one’s ability to accomplish specific tasks (Bandura, 1997). In our context, self-efficacy pertains to generalists’ belief in their ability to teach music, with many studies noting that strong self-efficacy often leads to higher engagement in music teaching. Some authors have grounded their entire theoretical framework on self-efficacy (e.g., see [Supplementary material](#)—Ref. 210), while others have referred to various self-efficacy concepts more loosely when analysing their findings. Several studies have identified enactive experiences—teachers’ prior music and teaching

experiences—as a major source of self-efficacy (see [Supplementary material](#)—Refs. 48, 55, 240). Sepp et al. (Ref. 210 in [Supplementary material](#)) found that both positive and negative experiences influenced “pre-service students’ further interest [in] and enthusiasm for continuing their musical studies” (p. 41). Vannatta-Hall (Ref. 240 in [Supplementary material](#)) identified additional sources of self-efficacy, such as: (1) vicarious experiences from observing experienced teachers, (2) verbal persuasion, including verbal encouragement from children and instructors, and (3) affective and physiological states, including musical anxiety, stress, and fatigue. Nieuwmeijer et al. (Ref. 182 in [Supplementary material](#)) further identified mastery experiences and social persuasion as important for reinforcing a generalist ECEC teacher’s identity as a music educator by increasing confidence in their ability to facilitate music education for young children. Relatedly, Legette (Refs. 160, 161 in [Supplementary material](#)) used attribution theory to highlight that generalists “consistently place a great amount of importance on ability and effort as causal attributions for success and failure in music” (see [Supplementary material](#)—Ref. 160, p. 5).

4.3.3 Generalist teachers’ beliefs about music education

Our synthesis indicates that, despite concerns about their musical abilities and confidence, generalists have typically valued music highly, acknowledging its importance in early childhood and primary education (see [Supplementary material](#)—Refs. 24, 36, 57, 70, 80, 87, 103–104, 128, 131, 141–143, 151, 158, 170, 172, 189). This positive outlook has often stemmed from their personal experiences and enjoyment of music (see [Supplementary material](#)—Ref. 170). In Australia, nearly all ECEC teachers (98%), even those with limited training, maintained a positive attitude towards music’s role in child development (see [Supplementary material](#)—Ref. 22). A similar attitude has been found in several other contexts, including England (see [Supplementary material](#)—Ref. 103), Malaysia (see [Supplementary material](#)—Ref. 54), the USA (see [Supplementary material](#)—Refs. 70, 104), the Nordic countries (see [Supplementary material](#)—Ref. 80), South Korea (see [Supplementary material](#)—Refs. 141, 158), Australia (see [Supplementary material](#)—Refs. 24), and Botswana (see [Supplementary material](#)—Ref. 189).

A strong belief among generalist teachers regarding music education has been that its interdisciplinary benefits enhance children’s learning across academic, social, and psychological domains (see [Supplementary material](#)—Refs. 64, 120, 140, 142, 145, 158, 169, 175, 184, 190, 208, 244). Generalist teachers have often used music as a way of supporting other subjects, which, according to several authors, can undermine music’s role as an educational goal in itself (e.g., see [Supplementary material](#)—Ref. 120). Our corpus has repeatedly shown that generalist teachers tend to appreciate music education primarily for its extramusical outcomes (see [Supplementary material](#)—Refs. 2, 7, 57, 104, 156, 170, 228). Aróstegui (2016) argued that this outdated emphasis on secondary benefits is one of the reasons for the declining status of music education.

Furthermore, studies have indicated a discrepancy between generalist teachers’ perceived and actual music-teaching competence (see [Supplementary material](#)—Refs. 34, 82, 142, 144, 220, 222). On the one hand, some teachers have reported feeling confident but have nevertheless performed below expectations (see

[Supplementary material](#)—Refs. 33, 22, 144). For example, Begić and Begić (Ref. 34 in [Supplementary material](#)) found that most of the 307 pre-service teachers in their study were unaware of their low competence, yet they rated their preparedness to teach music highly. Conversely, other teachers have been observed to be competent and successful in delivering quality instruction but have still perceived their musical abilities as low (see [Supplementary material](#)—Refs. 82, 142, 220).

4.4 Meta-narrative 3: contextual factors

4.4.1 Status of music education

Comprehensive studies have investigated the status, policies, and aims surrounding arts education globally (e.g., [Aróstegui, 2016](#); [Bamford, 2006](#); [European Commission, European Education and Culture Executive Agency: Eurydice, 2009](#); [UNESCO, 2006](#)). Although these are not direct components of our corpus, their frequent citation underscores their influence in shaping discussions on how the de-emphasis of music education affects generalist teachers. According to [Aróstegui \(2016\)](#), a “global decline of music education” (p. 96) is evident. We observe a general tendency in the literature supporting this trend, typically attributing it to the preference for ‘core’ subjects like numeracy and literacy, deemed essential to a knowledge-based economy. Science, technology, engineering and mathematics (STEM) subjects tend to be prioritised for their perceived economic relevance, while the arts are often regarded as less practical and tangible for workforce productivity. Authors have noted that ITE programmes have faced decreasing incentives to promote music courses in preparing teachers (see [Supplementary material](#)—Ref. 57), since these institutions often “follow the market and marginalize the arts in favor of other curriculum demands” (see [Supplementary material](#)—Ref. 166, p. 316).

This de-emphasis has often resulted from pressure on schools to meet standardised testing requirements (e.g., PISA, SATs), which favour easily assessable subjects. Since arts subjects are typically excluded from these tests, they have become less prioritised and often lack sufficient resources and support ([European Commission, European Education and Culture Executive Agency: Eurydice, 2009](#)). In this regard, [Bamford \(2006\)](#) noted, “At a time when educational policies are often perceived to be output driven and focused on such skills as numeracy and literacy, it is perhaps not surprising that the arts are generally not viewed as being an important part of general education policy” (p. 142). Consequently, arts subjects, including music, often face inadequate funding, limited resources, and marginalisation within curricula ([Aróstegui, 2016](#)).

Several authors have highlighted how music education has been sidelined in favour of other ‘important’ disciplines—a trend reflected in the professional behaviour and beliefs of many generalist teachers (see [Supplementary material](#)—Refs. 2, 7, 9, 44, 57, 64, 78, 80, 90, 104, 134, 140, 143, 156, 166, 170, 228, 243). For example, [Abril and Gault \(Ref. 2 in Supplementary material\)](#) found that most pre-service teachers viewed music as a “fun break” from academic subjects and valued it mostly for its support role in extramusical goals. [Alter et al. \(Ref. 8 in Supplementary material\)](#) further reported that teachers, overwhelmed by curriculum demands, often reduced the time allocated for creative arts to prioritise English and Mathematics—two subjects in which generalist teachers have reported significantly higher self-efficacy compared to music (Ref. 90 in [Supplementary material](#)).

Confidence in teaching music has been rated lower compared to confidence in teaching other subjects (see [Supplementary material](#)—Refs. 106, 108, 116, 171). Additionally, the pressure to meet standardised testing goals has led teachers to deprioritise music in favour of other ‘more important’ subjects, since arts subjects are seldom included in standardised testing (see [Supplementary material](#)—Ref. 243). Interestingly, however, Ref. 81 in [Supplementary material](#) observed that ECEC generalists who saw music as a tool for supporting other subjects offered more frequent music activities, while those who viewed music as inherently valuable offered fewer.

4.4.2 Funding and resource allocation

The status of music within national educational systems has influenced the time and resources allocated to music training for generalist teachers. In Spain, political reforms have reduced the emphasis on music in teacher education, partly due to music being seen as less important than academic subjects (see [Supplementary material](#)—Ref. 10)—a trend also confirmed in other Spanish studies (see [Supplementary material](#)—Refs. 60, 175, 198). Similarly, in an Australian context, reductions in already limited musical training time have further restricted the musical preparation of generalist teachers (see [Supplementary material](#)—Ref. 16), leading to low levels of preparedness and self-efficacy (see [Supplementary material](#)—Ref. 166). Turkish studies have shown similar trends, attributing limited pre-service training opportunities to political instability and the low status of music education (see [Supplementary material](#)—Refs. 9, 20, 48, 139).

The decreased status of music in education has been further reflected in the limited provision of financial resources and materials for music education in schools, ECEC institutions, and ITE programmes. Several studies have reported that insufficient access to resources—such as instruments, equipment, and professional development—has hindered generalist teachers’ ability to teach music effectively (see [Supplementary material](#)—Refs. 41, 49, 63–65, 71, 75, 83, 87, 98, 128, 147, 154, 158–159, 169, 184, 193, 219, 243). For example, American and Irish teachers have reported difficulties in integrating music into broader curricula without adequate time and resources (see [Supplementary material](#)—Ref. 98). Similarly, studies from African contexts have indicated that arts subjects receive little financial support, leaving teacher education programmes under-resourced (see [Supplementary material](#)—Refs. 5, 109, 138, 241). Conversely, some contexts have demonstrated adequate access to music resources, possibly due to a higher prioritisation of music education (e.g., see [Supplementary material](#)—Ref. 247).

4.4.3 Music and the curriculum

Educational policies shape school, ECEC, and ITE curricula, providing frameworks for teaching and assessment and influencing the legitimacy of music education. In some cases, music is well-integrated into the curriculum, with clear guidelines supporting generalists in teaching music (see [Supplementary material](#)—Refs. 25, 36, 45, 86, 99, 100, 197, 218). In these instances, the curricula have provided teachers with autonomy and tools to teach music effectively. However, when curriculum content has been perceived as abstract, irrelevant, or unattainable, generalist teachers have felt insecure about meeting these standards (see [Supplementary material](#)—Refs. 86, 139, 157, 159, 189, 197, 214, 216, 220, 238, 243). As a consequence, generalists have ignored certain curriculum requirements (see

[Supplementary material](#)—Refs. 238, 243), or avoided them entirely (see [Supplementary material](#)—Ref. 197). We observe a discrepancy between the intended and applied music curriculum, largely due to the varying degree of generalist teachers' professional competence to teach music (see [Supplementary material](#)—Refs. 78, 188).

In Uganda, Kigozi (Ref. 138 in [Supplementary material](#)) criticised the curriculum's disconnection from desired musical practices, arguing that it was overly theoretical and influenced by Western ideologies. The colonial legacy has often overshadowed efforts to integrate indigenous African music into music curricula (see [Supplementary material](#)—Refs. 5, 71, 109, 138, 241). Delpont and Mufute (Ref. 171 in [Supplementary material](#)) argued that the Zimbabwe Primary Music Syllabus perpetuated "out-dated training rooted predominantly in colonialist, Eurocentric approaches to music education" (p. 12). Efforts to integrate indigenous music into teacher training programmes in African countries have faced numerous challenges (see [Supplementary material](#)—Ref. 241).

Another issue we observe is that, particularly in ECEC settings, music's prominence often becomes unclear when it is grouped into a broader arts domain within the curriculum (see [Supplementary material](#)—Refs. 18, 81, 85, 120, 145, 243). For example, New Zealand's 2007 curriculum change from "music" to "music-sound arts" aimed to encourage a broader approach but instead led to confusion and the marginalisation of music studies (see [Supplementary material](#)—Ref. 243). By 'shoving' the arts subjects "together in some ad-hoc manner" (p. 6), distinctions between them were blurred, ultimately reducing the priority given to music education in primary schools. This trend has also been reflected in ITE curricula. For example, in Brazil, grouping music into 'Artistic Education' led to a superficial approach when preparing pre-service teachers (see [Supplementary material](#)—Ref. 85). Grouping arts subjects together has contributed "to their devaluation, perpetuating a problem that allows teachers to choose one domain over another, providing an incomplete arts education" (see [Supplementary material](#)—Ref. 188, p. 81). While this may risk diminishing music education's status, some authors have noted that it can also offer generalist teachers greater autonomy in choosing teaching approaches (e.g., see [Supplementary material](#)—Ref. 17).

4.4.4 'Significant others'

A substantial portion of research has highlighted significant individuals—including co-workers, fellow students, teachers, leadership, coordinators, parents, and mentors—as highly influential on the working and learning environments of generalist teachers in music education, both negatively and positively (see [Supplementary material](#)—Refs. 1–2, 12, 43, 50, 61, 63, 67, 75, 79, 91, 122, 131, 148, 155, 173, 195–196, 210, 214–216). Positive influence has been exemplified by parental involvement in building a strong musical community within an ECEC institution, providing generalist teachers with support and encouragement for music education ([Supplementary material](#)—Ref. 43). Similarly, Garrett (Ref. 89 in [Supplementary material](#)) described a particular school's flourishing music community and 'team spirit,' where generalists shared a collective responsibility to teach music on par with other subjects. In this setting, a head music teacher with years of experience as a generalist teacher—who had faced her own challenges in music teaching—served as an inspiring and supportive figure for other staff members. We identify several passionate individuals across our

corpus—such as teachers, principals, sessional tutors, and coordinators—who positively influenced other generalist teachers' attitudes towards teaching music and promoted music education within their institutions (see [Supplementary material](#)—Refs. 46, 79, 89, 131–132, 137, 183).

Negative influence has arisen when pre-service teachers were denied music-teaching experiences during practical field training due to restrictions imposed by classroom teachers or scheduling limitations (see [Supplementary material](#)—Refs. 106, 244). A lack of support or participation from other adults, especially in ECEC settings where multiple adults may be present, has been a common barrier to music teaching. Authors have suggested that such circumstances can cause musical insecurities stemming from perceived judgment by others who do not participate in or encourage music-making, particularly in formal teaching situations where the generalist teacher's musical abilities are on display (see [Supplementary material](#)—Refs. 1, 50, 97, 195). Abril (Ref. 1 in [Supplementary material](#)) found that pre-service ECEC teachers experienced anxiety in singing contexts when evaluated by music instructors, peers, or other adults, underscoring their vulnerability when feeling musically inadequate in ITE.

Conversely, active participation and solidarity from colleagues have helped mitigate these insecurities (see [Supplementary material](#)—Ref. 155). Music's social nature has encouraged exploration and celebration of musical relationships, fostering confidence among the teachers involved (see [Supplementary material](#)—Ref. 135, 187). For instance, a Norwegian choir community succeeded in creating support and enjoyment among its pre-service teacher members, thus showcasing music's role in inclusion and community building (see [Supplementary material](#)—Ref. 19). Similarly, the classroom environment has been shown to significantly predict pre-service teachers' positive attitudes towards music (see [Supplementary material](#)—Ref. 91). Studies have also shown that pre-service teachers, even those with low confidence, feel motivated when practising music together, benefiting from shared experiences and mutual support by 'being in the same boat' (see [Supplementary material](#)—Refs. 112, 195–196, 224). Sharing ideas, experiences, and feelings of inadequacy as singers provided encouragement for further musical development (see [Supplementary material](#)—Ref. 224).

Leadership has also played a crucial role as either an encouraging or a limiting contextual factor, especially through personal and financial support (see [Supplementary material](#)—Refs. 66–67, 79, 197, 243). For example, school principals have positively impacted music programmes by providing necessary resources (see [Supplementary material](#)—Ref. 66, 67). In another study, principals who participated personally in music activities inspired staff to engage musically with children, whereas unsupportive leadership in another institution diminished the presence of music in daily activities (See [Supplementary material](#)—Ref. 79).

4.5 Meta-narrative 4: professional behaviour

Our synthesis indicates that when personal and contextual factors have been positively stimulated, generalist teachers gain confidence, motivation, skills, and autonomy to teach music effectively, leading to frequent, diverse, and high-quality music

teaching (see [Supplementary material](#)—Refs. 25, 70, 100, 120, 148, 158, 202, 227). For instance, several competent ECEC generalists have supported children's emotional, social, and musical development through a rich variety of music activities, earning praise for creatively exploring music's multifaceted nature (see [Supplementary material](#)—Refs. 45, 119). Similarly, Barry and Durham (Ref. 25 in [Supplementary material](#)) found that pre-service ECEC pupils who participated in a summer practicum of practical, music-related activities managed to integrate music into the curriculum and use it to bridge cultural boundaries.

Singing and movement activities have been more common in ECEC settings and lower primary grades, often designed as a way of reinforcing socio-emotional/academic development and scaffolding routines, such as cleaning up, lining up, meals, and nap time (see [Supplementary material](#)—Refs. 94, 102, 117, 156, 218, 228). In-service ECEC teachers have reported these types of activities to be well suited and useful in providing children with meaningful music experiences (see [Supplementary material](#)—Ref. 136). While many ECEC teachers have found singing activities valuable, we observe a discrepancy in perceived competence: some studies have indicated that singing is an area of low confidence (see [Supplementary material](#)—Ref. 177), whereas others have reported it as a strength for generalists (see [Supplementary material](#)—Ref. 76). Despite some positive cases, we identify a prevalent trend of generalist teachers lacking the competence and confidence needed for effective music teaching, resulting in limited musical repertoires and teaching strategies (see [Supplementary material](#)—Refs. 9, 136, 189, 193, 245). For example, Phuthego (Ref. 189 in [Supplementary material](#)) found that in-service primary generalists relied primarily on simple singing activities, with limited instrumental and broader musical competencies.

As children progress to higher grades, curricular demands increase, requiring teachers to have more specialised musical knowledge to deliver more in-depth music content (e.g., composition, improvisation, instrumental instruction). Our corpus has indicated that teachers with higher formal musical training—often specialists—are more likely to teach at secondary levels, while generalists with less training are more common in primary grades and ECEC (e.g., see [Supplementary material](#)—Ref. 226). Activities involving singing, movement, and listening—especially when accompanied by CDs, Spotify, YouTube, and other multimedia sources—have been more frequent among teachers with less musical expertise, potentially because “they feel they can carry these out in some capacity” (see [Supplementary material](#)—Ref. 245, p. 13). Several authors have reported a heavy reliance on CDs and other multimedia sources (see [Supplementary material](#)—Refs. 63, 140, 170, 184, 193–194), which, in some cases, have been used as mere background music (see [Supplementary material](#)—Refs. 44, 45, 140, 193). Killian and Wayman (Ref. 140 in [Supplementary material](#)) reported that 70% of music used by in-service primary generalists was background music, with only 20.3% of teachers singing themselves. Most authors have criticised this reliance as a ‘crutch’ for compensating insecurities, emphasising instead the value of meaningful interactions in music-making (see [Supplementary material](#)—Ref. 187). Conversely, Poulter and Cook (Ref. 191 in [Supplementary material](#)) highlighted a preference among primary generalists for live interaction through music over multimedia reliance. This indicates a discrepancy within our corpus: while some generalists demonstrate sufficient competence to engage in live music-making, others rely heavily on multimedia.

We also observe a division across the literature regarding whether generalist teachers engage in child-oriented or teacher-directed music teaching. Many studies of in-service ECEC generalists have shown an inclination towards exploratory music activities, involving sound-makers, singing, movement, improvisation, and spontaneity, which foster children's creativity and agency (see [Supplementary material](#)—Refs. 50, 56, 61, 79, 117–120, 183, 218, 235). Spontaneous and free-play activities have typically involved child-centred exploration with instruments and movement (see [Supplementary material](#)—Ref. 117), whereas singing activities have tended to be more structured, focusing on the repetition of a traditional song repertoire (see [Supplementary material](#)—Refs. 102, 117–118). For example, Valerio and Freeman (Ref. 235 in [Supplementary material](#)) observed pre-service teachers learning to adapt music activities based on children's spontaneous musical expressions, promoting “interactive music-making between participants and the children” (p. 62). On the other hand, in-service ECEC generalist teachers have sometimes been criticised for relying too heavily on children's preferences, lacking initiative to engage in music activities themselves (see [Supplementary material](#)—Ref. 218). Some in-service ECEC teachers have faced challenges with free-play music activities, finding them chaotic and difficult to manage (see [Supplementary material](#)—Ref. 14), which has led to a reluctance to allow instrument access during free play (see [Supplementary material](#)—Refs. 81, 193, 228). This hesitancy has also been observed in primary school settings, where generalists sometimes prefer structured, teacher-directed activities to maintain control, particularly when they lack confidence in their music subject knowledge (see [Supplementary material](#)—Ref. 245).

4.6 Meta-narrative 5: teacher-training

Feeling inadequately prepared by ITE programmes, many generalist teachers have expressed the need for more professional development in music (see [Supplementary material](#)—Refs. 26, 28, 30, 40, 71, 74, 79, 83, 91, 101, 103, 136, 153, 158, 184, 189, 198, 200, 236, 246). This has been exemplified by many pre-service teachers criticising their programmes as “too short, overly theoretical or abstract, and lacking practical opportunities” (see [Supplementary material](#)—Ref. 31, p. 3). Similarly, in-service ECEC teachers have indicated that their most useful music skills were often “learned through external sources, such as in-service workshops or colleagues,” rather than through their ITE programmes (see [Supplementary material](#)—Ref. 136, p. 380).

In response to these needs, we have identified several training programmes that have focused on practical hands-on activities aimed at building music-teaching competence (see [Supplementary material](#)—Refs. 36, 51–52, 62, 95, 105, 107, 121, 123, 125–135, 137, 169, 178–179, 182, 194, 207, 209, 213, 215–216, 231, 233, 240). These training programmes have included specific learning strategies, such as collaboration and mentoring (see [Supplementary material](#)—Refs. 40, 52, 75, 77, 197, 237), observation and field experience (see [Supplementary material](#)—Refs. 30, 52, 62, 95–96, 106, 112, 124, 137, 153, 183, 191), Kodály and Orff approaches (see [Supplementary material](#)—Refs. 66, 121, 197), digital technology and e-learning (see [Supplementary material](#)—Refs. 30, 113–114, 130, 162, 190, 207), indigenous and internationalised approaches (see [Supplementary material](#)—Refs. 75, 126, 135, 229, 239), reflection (see

[Supplementary material](#)—Refs. 69, 75, 137, 152, 154, 179, 235), informal music-making and creativity (see [Supplementary material](#)—Refs. 99–100, 215, 237), body mapping (see [Supplementary material](#)—Ref. 97), and neuroscientific research (see [Supplementary material](#)—Ref. 52). These methods have reportedly fostered a stronger musical self-concept and teacher identity among generalists. Studies have shown that such training can successfully provide generalists with adequate preparation, increasing their responsibility (see [Supplementary material](#)—Ref. 36), willingness (see [Supplementary material](#)—Ref. 229), and intention (see [Supplementary material](#)—Ref. 165) to teach music effectively.

Programmes that provide hands-on, practical training have allowed generalists to develop concrete skills relevant to teaching, such as singing (see [Supplementary material](#)—Refs. 178, 179, 212), or playing instruments like the ukulele (see [Supplementary material](#)—Refs. 57, 101, 170, 187, 209), especially when these skills were reinforced through context-specific and professionally relevant field experience (see [Supplementary material](#)—Refs. 40, 134). Authors have often reported an increase in teaching confidence when sufficient practical music and music-teaching competencies have been gained. In this regard, field experiences have been particularly effective, especially when teachers have received positive responses from the children they taught (see [Supplementary material](#)—Refs. 108, 154, 182, 197, 235), indicating that positive feedback is a significant source of self-efficacy (see [Supplementary material](#)—Ref. 240). Similarly, in-service primary generalists have reported increased confidence after successfully implementing newly learned composition techniques in their classrooms (see [Supplementary material](#)—Ref. 233).

Collaborative efforts among generalist teachers have been widely praised as effective forms of teacher training, with modelling, mentoring, feedback, and practical field experiences identified as key components. These efforts have included teamwork and collaboration among pre-service teachers (see [Supplementary material](#)—Refs. 40, 75, 77, 128–129, 137, 154, 175, 215) and in-service teachers (see [Supplementary material](#)—Refs. 69, 182, 196), between in-service and pre-service teachers (see [Supplementary material](#)—Refs. 107, 191), and between generalists and specialists (see [Supplementary material](#)—Refs. 121, 124, 165, 187, 225). Several authors have also highlighted the benefits of mutual partnerships between ITE and schools/ECEC institutions (see [Supplementary material](#)—Refs. 106, 154, 183, 236). For example, Poulter and Cook (Ref. 191 in [Supplementary material](#)) reported mutually beneficial learning outcomes for both pre-service and in-service generalist teachers when discussing and interpreting children's responses to music lessons. Similarly, generalist and specialist teachers have been shown to benefit greatly from each other's strengths in music teaching. For example, primary generalists have found in their secondary music peers high levels of artistry and creativity, while secondary music specialists have found in their primary generalist peers a strong understanding of children and clear planning for learning (see [Supplementary material](#)—Ref. 124). Moreover, studies have reported that ideal partnerships between musicians and in-service primary teachers resulted in long-term positive effects on musical confidence and competence when the teachers engaged in informal, inclusive music-making (see [Supplementary material](#)—Ref. 187). Additionally, Green (Ref. 95 in [Supplementary material](#)) reported that specialist in-service teachers supported pre-service teachers by tactfully encouraging experimentation with music teaching and idea-sharing.

Observation of experienced teachers has been highlighted as a valued form of training. Through video-mediated peer observation, in-service generalist teachers with limited musical backgrounds have benefited from observing practical, realistic teaching scenarios, rather than learning through textbooks, lesson plans, and curricula (see [Supplementary material](#)—Ref. 30). Wong et al. (Ref. 246 in [Supplementary material](#)) similarly reported that observing experienced teachers—live or through video—was a highly valued form of learning. In another context, although online resources have been found to be helpful, Joseph (Ref. 130 in [Supplementary material](#)) indicated a preference for live, interactive music-making among pre-service primary generalist teachers. Finally, reflection has been recognised as an effective tool for competency development, as it has enabled teachers to gain insights and confidence through reflecting on their own observations, teaching, and field experiences (e.g., see [Supplementary material](#)—Refs. 69, 75).

4.7 Meta-narrative 6: generalists vs. specialists

One notable finding across the literature is the lack of consensus on what constitutes a 'generalist' or 'specialist' teacher, with formal qualifications for each role varying across countries. Generally, we observe that music specialists are educators with extensive training in both musical proficiency and pedagogy, often teaching music as a standalone subject to multiple classes (see [Supplementary material](#)—Refs. 10, 98, 101, 242). In contrast, generalist teachers are typically described as educators with broad pedagogical training but little or no formal music education. They are usually responsible for teaching music alongside other subjects (see [Supplementary material](#)—Refs. 10, 20, 98, 131) and often "integrate music into other content areas as they see fit" (see [Supplementary material](#)—Ref. 98, p. 75). Our synthesis indicates that generalists form a diverse group. While many lack formal music training and struggle to teach music confidently (see [Supplementary material](#)—Refs. 49, 70, 78–79, 200, 242, 245), others—driven by personal interest—have pursued additional musical training outside their initial teacher education and demonstrate higher levels of competence (see [Supplementary material](#)—Refs. 29, 45, 66, 89, 99, 105, 110, 149, 242, 245). Some generalists have even been considered 'hidden specialists' who deliver high-quality music teaching without formal credentials, and in one unique case, as an uncertified 'paraprofessional' teacher (see [Supplementary material](#)—Ref. 242).

Although generalists and specialists are often discussed in binary terms, this distinction may be overly simplistic. Given the diversity within both groups—particularly among generalists—it may be more productive to view teacher competence as a continuum rather than a fixed trait tied to certification. In light of this broader perspective, the literature also suggests a third group: performers with limited or no formal teacher training, who often work as visiting musicians or in artist-in-residence roles (see [Supplementary material](#)—Refs. 37, 41, 68, 187). A lack of prioritisation in specialist teacher training and hiring in the arts may partly explain why artists are increasingly involved in music education (Bamford, 2006).

Although music in ECEC and primary settings is predominantly taught by generalists (see [Supplementary material](#)—Refs. 64, 70, 178, 226, 228), a few studies—particularly in primary education—have reported a higher prevalence of specialists (see

Supplementary material—Refs. 29, 242). The occurrence of music specialist positions have been linked to whether institutions prioritise music or marginalise it due to crowded curricula and limited financial resources. There is also an ongoing debate about who should be teaching music, with the literature highlighting both advantages and limitations of using specialists and generalists (see **Supplementary material**—Refs. 44, 70, 124, 204).

While specialist teachers are generally favoured for providing in-depth and varied music instruction, the literature also acknowledges certain challenges (see **Supplementary material**—Refs. 39, 84, 150, 168). For example, specialists with extensive musical backgrounds have often emphasised individual, performance-oriented activities, viewing music learning as a “technical procedure involving the systematic mastery of a set of skills” (see **Supplementary material**—Ref. 124, p. 69), which may limit opportunities for a more inclusive and student-centred approach to music education. Biasutti (Ref. 39 in **Supplementary material**) found that generalists were more inclined to support student-led, informal music learning—an approach considered highly beneficial for both teachers and children (see **Supplementary material**—Refs. 50, 99)—in contrast to the more teacher-centred methods of specialists. Additionally, specialists have reported higher stress levels related to classroom management, possibly due to less pedagogical training compared to generalists (see **Supplementary material**—Ref. 150), underscoring the trade-off between musical expertise and pedagogical versatility. When generalists are confident and competent in music, they tend to excel in classroom management and in integrating music with other subjects (see **Supplementary material**—Refs. 8, 20, 47, 131). However, as previously mentioned, the prevailing pattern suggests that many generalists lack the competence to teach music adequately, prompting several authors to advocate for greater use of specialist teachers (see **Supplementary material**—Refs. 49, 65, 70, 78, 232, 242–243, 245). In fact, generalists themselves have acknowledged that they cannot effectively cover the music curriculum without relying on specialists (see **Supplementary material**—Refs. 49, 70, 103–104, 116, 190).

Some authors have criticised the reliance on visiting specialists to relieve generalist teachers, arguing that it can inadvertently absolve generalists of responsibility for music education and discourage the integration of music across other subject areas (see **Supplementary material**—Refs. 64, 68, 98, 103, 187, 208). The presence of a specialist may lead generalists to see music as outside their remit—either because they feel sidelined or willingly relinquish responsibility. As a result, De Vries (Ref. 64 in **Supplementary material**) notes that when music is taught solely by a specialist—often in a separate space and as a discrete subject—children may miss out on experiencing music as an integrated, everyday part of classroom life. As a middle ground, several authors have proposed a collaborative approach in which specialists and generalists complement one another’s strengths while mitigating their weaknesses (see **Supplementary material**—Refs. 10, 65, 89, 98, 103, 116, 121, 165, 217–218). Specialists could provide in-depth and diverse musical experiences, while generalists focus on integrating music into other subject areas.

5 Discussion and implications

Our corpus presents a rich and insightful body of research on music teaching among generalists. Rather than revealing a clear

historical or linear trajectory, the meta-narrative approach has allowed us to identify a multifaceted discourse shaped by a broad range of methodological and theoretical perspectives. Our findings align with Kunter et al.’s (2013a) model, reinforcing the intricate interplay of multiple factors in shaping professional competence. We have identified several interrelated individual factors, including skills (e.g., musical proficiency), musical and pedagogical knowledge, motivational variables (e.g., musical self-concept and self-efficacy), and beliefs (e.g., perceptions of music’s importance). For example, previous experiences have shaped generalists’ musicality and self-efficacy beliefs—both positively and negatively—often influencing their musical competence and, in turn, their confidence to teach music. However, our findings suggest a notable divergence from what might typically be expected based on our theoretical model, in which strong subject-related beliefs are generally linked to competence development (Kunter et al., 2013a); while most generalists have expressed strong beliefs in music’s educational value, this belief has not necessarily translated into competence or confidence in teaching it.

Furthermore, we observe that contextual factors—including policy (e.g., curriculum and funding), dominant musical ideologies (e.g., Western influence), leadership, peer support, and institutional qualities (e.g., access to resources)—establish systemic conditions that can either support or hinder generalists. Variations across national contexts have reflected broader systemic challenges, where shifting political priorities and resource constraints have limited the preparation and support of generalist teachers in music education. Generalists are not necessarily inherently lacking in competence; rather, systemic conditions shape their opportunities for competence development. Well-supported teacher education can foster a sense of efficacy and readiness to teach music. Conversely, when music is marginalised or wrongly advocated in formal education, generalists may internalise a detrimental perception of their own musicality and the idea that their competence in music is of lesser importance, potentially reducing their motivation and investment in music teaching.

Given the diversity among generalists, we suggest that teacher-training initiatives identify which factors require the most attention and tailor their programmes to meet generalists’ needs and dispositions. Generally, we observe that practising musical proficiency in context-relevant scenarios—preferably with children—has been particularly effective. Therefore, we emphasise the need for professional development that directly aligns with generalists’ teaching responsibilities. They need clear expectations for music teaching and opportunities to practise them in authentic scenarios. While theoretical knowledge is important, it should support rather than take precedence over practical, hands-on activities in music, particularly for generalists who lack foundational musical skills. Additionally, we highlight the crucial role of informal learning, which often occurs outside formal training settings. Although typically unstructured and unintended, such learning experiences can contribute to the development of teachers’ professional competence (Kunter et al., 2013a). Beyond extracurricular activities and prior experiences, fostering a culture of active music-making—particularly in ECEC settings—creates informal spaces that strengthen generalists’ musical engagement and teaching intentions. Thus, both ITEs and educational institutions could benefit from systematically cultivating supportive environments where students and colleagues share, encourage, and sustain music-making practices.

At the same time, resource constraints have posed challenges, underscoring the need for cost-efficiency, such as affordable instruments (e.g., ukuleles, handheld percussion), e-learning platforms (e.g., free online courses and instructional videos), peer-led workshops, and school-community partnerships. While access to material resources is important, our findings suggest that fostering collaborative and supportive learning environments may be just as, if not more, impactful in helping generalists build confidence and competence in music teaching.

Even when various professional development opportunities in music are available, it raises the question of whether generalists actively engage with and seek out these opportunities, given that competence development “is not a passive or automatic process” (Kunter et al., 2013a, p. 70). Our context provides some insight into generalists’ commitment to professional development, which has been shown to depend on contextual and individual factors. On the one hand, self-efficacy, institutional support, and perceived relevance seem to determine active engagement. On the other, low self-efficacy, prior negative experiences, and structural barriers—such as time constraints, lack of institutional encouragement, and the perception that music is a low-priority subject—may discourage participation in professional development. This raises the concern that the generalist teachers who perhaps would benefit most from professional development may also be the ones most likely to avoid it.

Furthermore, a frequently overlooked aspect is generalists’ reported or demonstrated interest in music and how this relates to their commitment to professional development as well as their professional behaviour. In ECEC settings, subject boundaries are often flexible, and many programmes emphasise holistic development. In these contexts, an individual teacher’s selection of teaching strategies may align with personal interests—particularly in the absence of strong institutional guidelines, expectations, or external influences (e.g., motivated colleagues or leadership) that promote music education. Similarly, in primary schools, where generalist teachers often have autonomy over the extent of music integration into other subject areas, their personal interest in music may significantly influence its integration. This may also be linked to concerns about overly abstract curricula, which may lead generalists to de-emphasise music in favour of other activities. Thus, while personal interest plays a crucial role in shaping the quantity and quality of music teaching practice, clearer curricular guidelines are also needed. Future policymakers should avoid overly ambiguous formulations, as the literature has repeatedly shown that these tend to undermine rather than support music teaching among generalists.

Kunter et al. (2013a) suggest that ‘professional competence’ is closely linked to ‘quality teaching’ and the characteristics of ‘good teachers.’ Many authors support this notion, identifying ‘successful’ music-teaching strategies among generalists who have sufficient competence. Conversely, those with lower professional competence often approach music teaching with insecurity, sometimes relying on superficial and passive activities, such as multimedia-supported listening exercises, rather than active or live music-making. However, the literature presents a wide-ranging disparity in defining ‘successful’ music teaching, indicating a lack of a unified consensus. Some perspectives emphasise breadth and diversity, valuing teachers who provide multiple in-depth musical activities, while others prioritise informal and spontaneous music-making, the ability to integrate music across subjects, strong classroom management, or

displaying musical proficiency. Most research on generalists’ music-teaching strategies and professional competence rely on self-reported data—primarily from questionnaires and interviews—rather than direct observational studies. While some qualitative studies provide classroom observations, most quantitative studies ($n = 135$) in our corpus rely on self-reported surveys, with only seven observational studies conducted. This methodological imbalance increases the risk of social desirability bias and supports several authors’ claims of a discrepancy between generalists’ perceived and actual competence.

Another issue in evaluating generalists’ professional behaviour is the significant lack of attention to children’s outcomes, a crucial component in determining teaching quality (Kunter et al., 2013a). This may stem from broader controversies and inconsistencies in music assessment—whether through standardised testing or more informal approaches—when evaluating students’ learning progress and outcomes (Nørstebo and Knigge, 2024). Unlike STEM subjects, where assessment criteria tend to be more standardised, the evaluation of arts education varies significantly across educational contexts, making it difficult to compare and measure children’s outcomes from generalist music teaching. When outcomes are discussed in our corpus, they are often framed in broad qualitative terms, such as whether children exhibit positive or negative responses to music teaching.

5.1 Limitations of the included studies

Despite studies being published in peer-reviewed journals, there is noticeable variation in quality. A prominent issue is the absence of a clearly stated theoretical foundation ($n = 134$). While doctoral dissertations often include theoretical frameworks, many journal articles prioritise empirical findings, literature reviews, and contextual information over foundational theory, potentially limiting conceptual depth.

We also noted inconsistencies in methodological transparency, particularly among studies that claimed to use multiple methods without clarifying whether they had fully implemented a mixed-methods approach. For instance, the critical process of triangulating data sources—central to mixed-methods research—is often inadequately explained. Among the qualitative studies, 75 lacked a clearly defined methodological approach, frequently presenting loosely defined data interpretations rather than a systematic analytical framework. In contrast, studies employing established methodologies (e.g., phenomenology, narrative inquiry, or grounded theory) tended to demonstrate greater rigour and transparency.

The quantitative studies also faced notable challenges, including low response rates, non-representative sampling (often due to small or convenience-based sampling), and a lack of *a priori* sample size estimations. Another issue was the frequent reliance on newly developed, *ad hoc* measurement instruments, even when validated instruments were available. Additionally, most of the quantitative studies used only descriptive statistics ($n = 38$) or basic analyses, such as t-tests and ANOVA, when more advanced statistical methods could have accounted for potentially influential covariates. Experimental research was particularly limited, with only one randomised controlled trial (RCT) and 37 quasi-experimental studies, just five of which included a control group. Moreover, none of them provided follow-up

measurements, and the predominance of cross-sectional studies further limits longitudinal insights. Although our corpus covers many potentially successful training approaches, it generally lacks long-term evaluations of their effectiveness due to the scarcity of follow-up studies.

5.2 Methodological limitation and future research directions

The meta-narrative methodology's pragmatic and pluralistic stance presents both strengths and weaknesses. The diversity of research studies may complicate direct comparisons and generalisations due to differences in theoretical underpinnings, participant demographics, study contexts, and methodological rigour. Another limitation lies in our corpus' geographical skew, as it predominantly represents Western contexts, which limits the generalisability of our findings and potentially overlooks educational practices relevant in non-Western settings.

Despite these limitations, we have synthesised and discussed several key issues that policymakers, educators, and researchers should critically evaluate when shaping approaches to music education and the role of generalist teachers. Looking ahead, future research should address the geographical imbalance of the current corpus, which is predominantly situated in Western contexts. Broader representation of underexplored regions would provide a more comprehensive understanding of generalist music teaching across diverse educational systems. Methodologically, future studies could strengthen the evidence base by adopting more rigorous and transparent designs across qualitative, quantitative, and mixed-methods research. In particular, greater use of longitudinal approaches could shed light on the long-term impact of professional development and training initiatives, offering insights into how these efforts translate into sustained music-teaching practices. Future work would also benefit from stronger theoretical anchoring, as drawing on established frameworks can provide greater conceptual depth, enrich interpretation, and facilitate comparisons across studies. Finally, greater conceptual clarity is needed, particularly in how constructs such as “competence,” “confidence,” and “music teaching efficacy” are defined and operationalised, in order to improve comparability across research. Moving forward, ensuring that generalist teachers are well-equipped to teach music should remain an important consideration in both teacher training and educational policy.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

TN: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration,

Resources, Software, Supervision, Validation, Writing – original draft, Writing – review & editing. JK: Conceptualization, Data curation, Formal analysis, Investigation, Validation, Writing – review & editing, Methodology. MS: Conceptualization, Data curation, Formal analysis, Investigation, Validation, Writing – review & editing, Methodology. LO: Conceptualization, Data curation, Formal analysis, Investigation, Validation, Writing – review & editing, Methodology.

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Conflict of interest

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Supplementary material

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