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CONTENTS

EDITORIAL

It is a great pleasure and honour to present the new issue of the international scientific journal *"Problems in Music Pedagogy"*.

This issue of the journal includes an article by a well-known music psychologist from University of Zurich (Switzerland), Stefanie Stadler Elmer. In her research, the author proposes a conceptual foundation for understanding music didactics as a scientific domain, acknowledging its domain specificities and discussing normative and aesthetic aspects. *What can guide the process of scientifically developing music didactics or subject-specific didactics more generally? What does it mean to apply systematicity theory to didactics as an evolving scientific discipline?* Looking for answers to these questions, S. Stadler Elmer outlines six key aspects serving as a framework for contextualizing and specifying music didactics, as well as highlights seven principal considerations that make music didactics distinct from other didactics and central themes in developing the scientific position among other domains of didactics.

The study by Mengdi Li and Nigel Marshall (University of Sussex, United Kingdom) examined the musical learning experiences of eight Chinese hip-hop musicians by using semi-structured interviews to understand more about their learning styles, learning pathways, and attitudes to school music instruction. This study found a number of similarities and differences in informal music learning methods between hip-hop musicians and other popular musicians (primarily rock musicians). They also found subtle differences between the findings of this study and previous studies on hip-hop music learning, which were mainly reflected in the musicians' learning process. Authors emphasized the critical importance of school music education for children's physical and mental wellbeing and recommended shifting the format of the music classroom from the current teacher-led approach to one that is student-led, in which students are given more opportunity to learn their favorite genre of music.

The research team from University of Zurich – Anna Elisa Hurlimannn, Stefanie Stadler Elmer and Gabriella Cavasino – longitudinally explored the in-situ practice of pre-service generalist teachers to reconstruct their intentions, self-evaluations and self-judgments from the perspective of enacting subject-specific skills for leading class singing. This study contributes to the understanding of the variety of individual teachers' intentions and attributions and their potential for change. I would especially like to note the serious work of the authors in collecting, analysing and summarising the research results.

At getting acquainted with the research findings of the representatives from various countries we enrich our experience, broaden our vision of music study process and reach the conclusion that we have much more in common than different: the experience of any music teacher, student and scientist is unique.

Journal invites all the potential contributors to submit their articles for the next issues of PMP and wish you inspiration, perseverance and consistence on your way toward the innovative music teaching/learning.

Editor-in-chief
Jelena Davidova

MUSIC DIDACTICS – AN EVOLVING SCIENTIFIC DISCIPLINE

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Abstract

This paper proposes a framework to position music didactics as a scientific research field. The approach integrates three key elements: (1) applying Fensham's (2004) criteria for science education research evolution and Hoyningen-Huene's (2013) systematicity theory; (2) utilizing Merker et al. (2015) evolutionary theory of music to elucidate the nature and function of human song, music, and didactics; and (3) emphasizing the crucial role of normative and aesthetic dimensions in music education. By synthesizing these perspectives, I propose a conceptual foundation for understanding music didactics as a scientific domain, acknowledging its domain specificities and discussing normative and aesthetic aspects. This conceptualization aims to legitimize and advance research in music didactics, fostering its development as a scientific discipline.

Keywords: *Music didactics, systematicity, practice theories, cultural transmission, scientificity*

Introduction

Music teaching and learning have been integral to human culture for as long as we can remember. In the early stages of evolution, this likely occurred through the intergenerational transmission of skills, knowledge, and lore related to songs, dance, instrument making, and their use (Merker, Morley & Zuidema, 2015). Essentially, human cultures would not exist without these social practices across generations. To ensure and guide the transmission of knowledge and skills, modern nations have developed systems with institutions that facilitate formal education. Studying how these processes function – the formal teaching and learning of cultural content – has become central to didactics as a scientific discipline (Schneuwly, 2021).

To a considerable extent, music teaching and learning also occur in institutions as a formal practice constituted by norms, rules, and conventions. This practice can be viewed as the focus of music didactics (or music education in a broader sense) as a scientific discipline. The transmission of song is a fundamental aspect of most societies' educational policies, making it the core of music didactics.

Consequently, researchers in music education assert that their field is a scientific discipline analogous to developments in other educational domains as subject-specific didactics. However, in the recent history of didactics evolving into a scientific domain, music has been a marginal subject. Other educational disciplines – particularly science education, mathematics, and language didactics – have already established themselves as subject-specific didactic disciplines (e.g., Krogh, Quadrup & Ting Graf, 2021). Thus, it is timely to explore the topic of this article: *What characterizes music didactics as a scientific discipline?*

The aim is to provide guidelines and considerations for continuing the debate about how music didactics can be further developed as a scientific research domain.

Stefanie Stadler Elmer

My proposition begins with references to the seminal work by Peter Fensham (2004), who conceptualized the development of science education into a scientific field of research. Among three areas he identifies are 'intra-research' criteria that I will discuss and further specify using the systematicity theory proposed by science philosopher Paul Hoyningen-Huene (2013). In the main part of this article, I will use systematicity theory to conceptualize didactics as a research domain and the evolutionary theory by Merker et al. (2015) to clarify the domain-specific characteristics of music didactics. I argue that this theoretical framework is essential for advancing its position as a scientific research domain.

Organizing Education Research in Society

In recent decades, researchers have shown growing interest in teaching and learning gaining scientific status as subject-specific didactics. Science education exemplifies how this development can occur through reconstruction provided by Peter Fensham (2004), who proposes focusing on three areas.

The first area concerns institutional conditions for research such as conferences, training programs, associations, journals, centres, and academic recognition. This area implies that resources must be available to establish institutional structures; thus, it heavily depends on political willingness to support the process of scientific development. The second criterion pertains to conditions within a research domain. Fensham (2004) suggests several factors: 1) the status of scientific knowledge; 2) asking questions; 3) conceptual and theoretical development; 4) research methodologies; 5) progression; 6) model publications, and 7) seminal publications. He discusses these themes as they have developed internationally in science education. Among other things, he addresses concepts that are used differently across geographical areas with the consequence that they cannot always be translated. The concept of didactics is one such notion.

This second area – criteria *within* a research domain – concerns topics genuinely discussed in the philosophy of science. As characteristics of scientificity are central to this article's main topic, I will present a theory on the nature of science that includes humanities and social sciences. As a third area, Fensham (2004) mentions research outcomes concerning implications for practice. It is important to note that he used these three areas to reconstruct the development of science education as a field of research. His notion of 'science' in the Anglo-Saxon tradition is restricted to *Naturwissenschaften* or natural sciences. I find Fensham's three areas valuable for analysing national and international levels in education. For instance, one could identify strengths and weaknesses across various educational domains and evaluate them concerning institutional conditions, scientific status, and transfers between research and practice. This has yet to be done for music education; understanding this omission becomes clearer when examining domain specificity later in this article.

From Fensham's work, we can conclude that in any nation, the process of scientifically developing an educational field primarily concerns governance issues related to educational policy processes. Without political support and resources, institutions cannot change or be created anew. Institutional resources are necessary for stakeholders to discuss, plan, and implement content effectively. If such resources are available, then we must consider what it means to understand and practice subject didactics as a science. An explicit and agreed-upon understanding is essential for governance when observing or shaping the process of scientific development. If

institutional conditions are established and maintained, then issues within Fensham's second area – criteria within a research domain – are at stake.

On the Nature of Science

What can guide the process of scientifically developing music didactics or subject-specific didactics more generally? It is not surprising that this development has primarily advanced in science education (*Naturwissenschaft*), illustrated by Fensham's seminal book (2004), rather than in the arts as part of *Geisteswissenschaft* (humanities). This fact relates to the issue that general theories of science in Philosophy have historically focused mainly on physics (Popper, 1959; Kuhn, 1962; Feyerabend, 1975). A further limitation of the concept of science (*Wissenschaft*[1]) occurs when research methods from social sciences are applied standardly in music education contexts. Since Kuhn (1962) and Feyerabend (1975), it has been recognized that focusing solely on applying scientific methods is one-sided and insufficient.

A further development stemming from Kuhn's and Feyerabend's positions is Paul Hoyningen-Huene's theory of systematicity (2013). He answers the question about the nature of science as follows: "*Scientific knowledge differs from other kinds of knowledge, in particular from everyday knowledge, primarily by being more systematic*" (p. 25).

What does it mean to apply systematicity theory to didactics as an evolving scientific discipline? Hoyningen-Huene and I (2022) have outlined a proposition that I will summarize here while employing it within the context of music didactics.

The theory of systematicity applies to all scientific disciplines taught at universities; therefore, it encompasses both natural sciences (*Naturwissenschaften*) and humanities (*Geisteswissenschaften*) – a subdivision introduced in the latter half of the 19th century. Notably, while 'science' in English refers only to natural sciences, the German term *Wissenschaft* comprehensively covers all scientific fields. It is also noteworthy that Hoyningen-Huene (2013) does not address distinctions between pseudoscience and science – a discussion prevalent in philosophy of science – since his concept serves primarily to differentiate everyday knowledge from scientific knowledge. Systematicity manifests itself gradually across nine dimensions:

- Descriptions,
- Explanations,
- Predictions,
- Defence of knowledge claims,
- Critical discourse,
- Epistemic connectedness,
- Ideal completeness,
- Knowledge generation,
- Representation of knowledge (Hoyningen-Huene, p. 35).

Didactics can clarify its scientific nature by specifying how it aligns with these dimensions. Not all dimensions apply equally well across domains; for instance, predictions hold greater importance in natural sciences than in social sciences or humanities. To apply systematicity theory effectively requires delimiting the subject area – that is identifying phenomena under investigation by this discipline.

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[1] The German concept of *Wissenschaft* is broad, encompassing all fields of science. There is no precise translation or equivalent term in English.

Didactics and Related Scientific Research from Systematicity Theory Perspective

Schneuwly (e.g., 2021) provides comprehensive historical analyses regarding Didactics' evolution into a scientific discipline. Building on this foundation and incorporating the proposal by Hoyningen-Huene and myself (Stadler Elmer & Hoyningen-Huene, 2022), I outline **six key aspects serving as a framework for contextualizing and specifying music didactics:**

1. ***Subject Area:*** Didactics focuses on guided learning processes occurring within specialized institutions – essentially on didactic processes at schools (Schneuwly, 2013). These processes consist of three interrelated components: teacher, subject matter, and learner – a configuration referred to as 'didactic system' (e.g., Reusser, 2018). The didactic process represents an inherently social intervention wherein cultural achievements are transmitted within institutions across generations.

2. ***Aim:*** The transmission of knowledge – including skills – is both a social practice and investment governed by norms loaded with qualitative expectations denoted by characteristics or superlatives such as efficient or effective transmission. Everyday reflections on didactic practices often evaluate lessons based on what 'ought to be' correct or appropriate while assessing authenticity regarding subject treatment.

3. ***Reflection:*** Didactic practices typically reflect everyday knowledge aimed at maintaining or improving processes; however, didactics as scientific disciplines necessitate more systematic reflection on these practices aimed at enhancing understanding within their dynamics (Stadler Elmer & Hoyningen-Huene, 2022).

4. ***Normativity:*** Employing practice idioms (e.g., Rouse, 2007a, 2007b; Schatzki, 1996; Reckwitz, 2003) makes sense since formal knowledge transmission is inherently guided by norms, rules, and conventions. The implicit normativity is an essential feature within social practices.

5. ***Meta-Practice:*** Scientific inquiry into didactic processes functions sas social practice – a meta-practice influenced by researchers' embeddedness within their respective cultures affecting normative orientations (see e.g., Schneuwly, 2021).

6. ***Technical Vocabulary:*** As an evolving field does introduce technical terms towards developing shared conceptual systems or vocabularies essential for effective communication among educators regarding learning objects or subject matters. Examples that can be inspiring across disciplines are *scolarisation*, introduced by Denizot (2013), and *transformation*, introduced by Chevallard (1991).

In summary, didactics is characterised by formal social practices that aim to effectively transmit knowledge and skills in specialised institutions. A systematic study of the teaching and learning processes – empirical or historical, for example – further deepens our understanding and can help to improve their effectiveness.

Specificities of Music Didactics

I highlight **seven principal considerations that make music didactics distinct from other didactics and central themes in developing the scientific position among other domains of didactics.**

1. ***Music didactics belong to the arts.*** An important feature of the arts (visual arts, music, dance, theatre, poetry, film, photography etc.) is that they do not strive for truisms but rather intend to present something sensual that has affective relevance to the author(s). Symbols, stories, and verbal and non-verbal modes of expression are used to communicate affective states, share them with others and induce transformations and hyper-generalization (Valsiner, 2019). Thus, the arts are not primarily rationales for gaining truisms and differ from sciences that strive for collectively and even universally valid truths. The arts are cultural techniques to transform and represent subjective feelings with conventional means of expression to make affective states social (Vygotsky, 1971). The subjective feeling that a product is appropriate, correct, or well-formed is equivalent to aesthetic feelings, which can be experienced and shared collectively. In order to produce art that transforms individual affective states and makes them accessible collectively, many prerequisites (skills, knowledge) are needed, which children have yet to acquire. Their spontaneous creativity (Cropley & Cropley, 2013) can be called proto-aesthetic acts in the sense of Dissanayake (e.g., 2011) which include simplification, repetition, variation, exaggeration, and surprise. These proto-aesthetic acts are termed 'artifying', transforming an ordinary event or subject into something special. Such artifying acts precede artistic acts. Two remarks with respect to music are important here: a) It is striking that all artifying acts also characterize music-making even at elementary levels; b) Dissanayake abstracted these artifying acts from analyses of interactions with infants. They support the regulation of attention and the building up of rituals. The upshot of both remarks is that artifying as proto-aesthetic acts is included in social practices; vice versa, artifying is imbedded in social practices.

2. ***Music systems are made by humans for humans for expressing, creating and recreating affective states in connection with following some kind of rules and norms.*** Definitions of the concept of music hardly find consensus (Hallam, 2006) as they tend to reflect cultural, political, economic, and social factors prevailing at a certain place and time. Notwithstanding, two statements have gained broad acceptance. Susanne Langer (1953, p. 27) proposed *„measured sound and silence"* while John Blacking (1995, p. 237) stated *„humanly organised sound"*, adding: *"Music ... can only be inferred from careful observations of human behaviour and action".* The evolutionary conception of how music may have originated – proposed by Merker et al. (2015) in terms of five constraints – characterises comprehensively the nature and conditions for music:
   - Intergenerational cultural transmission (in contrast with Darwinian evolution),
   - The generativity of music (comparable with language),
   - The human-specific capacity for vocal production learning (a prerequisite for speech and song),
   - The propensity to entrain with perfect synchrony,
   - The propensity to gather occasionally to sing and dance together in a group; this suggests a motivational basis inherent in our biology.

3. This evolutionary theory of music by Merker and co-authors (2015) provides an eminently plausible interpretive framework for understanding the nature and function of human song and music and for comparison with other didactic domains. The first component – cultural transmission – is true for all didactics, even for autodidactic claims that can only be realized within a socio-cultural environment offering inspiration. The differences between individuals in their capacity to produce music is not due to Darwinian evolution since human

genomes do not inform about the musical rules that humans created and transmitted over generations.

4. Analogous to languages, music systems are generative; both make infinite use of finite media to create infinite forms such as sentences, phrases, melodies, etc. In music systems, the discretized elements are pitch and time; in languages these are phonemes. The rules or grammars inherent in producing music and language are not biologically rooted in humans but are acquired in the context of cultural transmission.

5. A specific human biological condition for music and language is found in the capacity for vocal production learning (Merker, 2008). Vocal development in early human life paves the way for singing and speech. It is noteworthy that for infants, producing recognizable melodies is easier than articulating words (Stadler Elmer, 2022). In song, syllables vary in pitch, duration, and stress pattern; they can be repeated in an unsemanticised manner. In contrast, articulating words requires combining syllables according to a language-specific stress pattern to produce words with semantic meaning (see e.g., Stadler Elmer, 2021). Although song production is possible earlier than speech during infancy, vocal production learning is culturally guided through social practices. To sum up, early vocal learning of recognizable melodies – and thus early rule-following – is specific to the music domain.

6. Rhythm in music and in language are rooted in bodily predispositions. Repetitive and periodic movements – including the production of vocal sounds – yield binary and ternary patterns in melodies and poetic language. The stress patterns in word articulation follow language-specific rules. Humans tend to synchronize their body movements with periodic signals such as regular beats – a phenomenon called entrainment (Clayton et al., 2004). Although metricized syllables are characteristic of poetic language, entrainment to periodic pulses is specific to music. The vocal production learning capacity – and even more so the propensity for entrainment – are related to the sensor-motor and sensual dimensions of music-making. These bodily dispositions and expressive means – vocalization and movements including handling instruments – are two fundamental modes of expression specific to music.

7. The motivational basis – gathering for song and dance – that Merker and co-authors (2015) mention as the fifth constraint together with cultural transmission can be interpreted as within social practice theories. Rouse (2007b) circumscribes social practice: *"A practice is not a regularity underlying its constituent performances, but a pattern of interaction among them that expresses their mutual normative accountability"* (p. 669). Wittgenstein (1953) has been influential on practice theories – especially his considerations about rules and rule-following. He proposed invoking *"This is what we do"* (p. 217) when justifications run out; this statement can also represent his understanding of 'social practice'.

To conceive of music teaching and learning both within evolutionary theory and practice theory highlights the bodily dispositions – vocal production learning and entrainment with steady beats – that enable enacting rules, norms, and conventions constituting a mutually adapted practice. Practice theorist, like Joseph Rouse (2007b) understands human bodies as *"both the locus of agency, affective response and cultural expression, and the target of power and normalization"* (p. 652). I argue that formal practices of teaching songs at school are paradigmatic as they constitute mutual normative accountability between teachers' and pupils' performances regarding rules

and norms always at issue within practice. Furthermore, dynamics between teacher, subject matter, and students can be viewed from a proto-aesthetic perspective.

The seven considerations on the specificity of music didactics imply some rationales for directions toward further scientific evolution as well as obstacles which I discuss in the next section.

Challenges of Music Didactics as a Scientific Domain

The major challenges arise from music didactics being a normative and aesthetic domain. Normative sciences – e.g., law, education, aesthetics, ethics – study what ought to be, thus, they study norms and rules for reaching ideals or goals, and propose and establish new ones. Their task is to understand the conditions and laws related to norms and ideals (see e.g., Peirce, 1997). The philosopher Georg Henrik von Wright (1963) distinguishes between three main types of norms – prescriptions, customs, and rules –, that I elsewhere (Stadler Elmer, 2021) applied to the practice of song transmission in order to reconstruct some of its normative layers.

Music didactics and the arts are not oriented towards truth and rational thinking – highly valued in all sciences (including humanities and social sciences) – but towards effective transmission of lore and cultural achievements, correct rule-following, and guiding the generalisation of affective states (Vygotsky, 1971).

Since didactics are tasks legitimized by education policy, they are evaluated in terms of degree or quality of implementation. Normative tasks can be evaluated and judged regarding quality. Often education research is called for the evaluation of political goals. The problem here is twofold: the control of norms and evaluation of teaching and learning quality is very complex because norms and values are human-made and thus negotiable. There is no objective measure but always judgements in relation to norms and values. This makes it difficult to gain true, objective, and generally valid facts from research. The typical solution is asking for expert judgments though the normative basis of these ratings remains implicit and tacit.

In this dilemma, an important step is to make conceptual distinctions. One of these issues concerns the status of music in schools.

The music made at school by teachers and pupils is not yet artistry but serves the pupils to practice and acquire the rules and norms and to experience collectively shared feelings that are induced by the form and the performance. Teaching and learning how to produce grammatically well-formed songs by following the rules is the core and fundamental practice for individuals to acquire skills, knowledge, and aesthetic feelings and for the tradition to be continued and secured. Yet, far from preparing musical artistry and excellence, the music-making at school is taking place as proto-artistic preparation. Already at the elementary level, infants and toddlers are capable of producing well-formed songs by following music-linguistic rules. The generativity of music (and language), with the infinite potential for combining elements (syllables, pitches, time), results in songs or music that the producer implicitly evaluates in terms of well-formedness during performance. This creative process always involves subjective aesthetic or proto-artistic feelings, and by repeating the action, the affective states are getting generalized at individual and collective levels. That is to say, the well-formedness of the song – its grammaticality – is part of the aesthetic evaluation. At the proto-artistic level, rule-breaking likely signals a lack of command whereas at the artistic level, the intentional breaking of rules, norms, and conventions may serve the creation of deliberate effects.

It follows from these considerations on the proto-artistic status of music at school that the degree of rule-following or grammaticality can be evaluated – given repeated

listening – rather objectively. But musical expressions in relation to the dynamics of intensity, timbres, articulation, and other dimensions are not normatively regulated but are due to regional or even local authenticity and thus are subjective.

Another important aspect of aesthetic evaluations of music-making or listening is the subjective and collective feelings that are lived through while participating. The experience of affective states – a mixture of subjective and collectively shared feelings – also has to do with the semiotic aspects of music. Those affective states are generalized feelings – hyper-generalized sign fields with catalytic functions (Valsiner, 2019) – and they are beyond verbalization. Their 'meaning' has no analogy in another media, thus is not communicable outside the practice itself. To have stated this in this way means that the meta-practice of science is limited.

To sum up, music didactics prepares for participation in music practices that are constituted by rules and norms and that convey generalized affective states. The aesthetic evaluation of musical experiences happens at subjective levels but concerns generalized feelings in relation to the shared experiences that became meaningful. Because many of the musical rules or grammar of songs are made explicit, rule-following can be evaluated in an objective manner, but not the many implicit ones.

How can these specificities of music didactics and aesthetics be dealt with in a scientific manner? Norms and values, here given in didactics and arts, result from tradition, conventions, and negotiations. What 'ought' to be has to be distinguished from compulsion, coercion, and determinism. The philosopher Charles Peirce (1997) says that *"it is always possible to act contrary to the 'ought'. The 'ought' rather implies ideals, ends, purposes which attract and guide deliberate conduct"* (p. 25).

The difficulty lies in dealing with normativity and aesthetics inherent in music didactics. As I have been at pains to make credible, the specificities of music didactic processes require them to be systematically observed and described and the intentions of those involved to be determined. Furthermore, a scientific approach to music didactic processes is to analyze compliance with the rules and to assess whether it is correct or not, and if not, whether the deviation is intentional or due to a lack of skills, or possibly for aesthetic purposes. Hence, a hermeneutic approach, consisting of the combination of systematic observation and description with the exploration of the agents' intentions is important.

As a consequence of these considerations, I propose to refrain from traditional normative evaluations of the quality of teaching and learning and instead observe and analyze how the music practice works in terms of the dynamics between teachers, pupils, and their shared music regulate themselves. Systematic observation and description of music didactic practices prevent premature judgment about quality by making explicit the grammatical aspects of music-making and adherence to rules, that can be evaluated intersubjectively.

I summarize my **arguments for promoting the scientific position of music didactics** as follows:

1. More care should be taken to observe and analyze the norms and rules that constitute the practice on which judgments are often implicitly based. Making explicit the norms and rules through systematic observation and analysis, through systematic interventions, and through historical analysis are important alternatives to quality judgments via ratings.

2. To improve the understanding of music didactic processes, I propose applying hermeneutic approaches in the form of combining observation of actions with accounting of the agents' intentions by interviews. In this normative and aesthetic

domain, I argue, the application of a hermeneutic approach by combining systematic observation of actions with accounting for the agent's intentions is the royal way to gain better understanding of didactic processes.

Music didactic research cannot directly improve practice, establish causal laws, or predict specific outcomes, but it can offer valuable insights into a human practice.

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SELF-INSTRUCTION AMONGST CHINESE HIP-HOP MUSICIANS: REFLECTIONS ON INFORMAL MUSIC LEARNING IN CHINA

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Abstract

Academic studies of music education in the subject of hip-hop have grown over the last several decades due to the genre's growing appeal among young people worldwide. In the Chinese context, hip-hop music was developed only in the last few years. Although experts in a variety of fields such as educational and musical areas have begun to pay more attention to hip-hop music in the last five years, there is almost no research on the learning patterns of hip-hop musicians in the Chinese context.

This study examined the musical learning experiences of eight Chinese hip-hop musicians by using semi-structured interviews to understand more about their learning styles, learning pathways, and attitudes to school music instruction. Outcomes suggested that Chinese hip-hop performers predominantly learned music through informal music learning practices, including listening, imitation, individual practice, and independent composition. Additionally, the research identified a positive and mutually reinforcing relationship between informal music education and music education in schools. Finally, the paper compares and evaluates the current findings with prior scholarship on informal music learning and school music education, and made recommendations for school music education and future academic research in the Chinese setting.

Keywords: *Hip-hop music, informal music learning, school music education*

Introduction

In spite of the worldwide popularity that hip hop music enjoys amongst young people, the idea that this style of music should be taught in schools as part of a music education has not been so widely accepted. As a result, hip-hop music has not yet been universally and formally integrated into compulsory school music education. As a result, students who enjoy working with hip-hop music as a genre, have mainly developed talents and acquired knowledge through informal music learning environments and methods (Hargreaves, Marshall & North, 2003). This paper examined and sought to better understand the informal music learning practices of hip-hop musicians within the Chinese context.

In comparison to more conventional musical genres, pop music is often regarded as being more rhythmic, lively, rustic in sound, and more relevant to daily life (Hu, 2018, Huang, 2020). Hip-hop, and in particular rap music, has received particular attention from mainstream society in recent years as a prominent form of expression. Known for its distinct rhythm and daring mode of self-expression, rap music is considered to be a favorite musical genre accounting for 55% of the Top 20 best-selling albums in the United States in 2019, with rapper Post Malone's *Hollywood's Bleeding* topping the list (BuzzAngle Music, 2019).

Guo (2018), argued that the lyrics of hip-hop music were rich in substance and able to reflect many social issues, and subsequently demonstrated the educational value of rap

music by practicing it in the classroom. The primary point argued here was that hip-hop music not only helped and encouraged students to improve their writing skills, but it also helped them to better understand black history (as cited in Anderson, 1993). Since this time, a number of further studies have argued for the benefits of incorporating hip-hop music into school music education through both theoretical study and practical teaching. However, this is not an argument that is universally accepted with authors such as Peteet et al. (2021), highlighting the fact that a percentage of contemporary music, particularly rap music, is saturated with negative messages regarding alcohol, cigarettes, and a range of illegal activities including suicide; an issue that is especially detrimental to teenage audiences. Certainly, since its inception, hip-hop has served as a vehicle for African American youth to vent their displeasure about their social status and their struggle for equal rights (Evans, 2019; Cai, 2020), and although society can be said to have evolved and many of the original political struggles and social injustices have been addressed, hip-hop music retains its rebellious nature. In some instances, this rebellion has evolved into an adolescent revolt against parental oppression and discipline (Liu, 2011). Developmentally, teens progress through a period of rapid increased self-awareness and role experimentation, and negatively charged music and rebellious lyrics can intensify their attitudes against parents and teachers, resulting in unpredictable behavior (Gu & Qiu, 2018). Hence, the topic of whether or not hip-hop music should be included in formal music education in schools remains open to discussion.

A similar issue was recognized in China with the debut of the first hip-hop internet variety show, *The Rap of China*, in 2017 attracting an audience of over 3 billion (Zhang, 2019) and an online survey by Wang (2018) found that teens made up 96.7% of the audience. Media responses to the show accentuated and exposed the private lives of the featured performers and their involvement in fighting, drug use and marital affairs resulting in authors such as Gu and Qiu (2018), arguing that involvement in hip hop impacted on healthy development and as a result, China's government tightened its censorship laws over around hip-hop music (Luo & Ming, 2020). In contrast, government officials also recognized that hip-hop music with positive content could effectively promote national programs and mainstream social ideals among young people (ibid.). In spite of the Chinese government's support for positive hip-hop, rap is still not yet officially incorporated into Chinese Music Education (Lv, 2019). Contrary to expectations, numerous youthful hip-hop musicians have arisen in recent years in China, with most young pop musicians being self-taught (Green, 2017; Kruse, 2018).

Given that most schools in China lack any formal means by which students can be taught hip-hop music, (Sullivan & Zhao, 2021), it is reasonable to believe that the majority of hip-hop musicians in China develop their musical skills through self-directed informal music learning practices that take place outside of schools or other formal educational institutions. Therefore, whilst research into pop musicians' formal and informal learning practices have been undertaken, there have been limited studies on music education specifically for hip-hop musicians. In particular, there is no published material discussing hip-hop musicians' musical learning approach in the Chinese setting. Therefore, this study aims to examine the ways and channels via which young Chinese rappers improve their abilities. The study was therefore designed to explore how Chinese hip-hop musicians learned their musical abilities, and to explore their attitudes towards formal educational settings.

Literature Review

In many countries more traditional teacher-centered pedagogies remain (Green, 2017). Lamont, Hargreaves, Marshall, and Tarrant (2003), found, for example, that the monotonous nature of school music's content and format frequently resulted in a misalignment between school music and students' interests (see also Kuang (2021). However, the rapid increase in technological advances has meant that children are no longer exposed to music exclusively in the music classroom. Students frequently employ the internet to find and listen to popular music genres, with an estimated 66% of teenagers reportedly listening to music on a regular basis using a wide range of media (Rideout, 2016 cited in Peteet et al., 2021). In turn, this has facilitated the growing interest in the role of informal learning in music education (Lill, 2015), with numerous scholars exploring ways to incorporate informal learning techniques into the classroom.

Viewed in contrast to informal learning (Yu & Mao, 2005; Liu, 2013), formal schooling has been viewed as having defined objectives and lesson plans, along with rigorous assessment leading to certification. Teaching and learning are seen as being largely homogeneous and primarily concerned with learning outcomes, with students seen as passive participants (Wright & Kanellopoulos, 2010; Jenkins, 2011; Wang, 2019). However, students' learning does not take place exclusively in the classroom; every aspect of their lives and every event and experience can in some way enhance their abilities, with some studies estimating that as much at 80% of the knowledge acquired during a person's lifetime, is gained through informal learning (Yang and Yu, 2010; Wang, 2017).

In China, formal music learning is typically based on acquiring knowledge of musical scores and reading notation to help pupils increase their theoretical understanding (Robinson, 2012). However, Green (2017) described informal music learning as "*different means of obtaining musical abilities and information outside of conventional educational settings*" (p.17) and identified how listening and copying recordings, composing and performing, peer-directed and group learning as three of the fundamental ways in which young popular musicians engage in informal music learning practices. Naturally, some researchers pointed out the limits of such an informal music learning mode. Jenkins (2011), for example, argued that learners can be constrained by the kind of music they pick and are less likely to generate informative and insightful musical compositions through listening and imitation. In other words, the quality of the music created in the informal music learning style is not always guaranteed, as generally, it tends to be simplistic and lack creativity. Furthermore, Yu and Mao (2005) pointed out that a peer-directed/group learning strategy can lead to the reception of inaccurate information or knowledge and it's spread among peers or/and groups. In the absence of experienced musicians or professional 'teachers', learners often do not have a criterion to assess whether the "knowledge" they are exposed to is correct in their informal music learning progress (Green, 2017).

However, with the advancement of internet technology and the global rise of online courses as a result of the Covid-19 pandemic (Alam, 2020), a wide range of music courses that more usually take place in formal learning venues are being uploaded onto various online video platforms, enabling learners to view many instructional videos recorded by experienced teachers via the internet (Wang, 2020). Therefore, given the contemporary social setting, some of the limits stated by scholars who have questioned informal music learning techniques may be no longer as prevalent as they were a decade ago.

Popular music in Chinese secondary school music curriculum

In 2001, the Chinese Government stated that music education should be based on students' interests and that quality music from beyond the school environment should be introduced into the classroom to stimulate students' enthusiasm for learning and performing (Ministry of Education of the People's Republic of China, 2001). It was only after this decision was made that popular music was formally included in school music classrooms (Hu, 2020), and although popular music has been included in China's compulsory school music education for two decades, it has not become a prominent curriculum element (Law & Ho, 2015). A study of 2,715 secondary school students carried out by Huang (2020), found that only 11.6 percent of students reported any kind of exposure to popular music. Similarly, Hu (2020) found that popular music accounted for only 7 percent of the total repertoire in secondary school music textbooks with most secondary students reporting significant levels of disinterest in learning school music as the popular songs that were included in their textbooks were too outdated or in something other than their preferred style.

Importantly, Gao (2011), commented that the majority of music teachers lacked a comprehensive knowledge of popular music; a significant factor that contributed to the ineffectiveness of popular music within the secondary school music classroom. Other studies have also noted that many secondary school music teachers are themselves only educated in classical music traditions (Lamont et al., 2003; Hu, 2020), and therefore due to a lack of knowledge and familiarity with popular music, many educators become significantly biased against popular musical genres (Law & Ho, 2015; Huang, 2020; Kuang, 2021; Luo & Geng, 2021). As a result, although pop music exists within the scope of school music education in China, its development in formal schooling is still limited.

Hip-hop music in education

Although since the 1990s some educators and practitioners have attempted to incorporate hip-hop music into school curricula (Hall, 2009), and some US universities have introduced hip-hop-related courses (Markarian, 2012), as previously noted, hip-hop has not been formally incorporated into school music programs due to the detrimental effects that hip-hop may have on the physical and mental development of young people. Yet in spite of the negative values often associated with hip-hop music, some authors have argued that a number of benefits are available from incorporating hip-hop music into school music programs and can be a good technique for expanding a range of student skills. For example, Karvelis (2018), altered and purified hip-hop songs that contained inappropriate vocabulary and information, and used these as an effective teaching resource. By analysing rap lyrics that reflect social issues and watching music videos, students were able to hear and discuss social perspectives from different ethnicities, social classes, and economic positions, thereby strengthening their critical thinking skills. Additionally, theoretical knowledge from traditional music classes can be effectively merged with hip-hop music by critically examining the rhythms and timbres in the videos in relation to the images within the video content (ibid). Evans' (2019) ethnographic survey of 30 African American youngsters participating in a music composition project at a Chicago primary school confirmed that music classes that blended formal and informal learning was beneficial at enhancing students' self-awareness and enthusiasm in music lessons while also increasing students' options for self-directed, customised learning.

However, as yet, hip-hop music appears to not be included in any Chinese school music curriculum. According to Lv's (2019) survey of the content of secondary school music textbooks, rap music is not covered in current music textbooks' popular music genres, in contrast to art and national music, which account for around 80% of the content of

music syllabuses. Notably, Ho's (2017) research of 6,780 Chinese secondary school students found hip-hop to be the third most popular style whilst traditional folk music and opera were ranked lowest. A fact that again highlights the discrepancy between music taught in schools and students' preferences clearly exists within Chinese music education.

One significant factor for hip-hop music's slow development in China is that the ideals represented in the lyrics and content can often contradict conventional societal standards (Guo, 2018; Luo & Ming, 2020). Add to this the negative behaviors of certain rappers (i.e., violence, drug addiction, and unorganized personal lives) are seen as representing a risk to the intellectual development and physical health of young people (Gu & Qiu, 2018; Sullivan & Zhao, 2021). Certainly, the Chinese authorities acted swiftly to remove and prohibit what they saw as low-quality songs, Luo and Ming (2020) argued that direct restriction of hip-hop music could actually encourage more young people to seek out and listen to music with warped values.

However, given the acknowledged popularity of hip hop amongst young people, the Chinese Government recognized its influence and educational usefulness (Sullivan & Zhao, 2021). As a consequence, government organizations began purifying, adapting and changing the lyrics of rap songs that did not align with mainstream society's values into positive, healthy content to inspire young people to strive for success and to promote mainstream social ideals. For example, a number of local police agencies combined hiphop elements and rhymed lyrics to create rap songs and music videos with propaganda aimed at promoting social harmony (Luo & Ming, 2020). Moreover, Liu (2014) observed that many Chinese rappers had begun to incorporate dialect into their hip-hop songs, which substantially aided the development of national confidence. However, despite the Chinese government and current scholars' rising acceptance of hip-hop music with positive content (Luo & Ming, 2020), it is still mainly excluded from the traditional music classroom, with the result that, young people who love rap music can only engage in informal self-learning outside of the classroom through the internet or discussion with their friends (Shao, 2017).

Informal music learning of hip-hop musicians

Although Green (2017) summarized the fundamental practices of informal music learning by popular musicians as listening, imitating/copying recordings, composing, performing, and peer-directed/group learning, her research sample was primarily composed of 'guitar-based pop and rock musicians, and therefore the study's practices and perspectives are not universally applicable to all genres of music learning situations. For example, hip-hop scholars dispute whether listening and copying/imitation can be used as a method of hip-hop learning. Hip-hop musicians in a study by Markarian, (2012) found their inspiration to write in the vocabulary and lyrics of other rappers in order to boost their songwriting ability and Söderman and Folkestad (2004), asserted that hiphop was more than a genre of music; it was an entire, unique culture and therefore hiphop musicians from diverse cultural backgrounds created music that reflected a variety of contemporary societal phenomena and therefore required different learning styles.

From this perspective, hip-hop lacks any form of historical or cultural context in China and so it is difficult to understand exactly how Chinese hip-hop musicians learn, develop and represent their own cultural context. Given the limited use of popular music in Chinese secondary school music classrooms, it would appear that students practically always have to acquire knowledge of hip-hop music outside of the classroom setting. In other words, the overwhelming majority of Chinese rap musicians are self-taught. However, this model of informal music learning is unclear in the Chinese context as

there is no current research that explicitly identifies the specific practices and channels through which individuals in China acquire knowledge and develop skills. Neither has scholarship discussed whether school music education in China contributes to hip-hop musicians' informal music learning.

Research Method

Eight hip-hop musicians, (seven males and one female), residing in mainland China and ranging in age from 18 to 26 years old, were interviewed. The interview schedule was adapted from Green's (2017) interview schedule. It was then piloted and following an appropriate reliability check, a number of questions and translations were modified for increased levels of clarity. The participants were selected through purposive sampling. All participants were musicians with substantial hip-hop learning experiences living in mainland China who were self-taught. All had previously uploaded their rap or hip-hop music to popular online, had spent at least two years studying hip-hop music, and had graduated from secondary schools on the Chinese mainland. The sample consisted of four amateur and four semi-professional musicians. Due to the respondents' geographic location, all interviews were performed either via Skype or Zoom. The average length of the interviews was 40 minutes. All interviews were recorded and later transcribed verbatim.

Interviews were conducted in Chinese and all transcriptions were translated using a standard cross translation model (Qin, Cui & Gao, 2023). Ethical approval for the research was given by the host university. The data was subsequently subjected to thematic analysis (Clarke & Braun, 2013). All transcripts were initially read several times in order to enable a number of initial ideas to be generated. Following an iterative process, we produced three main themes into which all data could be assigned, namely a) the process of informal music education among hip-hop musicians, b) Attitudes of Chinese hip-hop musicians towards formal music education and learning, and c) other required abilities and issues.

Findings

Theme One*: The process of informal music education amongst hip-hop musicians*

With the exception of one participant, who had previously attended a professional music education institution for training during the final stage of their education in hip-hop, all participants reported being self-taught by watching instructional videos on online video platforms. Most of the musicians reported that their preferred way of learning was to watch and 'study' online videos of professional rap musicians and then develop and build on that experience. They expressed a willingness, and stressed the importance of uploading and sharing early versions of their compositions with friends/others within the internet community and recognised the importance of gaining feedback from a *'knowledgeable other' rapper*.

The precise purpose of this sharing to obtain feedback was seen as being important, interesting and varied, but overall, their responses could be allocated to one or more of three categories. First, the suggestions they received from other 'rappers' on how to change or develop their compositions, were frequently tested and then selectively adapted in order to modify their original version. This process enabled them to adopt and adapt the various suggestions and to make the piece 'their own'. That is, through this feedback process, each rapper was able to become increasingly aware of the 'patternings' (Meyer, 1989), within the rap that were distinctive to themselves and to their own original style of composition. As Storr (1960) would argue, it was the knowledge of what others would do that enabled them to better explore and

understand those aspects that made them different. As CC and Zc stated, only musical compositions with a deep connection to the authors' real lives and the socio-cultural environment in which they live will garner widespread recognition in hip-hop communities.

"My music is real, it's about my life, my feelings, my experiences. Isn't keeping it real what hip-hop has always been about? If I write rap songs about drugs and violence, then that's not real hip-hop." (CC)

"But what you end up making has to be your own, it's not negotiable. That's hip-hop, you can't perform someone else' story." (Zc)

Secondly, feedback from others in the online community was also seen as a way identify the skills required to achieve a particular effect within the rap. That is, feedback was used as an opportunity to carry out a skills audit to identify additional areas of knowledge and skill to be developed. Third, the receiving of feedback carried with it the implication that each individual in turn would also contribute feedback to the music created by others, and therefore the musical learning became cumulative.

Thus, the ability to perceive and discriminate the stylistic elements within both their own music, and in the music of others, was honed by listening to the performances of a vast number of accomplished performers. All our participants reported how imitation was a necessary component of learning to rap and covering the music of prominent musicians was an important aspect of developing their own skills and subsequently building and developing their own unique style.

"I build my raps on my own...but I was told by a seasoned hip-hop artist that 'you find a rapper you like the most and listen to his music over and over again. Then try to imitate his style of singing and rapping. Learn from that and learn what's valuable, and then come up with your own thing - on your own". (Biaodi)

Theme Two: *Attitudes of Chinese hip-hop musicians towards formal music education and learning*

The majority of our respondents expressed the view that their experiences with school music classes were limited and that the teaching style and materials utilised in most classrooms in China were outdated and monotonous. As such, they had found all their music lessons to be uninteresting and of no personal use. Four of the musicians recalled how their opportunities for musical experiences at school were frequently substituted for other academic courses, with language learning, mathematics and science being seen as far more important and music tended to be regarded as a subject that was of no real importance, or of benefit to their future personal or working life. One musician reported attending a school that refused to include music on the curriculum.

"I have never had a full semester of music classes. ...music lessons were always taken up by other subjects, especially towards the end of the term.

The lessons were taught in a very traditional, we were told by the teacher what to learn and what to sing, and to be honest, I found music class so boring." (Tiger)

"I only had music lessons in primary school, but I didn't learn anything useful. ......sometimes when she (the music teacher) didn't think the syllabus made sense, she just changed the class to self-study, and she allowed us to do homework for other subjects or whatever." (Zc)

Although the majority of participants reported being taught some basic music theory, (e.g., names of notes and pitches) they were never given the opportunity to apply this knowledge in any applied musical context and so this small amount of knowledge proved to be of little assistance in terms of their current musical products.

"The help was minimal. The teacher only taught me what notes should be in what tunes, but not how to put them together to make them sound better. …I didn't realise this until I started creating music and I had to go back and learn some music theory." (Chengye)

Other respondents who had encountered a similar shortage of basic music teaching argued strongly that music education should be taught using a 'bottom up' approach, as opposed to the more traditional 'top down' method. That is, pupils should be taught from the perspective of what they needed to know in order to compose and produce their own musical products, and not according to a set, traditional curriculum that prescribed the musical facts that needed to be learnt. Five of the respondents voiced a degree of frustration around the fact that they could now see (more accurately 'hear') more clearly exactly what musical knowledge they needed to know in order to improve their compositions, and yet they found it impossible to access appropriate teaching.

"I'm trying to teach myself how to arrange music… But it's really hard to learn on my own, I can't understand what the arrangement of notes means, I even want to find a professional teacher to guide me." (Zc)

Two respondents stated that whilst they whilst they had been able to teach themselves a range of musical skills through experimentation and internet sites, this had taken an inordinate amount of time whereas the same results could possibly have been achieved in a much shorter time period if access to a music theory teacher had been available.

One interesting aspect arising from the data was that although all our respondents reported mainly negative experiences of their school music education, they consistently indicated their support for including music education as part of a compulsory curriculum at both primary and secondary level. Regardless of their own experience of music and music education, respondents specifically believed music instruction in schools to be critical for developing pupils' interests and musical aesthetic skills, as well as for enhancing their future life.

"I have to admit that music lessons in schools are necessary. The arts are interconnected and even if you don't want to go into music in the future, learning about music can help with other artistic specialties. The music appreciation component of music classes also helps to improve students' own musicianship and appreciation of music." (D-One)

One respondent went further and claimed that he, and other members of his online Rap community actually regarded music education as being of more value to the individual child than their own music teachers.

When asked about their expectations for the future of school music education in China, both D-ONE and Biaodi both suggested that allowing students to choose the genre of music they were interested in is a key point in order to significantly enhance their interest in music learning and engagement in the music classroom.

"If teachers can share the different musical categories in the classroom, then maybe students can find the genre they identify with and then take the initiative to learn and understand that type of music." (Biaodi)

This technique would not only enable students to obtain a better understanding of various kinds of music, but could also encourage them to participate actively in the process of knowledge acquisition, in terms of learning more about the genre they are interested in.

Theme three: *Hip-hop values and other required abilities and issues*

All the musicians interviewed indicated support for the idea of incorporating hip-hop into school music curriculum. They believed that hip-hop music possesses an inherent educational value. For several of the interviewees, the ideologies conveyed by hiphop

(such as the courage to express one's true self and the determination to pursue one's dreams) are effective and enable students to nurture and develop their own personalities and their sense of self, as well as motivating them to overcome obstacles in their studies and lives in a positive way. Additionally, several participants believed that pupils who mastered hip-hop talents would have a broader range of work options in their future occupations.

"The key is to see how the teacher leads. Because the spirit of resistance in hip-hop music is still existent, in the beginning black youths were fighting for their rights and freedom. But in contemporary Chinese society there are no such social problems and the vast majority of people are living quite happily. So, this kind of resistance can be translated in a school setting to inspire children to fight against the difficulties of learning in order to achieve their goals, which is also a positive mindset." (Zc)

"Because most music teachers in schools are still stuck in their ways that refuse to accept such personalized music." (CC)

"But not all music teachers in Chinese schools know how to rap, and some of them may have a particular prejudice to think that hip-hop conveys rebellious and bad thoughts." (Biaodi)

Along with opportunities to develop musical abilities such as rhythm, and phasing, our participants overall agreed with Green (2017), that listening and copying recordings made by other hip-hop artists improved their levels of audiation and their informal music studies contributed to the development of a variety of derived abilities outside of the musical realm, including developing an ability to express themselves in different ways, and increased their vocabulary and overall language proficiency. They also agreed that hip-hop provided ample opportunities for developing their own compositions and opportunities to perform, with however, one key difference. Whereas in the more formal learning contexts they had personally experienced, composing and listening were seen as being distinct and subsequent parts of a stage process, the majority of our participants argued that in the case of hip-hop, the two processes occurred at more or less simultaneously. That is, whilst in more formal education settings, musical compositions are 'composed' or 'created', the 'performance' occurs as a separate entity, at a completely different time, chronologically and is often carried out by other musicians who attempt to portray/interpret the composition as close to the details represented in the score as is possible. However, in hip-hop, our participants argued that the composition and the performance tended to occur at more or less the same time and one could not take place without the other.

"Having written some of my own songs, I feel like I have become a lot more expressive. If you know me, you know that I'm a quiet person in real life. Rap is more like a safe place for me. I can be brave enough to express what I want to say through music, and I can also write songs when I'm down to let out my feelings." (Chengye)

"You have to compose as a performance - you cannot split the two things because composing is performing and performing is composing." (Zed eX eL)

However, participants also expressed a number of additional worries about the development of hip-hop music in school music education, considering the specificity of hip-hop music in the Chinese context and barriers to incorporating hip-hop into school music classes with the main issue being the rebellious nature of hip-hop misleading undiscerning children.

"As adults, we can make our own judgments and distinguish between lyrics and real life. However, children who are immature and lack judgment may not be interested in lyrics

that are full of principles. Maybe lyrics about drugs, sex, and money are more in line with their image of hip-hop." (D-ONE)

Although this was seen as a possible issue, participants also felt that an experienced teacher could resolve this issue and use this as additional teaching in good citizenship and also through exploring ways to express ideas and opinions in different ways by emphasising the clarity of the message but removing excess aggression. Similarly, participants in our sample rejected the arguments made by Jenkins (2011), that learners were frequently constrained by what was often perceived as a more simplistic style of music, and by Yu and Mao (2005) that peer-directed/group learning strategies led to the reception of inaccurate musical knowledge in the absence of experienced musicians or professional 'teachers'. The latter argument was emphatically rejected by virtue of the fact that members of the on-line learning community were in reality *"the most able and professional teachers"* by virtue of the fact that not only were they the most able and knowledgeable individuals in the style of hip-hop, but also and uniquely, a population of individuals who made their living through their hip-hop compositions.

Discussion

The large percentage of professional hip-hop musicians in our Chinese sample, developed their skills through informal music learning practices, initially by selecting music they identified with and linking up with others online. Echoing the findings from previous studies of informal music learning practices, (Markarian, 2012; Green, 2017) Chinese hip-hop artists repeatedly talked about self-directed learning as the most fundamental way in which they learned hip-hop music without a structured learning approach, or one individual, formal professional mentor. However, according to Kruse (2018), imitating earlier recordings violates "basic hip-hop norms", which refers to the need to keep the originality and personality of hip-hop music (p. 326). However, the hip-hop musicians in our study viewed listening and imitation as a means of honing their own musical abilities, and ensuring their originality. That is, the aim of listening and covering the music of other rappers was not to reproduce their work, but to perfect their own rapping capabilities, and also to identify ways in which they needed to be different and more original (Storr, 1960).

In addition, Kruse's hip-hop artists emphasized their uniqueness in their compositions, and highlighted the value of collaboration in order to boost their skills, our musicians showed a preference for creating music alone rather than cooperatively, placing a higher premium on self-expression in their creative work. It was noted that although musicians shared samples of their compositions with their internet community, the suggestions, criticism and advice they received was not necessarily fully adopted, in case their individual and unique style was affected, or as they termed it 'infected'. Hence, although collaboration was involved in process of learning, our musicians tended to "take comments from others on board selectively", which we argue in some ways is more in keeping with hip-hop's attitude of authenticity and self-expression.

Although all our participants stated that the music education, they had in school was insufficient to assist them in developing their talent for hip-hop, the musicians exhibited a desire for formal music education and a greater understanding of music theory. This could be attributable to the fact that, as Hess (2020) remarked, popular artists who primarily acquire knowledge through informal music learning practices realize that they need to study more about music theory in order to expand their musical skills. In this study, hip-hop musicians participating in post-production and musical arranging placed a premium on learning music theory under the direction of a master, with several of them acknowledging that without the guidance of experienced professionals on how

to learn and comprehend theoretical knowledge, they would have to invest additional time and effort to self-learn such musical knowledge. Hence, musical learning was seen by our participants as being most effective when the individual had a clear idea of what they wanted to learn, as opposed to being told what they should learn.

As previously stated, practically all of the hip-hop musicians in this study obtained knowledge and information about hip-hop music outside of the traditional educational setting through informal channels (i.e., searching for relevant music instructional videos on websites and/or communicating with peers). One key reason for this relates to the fact that the contemporary Chinese school music curricular does not include music which is popular with teenagers, in either the school books or instructional content (Ho, 2017; Lv, 2019). Three significant factors were identified from the interviews that provide possible reasons for limiting the inclusion of hip-hop music in school music lessons. First, some hip-hop lyrics include negative content relating to topics such as drugs, violence, and disruption of societal harmony. Add to this the flawed character of some individual rappers, and this is seen as setting a bad precedent for immature adolescents, inflicting them with physical and psychological harm (Gu & Qiu, 2018; Sullivan & Zhao, 2021). Second, our interviewees stated that music educators in compulsory education schools always lacked a thorough understanding of more popular styles and especially hip-hop music, an issue that resulted in a low degree of status and acceptability for the genre. This links with the argument that such a lack of knowledge can lead to a degree of bias towards music that is popular and beyond their knowledge (Law & Ho, 2015; Huang, 2020; Kuang, 2021).

However, as our participants experienced school music education in their role as a student, the outcomes are essentially presented from the perspective of the music learner rather than the educator. Thus, the argument advanced by Lamont et al. (2003) and Hu (2020) that the explanation for music teachers' lack of knowledge of popular music is that they are primarily exposed to classical music cannot necessarily be corroborated. However, this can possibly be linked to Kruse's (2018) view that music teachers need to keep their professional knowledge and skills up to date with music trends. Therefore, it can be inferred that school music teachers in China often lack attention to the current musical cultures and trends and constantly fail to develop and update their musical skills.

Although the musicians in this study lacked experience with official school music education, they all agreed all educators associated with music education should take formal school-based music education more seriously. They also emphasized the critical importance of school music education for children's physical and mental well-being but recommended shifting the format of the music classroom from the current teacher-led approach to one that is student-led, in which students are given more opportunity to learn their favorite genre of music. Additionally, considering the popularity of rap among the adolescent population, our participants recommended that music educators should take the chance to use hip-hop to model a positive mentality for young people, contributing to developing their individuality and self-awareness. This opinion is also shared by Markarian (2012) and Evans (2019) who argued that integrating localized hip-hop music (i.e., hip-hop songs that reflect the native culture and are composed in the native dialect) into the music classroom can not only increase students' classroom participation and enthusiasm for learning music but also facilitate the development of a sense of national self-confidence and cultural identity (Söderman & Folkestad, 2004; Liu, 2014). Although this point was not represented in the responses of the participants, this paper suggests that the benefits of 'localizing hip-hop' should be recognized by school music educators**.**

Conclusions

1. Within the context of China, this study conducted semi-structured interviews with eight Chinese hip-hop musicians with the aim of gaining a better understanding of their informal music learning strategies as well as their perspectives and attitudes about formal music education, which had been predominantly school-based. Drawing Green's (2017) summary for popular musicians' informal music learning practices and other academic research on how hip-hop musicians learn (Soderman & Folkestad, 2004; Markarian, 2012; Liu, 2014; Kruse, 2018), this study found a number of similarities and differences in informal music learning methods between hip-hop musicians and other popular musicians (primarily rock musicians). Like other popular musicians, the learning of hip-hop musicians in China generally occurred outside of the school environment. Our musicians were primarily self-taught through internet searches and watching relevant instructional videos rather than being guided by professionals or other experienced musicians in a structured and systematic way. They preferred to develop their skills by studying and practising independently, and were more concerned with the originality and authenticity of their music, and placed more emphasis on the expression of personal emotions and ideas in the process of songwriting.

2. We also found subtle differences between the findings of this study and previous studies on hip-hop music learning, which were mainly reflected in the musicians' learning process. Chinese hip-hop musicians generally considered imitating and covering other rappers' recordings to be an important process in their informal music learning. It both honed and sharpened their rapping skills and helped them to identify and develop their own unique style. By understanding what others did, or more importantly did not do, helped them to create their own distinct, individual style. They also argued that the acts of composing and performing where inter-dependent and simultaneous activities, that could not be separated chronologically. Thus, the ways and processes of informal music learning for Chinese hiphop artists could be best summarised as including: listening to, imitating and/or covering recordings, practising and composing alone, sharing or performing samples of their work with friends and seeking feedback, and selectively taking suggestions and perfecting them to create their unique individual style. Our musicians also felt that overall, music teachers in China did not take school music instruction seriously, as exemplified by ease with which music was frequently replaced by other academic subjects. Added to this was the outmoded content of music lessons, and the homogeneous teaching approach. While our musicians regretted their lack of greater access to music education in schools, they almost uniformly agreed that music education needed to be valued by educators given the way it could influence children's self-awareness and aesthetic abilities.

3. Hence, despite the pedagogical value and possible benefits of hip-hop music for young people, the practice of incorporating hip-hop music into

the school music classroom in the Chinese context has still to face numerous hurdles. First, some hip-hop music retains some characteristics that are incompatible with mainstream Chinese societal ideals. Second, most traditional music educators lack a thorough grasp of the genre, making it challenging to remove, or overcome prejudices and to update their musical experience and knowledge. Additionally, as with earlier studies on informal music learning among popular musicians (including hip-hop), this study's sample group was predominantly male. As a result, this study does not attempt to account for gender differences. Future research could investigate additional facets of this subject, such as how gender differences affect informal learning in hip-hop music and perceptions of formal music education, as well as additional musical roles not discussed in this paper (i.e., instrumentalists and DJs), in order to add variety and complexity to the scholarship on hip-hop music education. Finally, future research might examine feasible solutions to the hurdles to hip-hop music inclusion in school music classes identified in this study, with the goal of supporting hip-hop music development in China.

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DEVELOPMENT IN SONG TEACHING FROM THE SELF-REPORTED PERSPECTIVE OF PRE-SERVICE GENERALIST TEACHERS

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Abstract

Our study explores the in-situ practice of ten pre-service generalist teachers (PreGTs) and reconstructs their intentions, self-evaluations and self-judgments regarding their song leading in class. In this paper, we present the qualitative content analysis of the semi-structured questionnaires that the participants completed each year after the internships of their three-year training. The results show, for example, how their self-evaluations became increasingly grounded in the development of music knowledge and skills and how they articulate changes in their development. This study contributes to the understanding of the variety of individual teachers' intentions and attributions and their potential for change.

Keywords: *music education, song teaching, longitudinal study, semi-structured questionnaire, content analysis*

Introduction

In music education, singing is a key activity because through it, children acquire musico-linguistic rules, i.e., they diversify two generative systems between speaking and singing and collectively experience culturally shared rules (Stadler Elmer, 2015). Therefore, teaching songs and leading class singing is a central topic in music education research. Generalist teachers usually are in daily contact with children and therefore, they contribute to the regularity of their encounters with different disciplines. In the context of the institutional system in which they act, teachers are in charge to ensure the transmission of a variety of knowledge and skills, among these, the cultural practice of group singing.

The topic of professional development of generalists is highly important as it is the key position in the education system to enforce measures (Fündeling, 2022). The national and international contexts vary, and this might be since music education systems are normative and value-driven, therefore, require political decisions. Liao and Campbell

(2014, 2016) explored how pre-school generalist teachers teach songs through observations, interviews and field notes. They were among the first who studied directly in the field, whereas previously, research focused on generalist teachers' ill-pre-paredness for teaching music and on their lack of confidence (Hennessy, 2000, 2017; Jeanneret & Degraffenreid, 2012). Beyond such normative accounts, our research aims to gain knowledge on how pre-service teachers learn to teach songs in class, and, in this training process, how they reflect on their practice. In this paper, we focus on the perspectives of ten pre-service generalist teachers (PreGTs), on how they report on their experience of teaching songs in class during their training, and how they articulate changes in their development.

Our research team longitudinally explored the in-situ practice of pre-service generalists (PreGTs) to reconstruct their intentions, self-evaluations and self-judgments from the perspective of enacting subject-specific skills for leading class singing. To get an overview of the participants' professional development from different perspectives, our overall data collection consists of video-recorded lessons, lesson-based interviews and semi-structured questionnaires. In this paper, we answer our research question: *How do PreGTs report on their perspectives during the three-years training?*

We present and discuss the analysis of the semi-structured questionnaires we administered annually during the three-years professional training, each time after the annually video-recorded lessons and a lesson-based interview. We analysed the semi-structured questionnaires by means of the qualitative content analysis (Mayring, 2021).

In a recent study, Knigge et al. (2021) explored the status of singing in Norwegian kindergartens by an online questionnaire. The aim was to gain psychometric quality of the questionnaire for a future representative study with teachers in kindergartens to describe the situation and characterise institutions and teachers. Interestingly, their questionnaire also addressed didactical issues similar to our study, for instance, on how teachers were singing with the children, or what repertoire they use. Given the divergent aims of the quantitatively oriented study by Knigge and his team and of the present qualitative one, it is obvious that the first one focuses on general and personality factors in relation to the frequency of singing, all 'measured' by ordinal scales as rated by participants or by a selected item out of a predetermined set.

Knigge and his team (2021) conceptualise singing in kindergarten primarily in terms of self-reports based on rating frequency and other attributes, and in relation to factors such as gender, age, level of self-reported expertise, work experience etc. The factors are expected to explain the rated frequency of singing and related attributes. The respondents (n = 660) in the study by Knigge and his team (2021) confirm to sing often, but the self-reported 'musical expertise' remains vague since a common conceptual ground is missing. In contrast to this use of a questionnaire in a quantitative manner to describe national trends on the status of singing in kindergartens, we study a group of ten pre-service teachers over three years and observe their doings and sayings to gain insights into the complex phenomena of singing in kindergarten and elementary school. The aim is not to gain general statements about a population, but rather to improve understanding of the range of individual teachers' intentions and attributions, and their self-reported potentials for change.

The focus of our research is on how pre-service generalists (PreGTs) develop professional skills to teach songs and how they reflect on their practice. Our study on class singing is framed within the theoretical framework of the teacher-content-child didactic paradigm (Stadler Elmer, 2021; Schneuwly, 2021) and the cultural-historical activity theory (Engeström, 1987, 2001). In the next section, we first provide some information on overall data collection. This serves to understand the relevance of the

semi-structured questionnaire within the overarching goals of our research. Next, we describe the structure of the semi-structured questionnaire in detail and explain and justify the method of data analysis.

Data and Methods

Ten pre-service generalist teachers (PreGTs) participated in our three-year longitudinal project. All participants expressed their participation according to European and national ethics. In their training as generalists, the PreGTs participated in a music theory seminar in the first year, while in the second and third year they attended a song leading class seminar, and one-to-one lessons in both singing and instrument. During their curricular internships, we video-recorded one lesson per year during which the PreGTs taught songs and led group singing in kindergarten and primary school classes (4-8 years old). Following each lesson, we conducted an interview in which each PreGT watched the video of his/her lesson with us, and we required him/her to independently pause the recording to comment on their own in-situ practice. A few months after each lesson, we sent each PreGT the semi-structured questionnaire and asked them to fill in one or several parts of it. Table 1 shows that the semi-structured questionnaire includes open-ended questions and then a list of 15 subject-specific topics.

Table 1: Design of the semi-structured questionnaire for the longitudinal study on professional skills development for teaching songs and leading class singing

Semi-structured questionnaire design
Open-ended questions
Q1: What comes to your mind about the situation of the first/second/third lesson? What do you remember?
Q2: What pleasant memories do you have?
Q3: What unpleasant memories do you have?
Q4a: What did you do successfully? How do you explain your statements?
Q4b: What did you do unsuccessfully? How do you explain your statements?
Q5: What did you learn from this experience in terms of subject-specific topics?
Q6: How has your song leading changed so far?
Q7: What would you like to achieve in the next lesson?

Subject-specific topics	
1. Lesson preparation	9. Song-related interactions
2. Song selection	10. Performance of the whole song (alone or together)
3. Song acquisition (teacher)	11. Letting children sing on their own and giving feedback
4. Working on the melody	12. Giving a signal for singing together
5. Working on lyrics	13. Use of instruments
6. Working on rhythm - pulse and metre	14. Song accompaniment
7. Demonstrating parts (imitation)	15. Verbal instructions
8. Work on parts of the song	

Table 1 shows the total of seven open questions (Q1 to Q7). Each year the PreGTs answered the same questions from Q1 to Q5. We asked the PreGTs to answer questions Q6 and Q7 only in the second-year part of the semi-structured questionnaire. In addition, the part of the questionnaire that the PreGTs received after the third-year lesson contained a list of 15 different subject-specific topics. Our research team selected

these topics as shown in Table 1 based on musico-didactic considerations framed within our theoretical framework, e.g., children's song grammar and working on the three song components - melody, lyrics, and meter. We asked the PreGTs to comment on a minimum of four topics, and to do so three times for each year, for the first, second- and third-year lessons respectively. The total number of responses and comments from the ten questionnaires is 373.

We consider the questionnaire as a single documentation because each time the PreGTs received the questions, they also received their previously completed parts. The PreGTs could read the answers they had given for previous lessons, and this may have been significant in reflecting changes. In this article, we report on the analysis of these semi-structured questionnaires and reconstruct the PreGTs' perspective on the development of their professional skills to lead class singing.

To provide an overview of the professional development of the ten PreGTs, we analysed the semi-structured questionnaires using the qualitative content analysis method outlined by Mayring (2021). The method is hermeneutic in its nature and, consequently, we aimed to maintain the original verbatim and to make the interpretations and verbal abstractions comprehensible using the summarising technique with inductive category formation. The technique of summarising the content analysis consists of four steps that ensure the process is systematic: (a) reducing, (b) coding, (c) explaining and (d) structuring. The first step is (a) the reduction. Here, we paraphrased the original comments of the PreGTs by removing from the original verbatim everything that was not necessary for understanding the essence of the statements. We continued the reduction of the material by (b) coding the paraphrases. In parallel, we began to develop the system of (c) explanation consisting of an example from the original text material, the coding rules for assigning codes and sub-codes, and the definitions created for each category. In the last step, we proceed to (d) structure the codes and sub-codes assigned to the material to the categories that were developed step by step (Hürlimann & Savona, 2022).

The coding rules serve to perform the analysis as a team and ensure both intra- and inter-coder reliability. All five members of the research team worked on the analysis of the questionnaires. Figure 1 shows in its four quadrants how the work within the team was organised and how the tasks were distributed.

In Figure 1A shows the sequence of analysis of the questionnaires. This sequence was by chance, but it is important to fix it because this determined the way we developed the system with the anchoring examples, coding rules and category definitions. The PreGT Lily questionnaire was the first one. Figure 1A shows that researcher 1 coded eight out of ten questionnaires (In Figure 1A: Lily, Ruth, Laura, Florence, Martha, Sarah, and Viky). Researcher 1 is me as the first author of this article. Having completed the analysis of Viky's questionnaire, I passed the coding system I had developed on to one other team member, namely researcher 2 [2] (Figure 1B). Thereafter, I (researcher 1) and researcher 2 analysed Verena, Carmen and Lily's questionnaires separately (Figure 1B). Here it is noticeable that researcher 2 analysed Lily's questionnaire for the first time, while researcher 1 coded it for the second time. Thus, we obtained a first level of comparison between the coding of Lily's questionnaire at the beginning of the system development and the final coding after the analysis of all other questionnaires. Figure 1C shows that, at the end of this analysis, researcher 1 and researcher 2 compared their codings. The total number of answers and comments from the questionnaires of Verena, Carmen and Lily is 147 (out of the total of answers and comments = 373). So, 39.40 % of the total material was analysed twice, namely, separately by two researchers. The

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[2] Anna Elisa Hürlimann

reliability check resulted as follows: the consensus on the coding of the questionnaires of Verena, Carmen and Lily is 89.36 %, hence, the disagreement 10.64 %.

Figure 1: Summary of the intra- and inter-coder reliability of our research team's qualitative content analysis of the semi-structured questionnaires
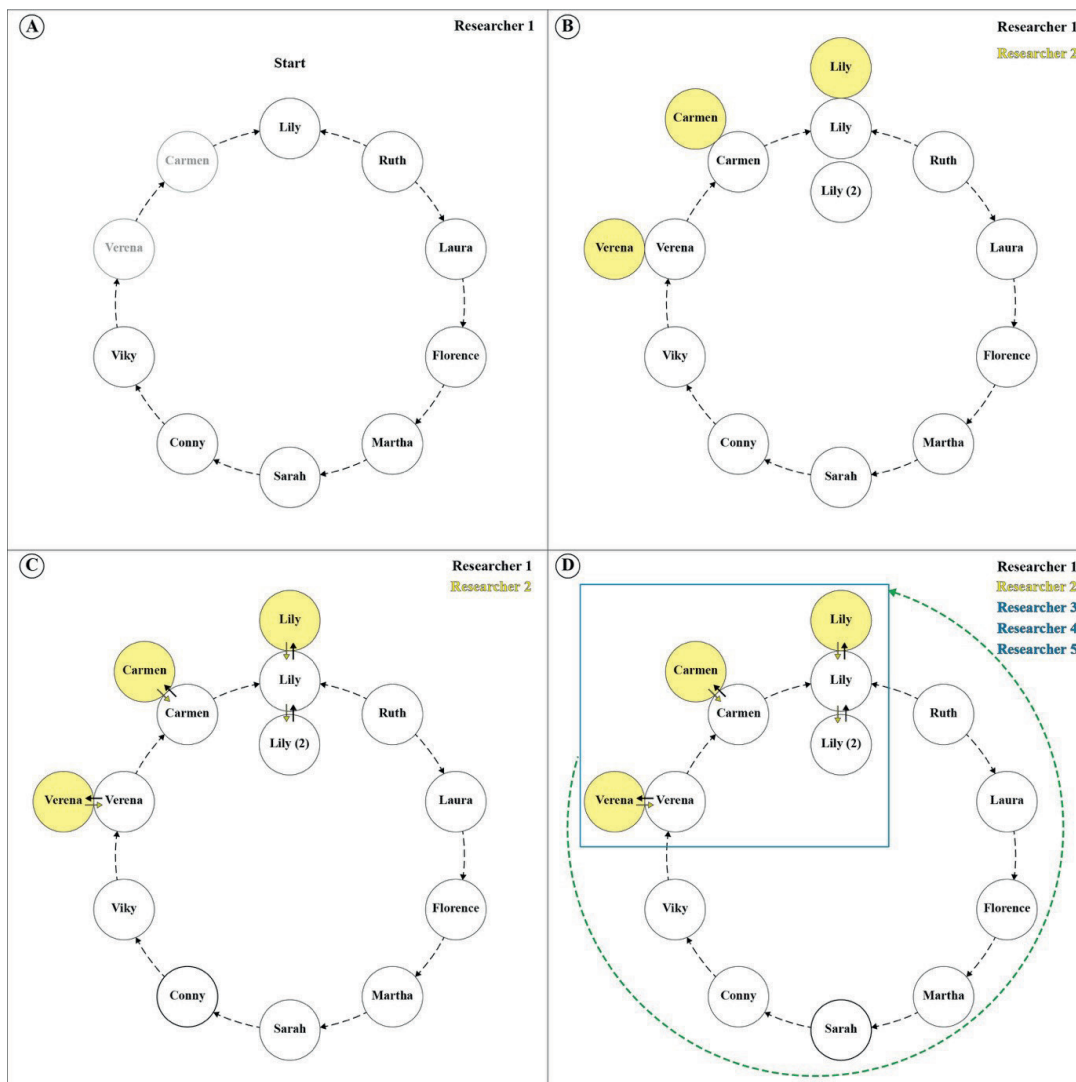
Figure 1D shows the last step of the collegial agreement check. Researcher 1 and researcher 2 discussed the results with the other team members[3]. Researchers 3, 4 and 5 (Figure 1) ensured consistency of analysis with respect to the system of anchor examples, guidelines and category definitions developed. In the next section, we present the results of our content analysis of the ten semi-structured questionnaires.

Results

In this section, we first present an overview of the categories developed from the analysis of the ten semi-structured questionnaires. Then, we show the results of the answers to each open-ended question and the comments on the specific topics that the PreGTs selected independently from the list provided. Table 2 shows that the qualitative content analysis generated a total of 25 overarching categories. In brackets, the figure indicates the number of times we have generated a certain category from the analysis.

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[3] Stefanie Stadler Elmer, Gabriella Cavasino and François Joliat.

Table 2: Overview of the 25 overarching categories developed from the qualitative content analysis of the semi-structured questionnaires

Enacting subject-specific skills (27)

Enacting subject-specific skills (8/27)
Song selection criteria (4/27)
Demonstrating and imitating (1/27)
Song segmentation (2/27)
Work on the lyrics (1/27)
Work on the melody (1/27)
Repetitions (1/27)
Working with semantic gestures (1/27)
Use of musical instruments (2/27)
Use of audio devices (1/27)
Singing starting pitch (1/27)
Start signal for singing (2/)
Teacher's performance (1/27)
Children's performance (1/27)

Tools (15)

Tools for the lesson (6/15)
Tools for the interactions (2/15)
Tools for song acquisition (1/15)
Tools for song acquisition (teacher) (1/15)
Tools for working on the lyrics (1/15)
Tools for demonstrating (1/15)
Tools for working on parts (1/15)
Tools for children to perform on their own (1/15)
Tools for performance (1/15)

Professional experience (10)

Working ways (6)

Ways of song acquisition (teacher) (1/6)
Ways of working on the melody (1/6)
Ways of working on the lyrics (1/6)
Ways of demonstrating (1/6)
Ways of working on parts (1/6)
Ways of performance (1/6)

Focus (5)

Focus during the lesson (2/6)
Focus during the performance (1/6)
Focus on the melody (1/6)
Focus on the lyrics (1/6)
Focus on rhythm (1/6)

Goals (5)

Goals for the lesson (1/5)
Goals of the preparation (1/5)
Goals of song selection (1/5)
Goals of the song-related interactions (1/5)
Goals of and for the performance (1/5)

Managing the situation (5)

Preparation (5)

Preparation time (1/5)

Co-leading (4)

Self-evaluation of co-leading (2/4)
Preparation for co-leading (1/4)
Performance during co-leading (1/4)

Difficulties (4)

Difficulties in song selection (1/4)
Difficulties in song acquisition (1/4)
Difficulties in letting the children sing alone (1/4)
Difficulties in accompanying (1/4)

Song acquisition (4)

Song acquisition (teacher) (3/4)
Song acquisition (children) (1/4)

Lesson planning (4)

Children singing along (3)

Motivating children (3)

Transmission (3)

Children's participation (2)

Conditions (2)

Conditions for children's independent performance (1/2)
Conditions for accompanying (1/2)

Parts of the lesson (2)

(Independent) interaction children-song (1)

Memories (1)

Personal benefit (1)

Rearrangements (1)

School level (1)

Unexpected events (1)

Undetermined or no professional benefit (1)

In Table 2, we can see that many of the 25 overarching categories have specific denominations. For example, we identified the category 'tools' 14 times in the analysis, but according to the research question, we distinguished the category with ten different terms, such as 'tools for the lesson' and 'tools for song acquisition'.

Before presenting the specific results for each question, in Figure 2 we show an example of how to read the tables presented in this section. To facilitate the understanding of the analysis and the discussion, we display the results of some questions in a comparative way. For example, in Table 4 we present the results of the analysis at Q1 *'What pleasant memories do you have?'*, and at Q2 *'What unpleasant memories do you have?'*. In Table 5 we present together the results of Q3 *'What would you do successfully? How do you explain your statements?'* and Q4 *'What did you do unsuccessfully? How do you explain your statements?'*. In Figure 2, we illustrate an example of how to read these tables with the results of two questions together.

Figure 2: Fictional example for reading the tables with the results of the qualitative content analysis of the semi-structured questionnaires
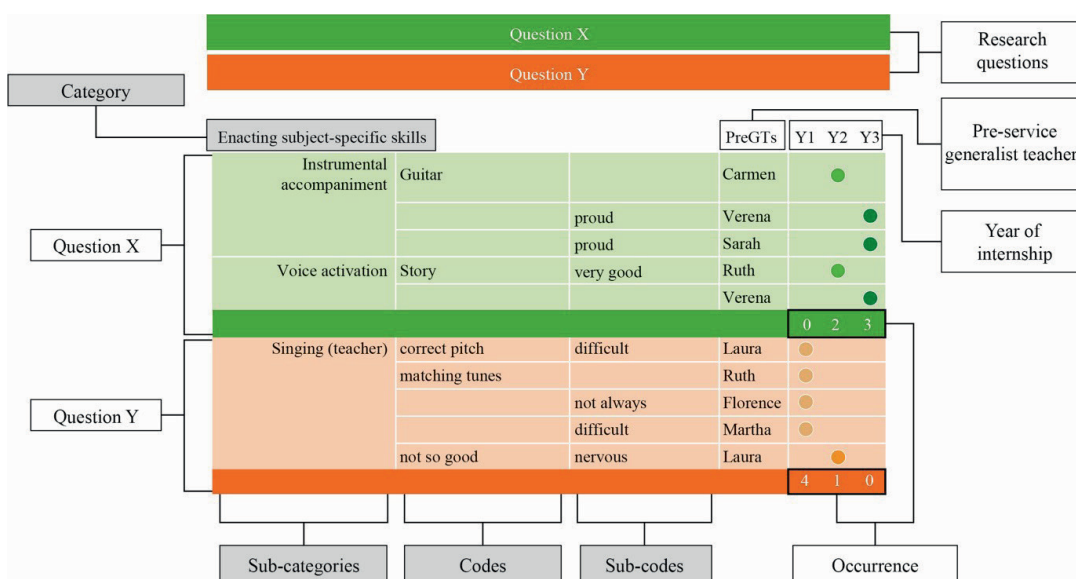
Figure 2 shows as a fictional example to illustrate the results of the answers to two questions QX (green) and QX (orange). The grey-coloured boxes show the categories, sub-categories, codes and sub-codes. Each table provides information on the PreGTs, the year of internship and the occurrence of the coding. We read the table by narratively reconstructing the coding hierarchy. The category indicates the general topic we have defined. Sub-categories indicate the specificity of the topic, while codes and sub-codes enrich the information with additional layers of detail.

The method of content analysis (Mayring, 2021) enabled the original material to be structured in a form that makes it possible to account for different levels: (a) at the level of the case studies, it shows the responses of the individual PreGTs; (b) at the level of the entire group of participants, it shows trends within the group, and (c) along the temporal scale of the three years, changes in in-situ practices during undergraduate teacher training can be reconstructed. We refer to the individual PreGTs by using the abbreviated wording Name-1, Name-2, and Name-3, where Name is respectively the pseudonym of the PreGT and 1, 2 and 3 indicate the year of internship. Expressions framed in inverted commas indicate categories we constructed, and also words we want to emphasise, whereas expressions framed with quotation marks indicate literal utterances by the PreGTs. The content analysis of the answers to Q1 *'What comes to your mind about the situation of the first/second/third lesson? What do you remember?'* shown in Table 3, produced 12 categories. The question was general and aimed to explore what memories the PreGTs had of their lesson done a few months earlier.

Table 3: Results of the content analysis of PreGTs' answers to Q

RQ1: What comes to your mind about the situation of the first / second / third lesson? What do you remember?

Enacting subject-specific skills

			PreGTs	Y1	Y2	Y3
Important things	forgotten		Lily	●		
Supervisor's suggestions			Sarah	●		
Playing (instrument)	tremble		Martha	●		
	first time		Florence		●	
	Accompaniment with chords	Orff instruments	Conny		●	
Singing (teacher)	not good		Conny	●		
	inhibited		Conny	●		
	singing on one syllable		Laura			●
	more confident		Florence			●
Seminar music didactic			Ruth		●	
Song selection	familiar song	old song	Ruth			●
	theme specific		Ruth			●
	Supervisor's suggestions		Ruth			●
Song acquisition	listening	very often	Florence			●
				5	3	8

Managing the situation

			PreGTs	Y1	Y2	Y3
agitated			Lily	●		
			Sarah	●		
			Viky	●		
uncomfortable			Florence	●		
nervous			Florence	●		
			Martha	●		
	less		Florence			●
	less		Sarah			●
	Needed to overcome		Conny	●		
particular	Unknown class		Martha		●	
	large group		Martha		●	
at best			Laura			●
in a good mood			Sarah			●
more relaxed	getting used to		Viky			●
				7	2	5

Tools for the lesson

			PreGTs	Y1	Y2	Y3
Pictures			Laura		●	
	Visualising the lyrics		Ruth	●		
	Visualising the lyrics		Sarah			
Objects	Sleigh	Staging	Sarah	●		●
	Figures		Sarah			●
	Dressing up	Staging	Verena	●		
	Snow (polystyrene)		Verena	●		
Audio devices	Playback (no target song)		Laura		●	
Musical instruments	Guitar		Florence		●	
free movements			Laura		●	
semantic gestures			Laura		●	
story			Verena		●	
				5	7	2

Children's engagement

			PreGTs	Y1	Y2	Y3
Fun			Viky	●		
			Laura			●
			Carmen		●	
very tired			Laura	●		
Joy			Ruth	●		
motivated			Lily		●	
			Sarah			●
	Bringing in own ideas		Verena			●
active			Verena		●	
	always		Carmen		●	●
	all children		Carmen			●
irritated	Research setting		Viky		●	
				3	5	5

Preparation

			PreGTs	Y1	Y2	Y3
very good			Lily	●		
much investment	early considerations	motivating children	Martha			●
				1	0	1

Professional experience

			PreGTs	Y1	Y2	Y3
Not so experienced	Important things		Lily	●		
			Martha	●		
			Laura	●		
	not so much		Lily	●		
several song introductions			Verena		●	
			Lily		●	
				4	2	0

Lesson planning

			PreGTs	Y1	Y2	Y3
do some things differently	very dry		Carmen	●		
	not child-friendly		Carmen	●		
much from the subject didactics seminar	Lack of playfulness		Conny			●
Teacher-centred			Conny			●
good	structured		Conny			●
	planned through		Conny			●
not so active	Too many children		Sarah		●	
	Teacher unknown to children		Sarah		●	
	classroom too small		Sarah		●	●
				3	3	4

Children's participation

			PreGTs	Y1	Y2	Y3
good			Laura	●	●	
not so good			Laura	●		
very good			Laura			●
energetic			Lily			●
				2	1	2

Self-evaluation of co-leading

			PreGTs	Y1	Y2	Y3
good			Martha		●	
			Sarah		●	
				0	2	0

Children singing along

			PreGTs	Y1	Y2	Y3
Notes not hit			Ruth	●		
sehr gut			Lily			●
				1	0	1

Unexpected events

			PreGTs	Y1	Y2	Y3
Song known (children)			Ruth	●		
				1	0	0

Ways of working

			PreGTs	Y1	Y2	Y3
Group work	semantic gestures		Verena		●	
Variations			Verena		●	
Repetitions	content of the verses		Carmen			●
	playful way		Carmen			●
				1	1	2

The PreGTs' memories were rather related to the emotional involvement of the children, as shown in the category 'children's engagement'. In general, in the first year, the PreGTs' interest was mainly oriented towards their initial work experience (see the coding of Lily, Martha and Laura in the category 'professional experience' the first year‿, or they focused on the way they dealt with the situation.

The most noticeable change between the categories is that the comments on subject-specific skills became more and more specific, and the third year PreGTs also focused on 'song acquisition' and 'song selection'. In 'singing (teacher)', Conny-1 commented that she was inhibited, and on the other side, Florence-3 commented that she remembered feeling more confident. There are only a few elements in this table that remain consistent over the three years. The only aspects of continued focus on some memories

of in-situ practice occur in Sarah-1 and Sarah-3 in the category 'tools for the lesson', where her focus was on the use of objects to enact the content of the lyrics.

In the category 'children engagement', there was consistency in Carmen-2 and Carmen-3's answers that the children were active during the lesson, and in Laura-1 and Laura-2's answers that they both evaluated the quality of the children's participation as "good". In the category 'ways of working', comments were coded from Verena and Carmen whose memories focused on the way they worked in a classroom (see Table 1).

Below, Table 4 shows the results of the answers to questions Q2 and Q3. With these questions, we aimed to obtain information regarding what were the pleasant and unpleasant moments for the PreGTs during the class singing lessons. This is a follow-up to the previous question, Q1, which was formulated in a general way to explore what the PreGTs remembered.

In Table 4, the results of the two compared analyses show that some categories consist only of comments of pleasant memories (in Table 4, green coding). These are the categories 'children singing along', 'self-evaluation of co-leading', 'preparation', 'tool for the lesson' and 'ways of working'. All other categories shown in Table 4 report both, comments to pleasant memories and comments to unpleasant memories (in the table, orange coding).

The category 'managing the situation' shows considerable changes over the three internships. The first year, the PreGTs commented and self-evaluated themselves on how they managed the situation in a mainly unpleasant and negative way. For example, "a torment", "nervous", "agitated", "not so good". Only Conny commented positively with "comfortable". In the second year, Carmen and Lily reported to have managed positively, Lily said that the class was "manageable" and Carmen that it was "relaxed" and that the lesson "run well". In the third year, comments were mainly positive, for example "comfortable", "not nervous", "not so worried anymore", and "confident feeling". We see an interesting change in Florence, who in the first year had commented "bad to hear oneself", in the second year "really bad to hear oneself", and in the third year "not so bad anymore". The "routine" code of Florence's comments shows that having more in-situ experience had contributed to her managing the situation differently.

In the category 'enacting subject-specific skills', Conny reported accompanying of the children with xylophones as a negative moment, self-evaluating her instruction. She had given the children "too many tunes" to play. In contrast, a pleasant memory for Conny was the way she used the xylophone herself to give the children the starting pitch of the song. The moment was pleasant for her because she had "found the correct tunes" to do this.

All PreGTs in the three years commented on the children's involvement in the lesson as a pleasant memory, for example, that the children were "enthusiastic", "motivated", and showed "joy" and "fun".

Table 1 already showed that the focus of the PreGTs' comments was more on themselves than on the children. In Table 4, we formed the category 'focus during the lesson' based on unpleasant memories only. For example, Martha-1 commented that it was an unpleasant memory that she focused only on herself. For Ruth-3, an unpleasant memory was the fact that she focused "only on some children" when they were "humming along" or when the children sang along. For Conny-3, it was unpleasant that she had focused only on "carrying on the leading". In the category 'lesson planning', Conny-3's unpleasant memory of a "teacher-centred" lesson is confirmed. Even in Q1, the generic one on lesson memories, Conny-3 had commented that lesson planning was "teacher-centred" and there was a "lack of playfulness" (see 'lesson planning' in Table 3).

Table 4: Results of the qualitative content analysis of PreGTs' answers to Q2 and Q3

| | Q2: What pleasant memories do you have? |
| Q3: What unpleasant memories do you have? |

Memories

Memories			PreGTs	Y1	Y2	Y3
(Only) pleasant			Verena		●	●
			Sarah			●
			Viky			●
			Carmen			●
			Ruth			●
	Reaserch setting	attractive for children	Lily			●
(Only) unpleasant			Carmen	●		●
				1	0	1

Managing the situation

Managing the situation			PreGTs	Y1	Y2	Y3
comfortable			Conny	●		
			Viky			●
manageable class			Lily		●	
run well			Carmen		●	
relaxed			Carmen		●	
not so bad anymore			Florence			●
routine			Florence			●
not nervous			Martha			●
confident feeling			Conny			●
not so worried any more			Conny			●
				1	3	6
Torment			Florence	●		
bad	to hear oneself		Florence	●		
	really		Florence		●	
	really		Laura		●	
nervous			Laura	●	●	
	unknown class		Florence		●	
agitated			Sarah	●		
not so good			Conny	●		
agitated	Research setting		Carmen			●
difficulty with the song			Carmen	●		
some unknown children			Martha		●	
				6	5	1

Enacting subject-specific skills

Enacting subject-specific skills			PreGTs	Y1	Y2	Y3
Song selection	successful		Ruth	●		
Playing (musical instrument)			Martha	●		
	no difficulty		Martha			●
Voice activation	Story		Ruth		●	
Singing (teacher)	good		Viky		●	
	good		Martha			●
Find the notes of the chord	correct		Conny		●	
Visualising the metre	pattern on the whiteboard		Conny		●	
Trying out new things			Laura			●
				2	4	3
Singing (teacher)	slightly unpleasant		Viky	●		
	no favourite activity		Florence		●	
Important things	not considered		Lily	●		
Accompaniment with chords	too many tunes given to the children		Conny		●	
Counting	forgotten		Lily	●		●
Working on parts of the song	Endings of the verses mixed up		Laura		●	
				2	3	1

Children's engagement

Children's engagement			PreGTs	Y1	Y2	Y3
motivated	semantic gestures		Verena	●		
			Lily	●		
			Carmen		●	
			Sarah			●
very enthusiastic			Lily	●		●
great engagement			Martha	●		
children liked it			Martha	●		
Fun			Ruth		●	●
			Laura		●	
			Viky		●	
			Verena			●
Joy			Ruth		●	
			Carmen		●	
			Viky			●
very enjoyed	different than with class teacher		Lily		●	
gave their best			Lily			●
active	very		Florence			●
			Carmen			●
				5	7	8
tired			Laura	●		
distracted	Research setting		Verena	●		
				2	0	0

Children's participation

Children's participation			PreGTs	Y1	Y2	Y3
very good			Laura	●	●	●
			Viky			●
good			Carmen		●	
			Ruth			●
given the best			Lily			●
				1	2	4
no longer right			Laura	●		

Parts of the lesson

Parts of the lesson			PreGTs	Y1	Y2	Y3
Beginning			Laura	●		
			Carmen			●
End			Carmen		●	
			Laura			●
				1	1	
Beginning			Viky	●	●	
				1	1	0

Focus during the lesson

Focus during the lesson			PreGTs	Y1	Y2	Y3
only on some children	Humming along		Ruth			●
	Sing along		Ruth			●
	End	Carrying on the leading	Conny			●
				0	0	3
	themselves		Martha	●		
Teacher-centred			Conny		●	
				3	1	0

Lesson planning

Lesson planning			PreGTs	Y1	Y2	Y3
consistent			Carmen			●
				0	0	1
not attractive			Verena	●		
difficult	unknown class		Sarah		●	
very unsettling	unknown class		Sarah		●	
				1	3	0

Children singing along

good		Ruth	●
		Conny	●
		Viky	●
very good		Sarah	●
		Laura	●
			3 1 1

Self-evaluation of co-leading

good		Martha	●
			0 1 0

Preparation

very good	Seminar music didactic	Martha	●
			0 0 1

Rearrangements

"Standard German instead of Swiss German"		Lily	●
Accompaniment with xylophones	not enough hits	Conny	●
			0 2 0

Tools for the lesson

Pictures	successful		Ruth	●
	worked well		Martha	● ●
Semantic gestures	Bringing in children's ideas		Verena	● ●
	Bringing in children's ideas		Laura	●
Musical instruments	Guitar		Martha	● ●
Audio devices	Playback (not target song)		Laura	●
Objects	Puppets (staging)		Sarah	●
	Cork	Children's spontaneous idea	Verena	●
Story	successful		Carmen	●
				4 3 4

Ways of working

Group work	good	Verena	●
			0 1 0

Professional experience

low		Lily	●
Insufficient knowledge		Ruth	●
First song leading lesson		Sarah	●
			3 0 0

Concerning the use of 'tools for the lesson', Table 4 shows a certain consistency among some PreGTs. For example, in Verena-1' and Verena-2's comments, semantic gestures were a pleasant memory for taking in and integrating the children's ideas. In Martha-2' and Martha-3's - the use of pictures that "worked well", and in Martha-1' and Martha-3's - the pleasant memories of using the guitar.

Some codings of the category 'professional experience' in Table 3 are reconfirmed in Table 4. For example, in Lily-1 with the code "not so experienced" in Q1 and the code "low" referring to her level of experience in the coding of the answer to Q3.

In the second and third year, no PreGTs commented on their professional experience as something unpleasant. Table 3 showed that Lily-2's generic memories included having carried out "several song introductions" (see Q1, Table 3). This shows a change between Lily-1 and Lily-2, as Lily had commented on her professional experience with "not so experienced" and "low" in the first year (see Q3, Table 4), whereas she reported that she had enriched her experiential background with other class singing lessons. This is descriptive information as Lily did not provide any self-evaluation on this. Below, we show Table 5 and describe the results of the analysis of the answers to questions Q4a and Q4b.

Q4a and Q4b were more specific as we asked PreGTs to remember, self-evaluate and justify successful or unsuccessful aspects of their lessons (see questionnaire design, Table 1). These are the categories 'ways of working', 'parts of the lesson', 'children singing along', 'lesson goals' and 'preparation'. In contrast, we formed the category 'focus during the lesson' from the analysis of comments on unsuccessful aspects only.

Ruth-1 and Ruth-2 show codings in the category 'focus during the lesson'. In Ruth-1's coding the focus was "only on some children" and in Ruth-2 "only on the lyrics". Ruth self-evaluated this aspect of her practice as unsuccessful. Moreover, this is a persistent aspect in her answers to the semi-structured questionnaire. The Q3 analysis had also shown that for Ruth-3, focusing "only on some children" while "humming along" or while they were "singing along" was an unpleasant memory (see category 'focus during the lesson', Table 4).

Here, the category 'enacting subject-specific skills' is the most significant one. It includes codings of the PreGTs who commented on actions and activities that are subject-specific skills as unsuccessful aspects of their lessons. Laura-1, Ruth-1, Florence-1 and Martha-1 self-evaluated their singing as unsuccessful (sub-category 'singing (teacher)', Table 5). Verena-1, Conny-1 and Laura-1 self-evaluated as unsuccessful the way they gave the signal to start singing or because they did not give the signal at all. Verena-3 and Lily-3

self-evaluated the way they counted before start singing as unsuccessful. This is shown by the codes "incorrect" and "not good" (Lily-3), and "unconfident" (Verena-3).

Table 5: Results of the qualitative content analysis of PreGTs' answers to Q4a and Q4b

Q4a: What did you do successfully? How do you explain your statements?

Q4b: What did you do unsuccessfully? How do you explain your statements?

Song acquisition (teacher)

			PreGTs	Y1	Y2	Y3
unknown song	entire	proud	Verena			●
listening	a thousand times		Florence		●	
				0	1	1
Song acquisition	not yet successful		Martha	●		
				1	0	0

Enacting subject-specific skills

			PreGTs	Y1	Y2	Y3
Instrumental accompaniment	Guitar		Carmen		●	
		proud	Verena			●
		proud	Sarah			●
Voice activation	Story	very good	Ruth	●		
			Verena			●
Working on the melody	good		Ruth		●	
Trying musical instruments	all children		Conny		●	
Pitch level			Viky	●		
Singing (teacher)			Florence			●
			Carmen	●		
Picking up the starting pitch	Guitar		Viky			●
many things			Conny			●
Simplification			Verena	●		●
				5	5	7
Singing (teacher)	correct pitch	difficoult	Laura	●		
	matching tunes		Ruth	●		
		not always	Florence	●		
		difficoult	Martha	●		
	not so good	nervous	Laura		●	
Start signal for singing	none		Verena	●		
			Laura		●	
	too little		Conny	●		
	signal not fixed		Conny		●	
Instrumental accompaniment	none		Verena	●		
Repetitions	poor		Ruth	●	●	
Singing together	difficult		Laura		●	●
Beginning together	unsuccessful	Children started first	Viky		●	
Counting	incorrect		Lily			●
	not good		Lily			●
	unconfident		Verena			●
Working on the melody	poor		Ruth			●
Song selection	to the own individual taste		Sarah			●
	only theme specific		Sarah			●
				8	5	7

Tools for the lesson

			PreGTs	Y1	Y2	Y3
semantic gestures			Verena	●		
	supplement pictures		Verena		●	
			Laura		●	
Objects	Sleigh	Attraction	Lily	●		
Audio devices	CD (not target song)		Laura		●	
Pictures			Martha		●	
	supplement semantic gestures		Lily		●	
			Laura		●	
			Ruth			●
Story	voice activation		Martha			●
	framing	second language children	Viky			●
				2	9	3
Audio devices	CD (target song)	fast	Verena	●		
			Laura			●
				0	1	1

Lesson planning

			PreGTs	Y1	Y2	Y3
Making a lot	little material		Viky			●
A lot packed in			Conny		●	
				0	1	1
Different new elements	too many		Viky	●		
Frame structure			Carmen	●		
	not active		Sarah		●	
	not engaging		Sarah		●	
				2	2	0

Managing the situation

			PreGTs	Y1	Y2	Y3
very confident			Lily		●	
motivated			Carmen			
satisfied			Martha			●
self-confidence			Sarah			●
				0	2	2
Class was loud	CD (target song)	fast	Conny		●	
chaotic	many unknown children		Martha		●	
				0	2	0

Song acquisition (children)

			PreGTs	Y1	Y2	Y3
successful			Lily	●		
			Martha			●
Text			Ruth	●		●
			Martha		●	
quite well by heart			Sarah		●	
				2	2	2
Children singing	different	known song	Martha	●		
	unsuccessful	not easy	Sarah			●
Rhythm	not always right		Viky		●	
				1	1	1

Children's engagement

			PreGTs	Y1	Y2	Y3
great			Martha	●		
Fun			Lily	●		
			Viky			●
Joy	Research setting		Lily		●	
motivated			Lily		●	
				2	2	1
Not joyful			Ruth	●		
			Conny			●
				1	0	1

Motivating children

			PreGTs	Y1	Y2	Y3
Bringing in children's ideas			Laura	●		
			Verena			●
		active	Lily			●
			Sarah	●		
simple song			Lily			●
Piano			Lily			●
good			Viky			●
Attentiveness			Ruth			
Semantic gestures			Laura			●
Objects	tissue paper		Laura			●
	"magic chair"		Martha			●
				3	0	7
not yet ideal		a lot of action	Conny	●		
Partially unsuccessful	only some children	Language barriers	Ruth			●
				1	0	1

Transmission

			PreGTs	Y1	Y2	Y3
Lyrics			Ruth	●		
	Objects	Pictures	Ruth			●
Perspective	Joy instead of didactic perfection		Conny			●
				1	0	2
Not joyful	inventing semantic gestures		Conny	●		
			Conny	●		
not appropriate for children	loud-soft		Carmen	●		
				3	0	0

Ways of working

			PreGTs	Y1	Y2	Y3
Group work			Verena		●	
	inventing semantic gestures	show to each other	Ruth		●	
		teach to each other	Ruth		●	
Variations	loud-soft		Carmen	●		
			Verena	●		
Repetitions			Florence	●		
				3	3	0

Parts of the lesson

			PreGTs	Y1	Y2	Y3
Beginning			Laura		●	
End			Martha	●	●	●
whole lesson	good		Ruth			●
				1	2	2

Children singing along

			PreGTs	Y1	Y2	Y3
successfull			Martha	●		
				1	0	0

Goals of the lesson

			PreGTs	Y1	Y2	Y3
achived			Martha	●		●
Formulation	clear		Lily		●	
				1	0	1

Preparation

			PreGTs	Y1	Y2	Y3
good			Carmen		●	
appropriate transitions	early considerations		Carmen			●
Contingency adaptations	early considerations		Carmen			●
				0	1	2

Focus during the lesson

			PreGTs	Y1	Y2	Y3
only on some children			Ruth	●		
not on the lyrics			Ruth		●	
				1	1	0

Other PreGTs self-evaluated as unsuccessful such aspects as not having accompanied on an instrument (Verena-1, Verena-2), not having worked on the melody (Ruth-3), and their criteria for song selection (Sarah-3). It is significant that the skills 'counting', 'working on the melody' and 'song selection' were only identified in the third-year comments and never in the first- and second-year comments. The category 'enacting subject-specific skills' also shows many skills successful as self-evaluated. These include 'instrumental accompaniment', of which Verena-3 and Sarah-3 were "proud" to have achieved this. In the first and second year, Verena had self-evaluated not having accompanied with the instrument as unsuccessful (In Table 5: Q4b, 'instrumental accompaniment', Verena-1 and Verena-2), but in the third year she commented on the first experience of enacting this successful competence.

Two significant changes in the coding of the category 'enacting specific-skills' concern the skills 'singing (teacher)' and 'working on the melody'. Florence self-evaluated 'singing (teacher)' in both the first and third year. Here, it is significant that for Florence-1 it was unsuccessful because she did not "always matched the tunes", while Florence-3 self-evaluated it as successful, without giving further details.

Table 4 shows that all comments referring to the use of 'tools for the lesson' were only pleasant memories (Q2). However, Table 5 shows that the use of some 'tools for the lesson' was self-evaluated as unsuccessful, i.e., the use of the audio device, commented by Verena-2 and Laura-3. Only Verena-2 justified this by adding that the CD recording was too "fast".

Table 5 shows that the focus of teachers' comments shifted from 'motivating children' to more specific skills, such as 'song acquisition'. The codings for the category 'song acquisitions (children)' are consistently distributed between the first, second and third year. Ruth and Martha self-evaluated the way the children acquired the lyrics as successful.

Among the categories in which comments were only coded as successful is 'ways of working'. The coding of answers to questions Q1, Q2 and Q4a showed significant considerable consistency in Verena's comments. The Q1 results on the general memories the PreGTs had of the lessons (Table 3), show that Verena-1 and Verena-2 commented on the variations and group work with semantic gestures. Table 4, showing the results of Q2, shows that group work was a pleasant memory for Verena. Finally, the results of Q4a, which are shown in Table 5, also confirm that group work was successful for Verena.

For the results of questions Q1 to Q4a and Q4b (Tables 1 to 5), we grouped all subject-specific skills as sub-categories with the category name 'enacting subject-specific skills'. With the analysis of the answers to question Q5, we refined the category system to structure the skills individually (compare Table 2 where the overall total coding of 'enacting subject-specific skills' is 27. Eight times used as an umbrella term and 19 times with individual naming of subject-specific skills). Table 6 shows that we developed 15 categories from the Q5 analysis. The categories 'professional experience', 'undetermined or no professional benefit' and 'personal benefit' summarise codings in which the subject-specific skill could not be identified.

We identified the 'song selection' category in the answers of three PreGTs, namely Carmen-1, Martha-3 and Sarah-3. In particular, Sarah-3 stated that she learnt that song selection should not be based only on "teachers' preferences" and consideration of "appropriate lyrics" for children, but rather on "song analysis". For Sarah-3, this is a "necessary" condition, since making "good considerations" about the characteristics of the song when selecting it ensures that the children can learn it.

In Table 6, the category 'teacher's performance' was never coded in the first-year lessons, whereas Ruth paid much attention to the self-evaluation of her performance of lyrics in the second and third year. Ruth concluded that presenting the lyrics "without playback" enabled the children to acquire it (Ruth-2), and in the third year she self-evaluated the same specific skill as "quite good" (Ruth-3).

Table 6: Results of the qualitative content analysis of PreGTs' answers to Q5

Q5: What did you learn from this lesson in terms of subject-specific skills?

Left panel:

Category			PreGTs	Y1	Y2	Y3
Song selection						
Expanding the repertoire	Seminar music didactic		Carmen	●		
unknown song	better	new for all children	Martha		●	
Not recommended	based on techers's preferences only		Sarah			●
	based on a appropriate lyrics only		Sarah			●
Song analysis	necessary		Sarah			●
good considerations	Ensuring song acquisition		Sarah			●
				1	1	4
Demonstrating and imitating						
effective			Lily	●		
speaking (teacher)	louder		Lily	●		
				2	0	0
Song segmentation						
Introduction of the verses	not all together		Lily	●		
				1	0	0
Work on the lyrics						
before working on the melody			Martha	●		●
Pictures	important		Laura		●	
Semantic gestures	important		Laura		●	
do not neglect			Ruth		●	
				1	3	1
Work on the melody						
after working on the lyrics	not all together		Martha	●		●
				1	0	1
Repetitions						
important			Martha	●		●
	Children's confidence		Lily		●	
	Children's unfolding	better	Lily		●	
				1	2	1
Working with semantic gestures						
important	Tool for the lesson		Viky	●		
	Tool for the lesson		Verena	●		
				2	0	0
Use of musical instruments						
Accompaniment	Piano	good	Ruth	●		
	Piano	good	Lily			●
motivates the children	very		Viky	●		
Guitar	Tool for the the lesson		Verena	●		
Focus on "beautiful" sounds	Production of chords		Conny		●	
Letting children make music	important	even if chaotic	Conny		●	
Picking up the starting pitch	important	encourage children	Viky			●
	spontaneous by the children	consequential playing	Viky			●
				4	2	3
Use of audio devices						
Playback (target song)	Yes	right melody	Ruth	●		
			Ruth			
	No	unstable melody		●		
				2	0	0

Right panel:

Category			PreGTs	Y1	Y2	Y3
Singing starting pitch						
longer	Allow all children to join in		Verena			●
	Can be combined with counting		Verena			●
				0	0	2
Start signal to sing						
important			Laura		●	
Agree on a signal with			Laura			●
the children	in advance		Conny		●	
				0	2	1
Teacher's performance						
Song acquisition (children)	Lyrics	better than with playback	Ruth		●	
	Lyrics	quite good	Ruth			●
Tools	Children's attentiveness		Ruth			●
Objects	Support	long term learning	Ruth			●
does not affect anything more			Florence			●
				0	1	4
Children's performance						
Children standing on chairs (children)	(more) exciting		Laura	●		
Group presentation	semantic gestures	more exciting	Laura	●		
				2	0	0
Motivating children						
Bringing in children's ideas			Verena	●		
Involving	active		Ruth		●	
	more	better	Conny			●
				1	1	1
Lesson planning						
End	let the song stay	"not continuing with	Conny	●		
Ideas for the beginning	Gestures	old song"	Viky		●	
	Mimic		Viky		●	
Many possibilities	playful planning		Verena		●	
Considering children's contribution	Bringing in own ideas		Carmen		●	
do not pack too much in	better	semantic gestures	Conny			●
Idea development	early preparation		Carmen			●
	enough time		Carmen			●
				1	4	3
Professional experience						
more aware	Seminar music didactic		Carmen	●		
				1	0	0
Undetermined or no professional benefit						
Teacher does not remember			Sarah	●	●	
not much			Florence		●	
nothing			Florence	●		
				2	2	0
Personal benefit						
Running the "show"			Florence		●	
very much			Florence			●
confidence	more		Florence			●
inhibition	smaller		Florence			●
				0	1	3

With "song analysis", Sarah-3 implicitly referred to the structural components of the song, defined by the categories 'working on the lyrics' and 'working on the melody'. Another component of the song is the meter, which is the common component of both music (melody) and text (lyrics). We identified the category 'working on the lyrics' in the comments of Martha-1 and Martha-3, Laura-2 and Ruth-2, while we identified the category 'working on the melody' only in Martha-1 and Martha-2. Altogether, we identified these categories in the answers of a few PreGTs (4/10 PreGTs) as specific competences of which they learnt at their lessons. However, it is even more significant

that only one PreGT (Martha) mentioned the competence 'working on the melody'. In this category, we coded Martha-1 and Martha-3 in the same way, i.e., that working on the melody "follows working on the text" in order not to work on "all together".

The categories 'use of musical instruments' and 'use of audio devices' show that five different teachers commented on the use of musical instruments over the three years while only Ruth commented on the use of audio devices. In terms of acquiring specific skills in using these tools, it is remarkable that Ruth stated that she learnt to distinguish when to use the CD, i.e., to use it if the melody of the original song is sung correctly and not to use it if she cannot provide the children with a correctly sung model of the song. Letting children use musical instruments is one of the specific skills Conny said she learnt in lessons. For Conny-2 this is important "even if chaotic". Conny-2 remembered letting the children produce chords with xylophones. In this regard, Conny-2 learnt that she should focus more on making the children produce a "beautiful sound". Viky-3 is the only one who reported having learnt to use the musical instrument to carry out a key action in song singing, namely, to play the starting pitch of the song in advance. Viky-3 found it important to encourage children to pick up the starting pitch directly at hearing it played on the guitar. She then stated that she learnt that playing the starting pitch consistently each time before singing, results in the children starting to sing it spontaneously and correctly.

Viky-3 reported on the starting pitch of the song played on an instrument, but PreGTs also stated they learnt "singing starting pitch". In this case, we refer to the starting pitch sung *a cappella*, without the support of a musical instrument. This skill was reported only by Verena-3. It is significant that both Viky and Verena stated that they learnt this skill commenting on the third-year lessons and that in the coding of the answers there is no statement about this skill in the first- and second-year lessons. Concerning the skill of giving the 'start signal to sing' (see category Table 6), Laura-2 stated that this is an "important" skill. Laura-3 said that she learned that the signal must be agreed on with the children. Likewise, Conny-2 had also stated the same but added that the signal must be agreed on "in advance". Table 6 shows the results of only one question, Q5. Below, Table 7 displays the comparison between the results of the answers to Q6 and Q7.

We asked the PreGTs to answer questions Q6 and Q7 only in the second-year part of the semi-structured questionnaire, in addition to questions Q1 to Q5 (see Table 1, section 2). In Table 7, we display the results of the analysis of Q6 and Q7 in side-by-side (Q6 on the left, Q7 on the right). This is because the two questions explore PreGTs' perspective on their own development in song leading in a complementary way, that is, regarding the goals already achieved and those yet to be achieved in the future. In Q6 'How have your song leading skills changed so far?' we intended to collect information on the PreGTs' self-reported changes after the second-year lessons. We expected them to report on changes they interpreted as goals they had already achieved. With Q7 'What would you like to achieve in the next lesson?' we intended to explore what goals the PreGTs still wanted to achieve in the third-year lesson which they might not have achieved in the first- and second-year lessons.

Table 7: Results of the qualitative content analysis of PreGTs' answers to Q6 and Q7

Q6: How have your song-leading skills changed so far?	Q7: What would you like to achive in the next lesson?

Managing the situation

Managing the situation			PreGTs
more confident			Lily
			Conny
			Viky
	Performance		Sarah
more direct			Lily
more self-confident			Viky
fear	less		Ruth
inhibition	less		Ruth
Primary level instead of kindergarten	less nervous		Martha
	successful		Martha
			10

Managing the situation			PreGTs
Perform confidently			Martha
Coming out of oneself	more		Lily
			2

Enacting subject-specific skills			PreGTs
Singing	difficulty	less	Ruth
	somewhat better	Seminar music didactic	Ruth
		Supervisor's suggestions	Ruth
	more joy		Florence
	hitting notes	not yet all	Florence
		supported through additional sing classes	Florence
	louder		Conny
	improved		Viky
Enacting ideas	Inputs collected	helpful	Laura
		engaging	Laura
	Seminar music didactic		Verena
	Seminar music didactic		Carmen
	Supervisor	worthwhile tips	Verena
	more		Verena
	more		Viky
			15

Enacting subject-specific skills			PreGTs
Instrumental accompaniment	various instruments		Lily
	Guitar		Verena
Start signal for singing			Laura
	counting		Ruth
	counting		Verena
	Signalling	good	Ruth
Work on the melody	more		Viky
Everything as correct as possible			Viky
			8

Professional experience			PreGTs
more			Viky
			Ruth
learned a lot	Seminar music didactic		Carmen
	own experience		Carmen
			4

Professional experience			PreGTs
Perspectives	Motivating children		Carmen
	undetermined		Florence
			2

Lesson planning			PreGTs
engaging	less nervous		Laura
	successful		Sarah
varied	successful		Sarah
			3

Transmission			PreGTs
Song selection			Martha
Semantic gestures			Verena
Singing on the chairs			Laura
Group presentation			Laura
			4

Motivating children			PreGTs
Joy	Singing		Ruth
	Singing		Conny
	Making music		Conny
			Lily
	semantic gestures		Ruth
	objects		Ruth
			6

Table 7 shows that the analysis of answers to the two Qs produced common categories, namely 'managing the situation', 'enacting subject-specific skills' and 'professional experience'. In contrast, Table 7 shows that the categories 'lesson planning' 'transmission' and 'motivating children' were only generated by the analysis of the answers to Q7. The changes that the PreGTs stated when answering question Q6 were about "confidence" with the situation. We have structured these comments within the category 'managing the situation'. This was the case for Lily, Conny, Vicky and Sarah, as shown in Table 7. Lily stated that she managed the situation in a "more direct" way, while Vicky reported being "more self-confident". Ruth stated that she had "less fear" and "less inhibition", while Martha said that she was "less nervous" when she taught at the primary school compared to when she taught at the pre-school. The results regarding Q7 show that changes in 'managing the situation' no longer were a main goal of the PreGTs for their last lesson. While 7 out of 10 PreGTs stated changes in 'managing the situation' in Q6, only Martha and Lily set goals in this regard for the third-year lesson. Respectively, Martha had the goal of "performing confidently" and Lily of "coming out of oneself".

In their responses to Q6, PreGTs reported changes in the category 'enacting subject-specific skills'. Respectively, Ruth stated that in her practice, singing is "less difficult", while Florence wrote "hitting notes" referring to her improvements in producing a stable and correct melody, although "not yet all". Florence added details about the reasons for the change. She independently decided to attend one-to-one singing lessons in addition to her lessons in her undergraduate professional training. Vicky self-evaluated the change in her singing as "improved". Regarding 'enacting ideas' what changed for Verena and Viky was that they had "more" ideas to enact. In addition, Verena specified that attending the music didactics seminar of her training programme helped her to collect ideas.

The category 'enacting subject-specific skills' for Q7 is varied. The PreGTs individually named skills that they did not mention in their answers to Q6. The goals they set themselves for their third internship lesson concern skills they have not yet experienced or skills they intend to further explore or improve.

In contrast to the skills 'singing' and 'enacting ideas' which we identified in the analysis of Q6, the skills named in the answers to Q7 look more sophisticated. By this we mean that, 'singing' is the core skill for song transmission and enacting ideas for transforming and adapting teaching content is an integral part of every teacher's practice, in every subject. The skills of 'instrumental accompaniment', giving the 'start signal for singing', and 'working on the melody', on the other hand, are specific to the singing practice. Their occurrence in the PreGTs' responses as goals set for the next lesson indicates the PreGTs' emerging professionalism. For example, 'working on the melody' is work focused on an individual song component that requires different skills than working on the lyrics.

The category 'professional experience' shows that Carmen has set the goal of motivating children in her future lessons. In their answers to Q7, Martha, Verena and Laura explicitly stated some of their third year 'goal for the lesson'. These are, for instance, the "group presentation" of the song and making the children sing while standing on chairs (Laura). In her comments, Laura did not explain why she had set these goals.

Table 7 concludes the presentation of the results regarding the answers to Qs 1 to 7. In the next section, we present the results of the analysis of the subject-specific topics that the PreGTs autonomously selected from the list we provided them with (see design of the semi-structured questionnaire, section 2). On each of the three times, we asked the PreGTs to select at least four topics from this list and comment on each, respectively

once for each year's lesson. We highlight that none of the PreGTs commented on topic 15, i.e., 'verbal instruction'.

In Table 8, we present the results of topic 1, 'lesson preparation'. Within this topic, we identified seven different categories. We structured the category 'song acquisition (teacher)' as a more specific component of the class singing lesson preparation. The coding only concerned Martha's comments that she had acquired the new song by repeating it often and with the guitar.

Table 8: Results of the qualitative content analysis of the subject-specific topic 'lesson preparation'

Topic 1: Lesson preparation

Preparation		PreGTs	Y1	Y2	Y3
Important things	not so many ideas	Sarah	●		
according to your own thoughts		Martha	●		
Getting tips		Sarah	●		
detailed planning	worthwhile	Carmen		●	
structured		Carmen		●	
easy		Sarah			●
early preparation	good	Carmen			●
			3	2	2

Self-evaluation of own preparation		PreGTs	Y1	Y2	Y3
not good		Carmen	●		
better		Carmen		●	
good		Martha			●
very good		Carmen			●
detailed		Carmen			●
			1	1	3

Preparation time		PreGTs	Y1	Y2	Y3
long		Sarah	●		
Effort required	worthwhile	Martha			●
	not always possible	Martha			●
very good	more confident	Sarah			●
			1	0	3

Preparation for co-leading		PreGTs	Y1	Y2	Y3
Exchange		Martha		●	
Planning	good	Sarah		●	
Finding ideas		Sarah		●	
great help		Sarah		●	
			0	4	0

Song acquisition (teacher)		PreGTs	Y1	Y2	Y3
repeated often	unknown song	Martha	●		
Musical instruments	Guitar	Martha	●		
			2	0	0

Professional experience		PreGTs	Y1	Y2	Y3
none yet		Martha	●		
no input	before internship	Carmen	●		
			2	0	0

Preparation goals		PreGTs	Y1	Y2	Y3
Considerations	Ways of teaching	Carmen		●	
no input	Ways of learning	Carmen		●	
			0	2	0

The category 'preparation' consists of the PreGTs' comments on their general considerations. For example, Sarah-1 tried to collect ideas because she did not have many, while Martha-1 prepared according to her personal considerations. Carmen-3, considered the "detailed planning" to be "worthwhile" and that the lesson should be "structured". The preparation was self-evaluated by Carmen-1 as well as by Carmen-3. Whereas Carmen-1 self-evaluated her preparation as "not good", Carmen-3 self-evaluated it as "very good" and "detailed". In the category 'preparation', we see that Carmen-3 considered it as "good" in combination with "early". This could be the justification for the successful preparation of her third-year lesson. In the category 'preparation time', the most noticeable coding is that Martha-3 considered the effort required in terms of time to prepare the lesson "worthwhile". However, Martha-3 noted that to make such an effort is "not always possible". Below, Table 9 shows the results of topics 2 and 3 compared, i.e., 'song selection' and 'song acquisition'.

Topics 2 and 3 show some overlap between the categories we have identified. This can be justified by the fact that 'song selection' and 'song acquisition' occurred during the preparation and therefore the two topics crossed over when the PreGTs commented on them separately. The PreGTs commented on 'song acquisition' referring significantly also to the song selection.

In topic 2 'song selection', the most varied category is 'song selection criteria', where it is evident that the song selection was based on a theme in all three years. Ruth-1 reported that she selected a song she knew from her childhood, and Lily-1, selected a song to motivate the children. In the second and third year, the selection criteria were enriched by musico-linguistic considerations of the song. It is significant what we

identified in Verena-2's comments that both the lyrics, melody and language used in the song should be "simple", or according to Lily-2 and Lily-3, that they had taken into consideration the "short" length of the song. Compared to the selection of the song to motivate the children (Lily-1), in Lily-3, the criteria for song selection also involved the use of the piano to accompany and to create an atmosphere.

In the category 'self-evaluation of song selection', Martha-1 and Martha-2 self-evaluated as unsuccessful the selection of a song that the children already knew. For Martha, the reason for this 'failure' was the children's "powerful singing along". We interpret this self-evaluation as Martha's challenge to classroom management. The children sang powerfully because they already knew the song. In contrast, Martha-3 self-evaluated the song selection as a success and justified this self-evaluation by the fact that she had selected a song that the children did not know (topic 2, 'self-evaluation of song selection', Table 9). This Martha's comment on her third-year song selection can be interpreted as related to her previous experiences in her first- and second-year lessons.

The category 'difficulties of song selection' (topic 2, Table 9), shows that Martha-1 and Ruth-3, reported that when selecting the song, they considered that if it was "new" to them, it would also be difficult to learn it. Ruth-3 commented that to acquire the song "self-confidence was necessary". This is interesting if we consider that, in the category 'song selection criteria', both Ruth-1 and Ruth-2 stated that they selected a song they knew from their childhood.

In topic 3, that is 'song acquisition', we structured the category 'song selection' into two sub-categories: 'known song' and 'unknown song'. In her three internship lessons, Lily always selected a song she knew. However, Lily-3 also considered enacting another subject-specific skill she was developing, namely piano accompaniment. Lily-3 commented that she selected the song by sorting it from her piano repertoire. By 'known song' Lily-3 had presumably meant a song she knew because she had learned it in her instrumental lessons.

Regarding the selection of a 'known song' or 'unknown song', the coding of Verena-1's comments shows that the decision for the one or the other is related to class management as well. For Verena-1, selecting a song she knew was a way to offset her feeling "unconfident" in managing the class. Verena-2 also selected a song she knew previously, whereas Verena-3 selected an 'unknown song' and stated that she was "confident" to maintain the 'focus on classroom management'. In topic 3, we identified the use of different 'tools for song acquisition (teacher)', namely 'musical instruments', 'audio devices' and 'MuseScore'. Lily-1, Florence-1, and Florence-3 used *MuseScore* (MuseCore, n.d.) for song acquisition. This is a writing software that also enables audio playback for listening. The PreGTs had started their individual instrument lessons in the second training year. Already in the second year, Sarah used the guitar to acquire the song, while Florence and Verena did so for the first time in the third year. In Table 10, we present the results relating to three complementary topics: 'working on the melody', 'working on the lyrics' and 'working on the rhythm'.

Melody, lyrics and rhythm are three structural song components, and it is therefore important to consider how the PreGTs work on them separately. In Table 10, the topic 'working on the lyrics' was one of the most commented on. Both topics 4 and 5 display the categories 'ways of working on the melody' and 'ways of working on the lyrics' but no PreGT commented on 'working on the rhythm'. For the category 'professional experience', which is only coded for the topic 'working on the melody', Carmen-1 commented that she had not had any input into working on the melody yet, and Carmen-3 planned to consider this in the future.

Topic 'working on the lyrics' is the only one in which we developed the category 'tools for working on...'. This is significant since the PreGTs did not comment on the use of any tools for 'working on the melody' and 'working on the rhythm'. However, in the topic 'working on the rhythm', Carmen-2, stated that she let the children play. We coded this comment by Carmen with 'enacting subject-specific skills' because in fact, Carmen did not mention musical instruments as tools. The 'tools for working on the lyrics' are several. This category shows interesting changes between the tools used by the PreGTs in the first and second year, and those used in the third year, respectively pictures, drawings, and free movement, and then games (Florence-3), and the staging of the lyrics, e.g., with objects (Viky-3, Sarah, 3).

Table 9: Results of the qualitative content analysis of the subject-specific topics 'song selection' and 'song acquisition'

In the category 'ways of working on the lyrics', Laura stands out for commenting on all three years of working with demonstration. Viky worked on the lyrics with "repetitions" in both the first- and third-year lessons. Viky-1 self-evaluated the repetitions as "boring", while Viky-3 described them as "varied". We interpret these statements as a sign of change in Viky's practice. Repetitions are crucial for the children to acquire the song model, and the fact that Viky carried out them with variations is significant in terms of the strategies she developed to avoid the boredom in her first year.

Table 10: Results of the qualitative content analysis of the subject-specific topics 'working on the melody', 'working on the lyrics', and 'working on the rhythm'

Topic 4: Working on the melody

Focus on the melody

			PreGTs	Y1	Y2	Y3
not really			Carmen	●		
			Martha		●	
not much	Focus on lyrics instead		Carmen	●		
little	Focus on lyrics instead	mainly	Carmen		●	
taken into account			Carmen			●
				2	2	1

Enacting subject-specific skills

			PreGTs	Y1	Y2	Y3
Singing alone (teacher)	Pitch level	confident	Viky		●	
Pick up sound	always		Viky			●
	Encourage children		Viky			●
Simplification possibilities			Verena			●
Adaptation possibilities			Verena			●
				0	1	4

Ways of working on the melody

			PreGTs	Y1	Y2	Y3
Repetitions			Verena	●		
Variations	Voice use	variously	Verena	●		
Group work			Verena		●	
Children's ideas			Verena	●		
				3	1	0

Professional experience

			PreGTs	Y1	Y2	Y3
No input			Carmen	●		
Perspectives	Consider melody		Carmen			●
realistic realisation	Kindergarten		Viky		●	
				1	1	1

Self-evaluation of the work on the melody

			PreGTs	Y1	Y2	Y3
Realisation	good		Carmen			●
				0	0	1

Topic 5: Working on the lyrics

Tools for working on the lyrics

			PreGTs	Y1	Y2	Y3
Pictures			Conny	●		
			Laura			●
			Martha			●
	Memorisation		Martha		●	
	Visual support		Martha	●	●	
	Picture size	too small	Lily	●		
		large	Lily		●	●
	Visualisation		Lily	●		
	Thought support		Sarah		●	
	Support		Viky			●
Drawing			Florence	●	●	
free movements			Martha	●	●	●
semantic gestures			Sarah	●		
Games			Florence			●
Staging			Florence			●
			Viky			●
Objects	unforced	Sleigh	Sarah			●
	appropriate to level	Characters	Sarah			●
				7	6	10

Ways of working on the lyrics

			PreGTs	Y1	Y2	Y3
Repetitions	Creative design		Lily			●
		Consider melody	Lily			●
	Boring		Viky	●		
	Varied		Viky			●
	Memorisation		Lily		●	
Demonstration			Laura	●	●	●
				2	2	4

Enacting subject-specific skills

			PreGTs	Y1	Y2	Y3
Segmentation of the song	single verses		Laura	●		
			Laura		●	●
				1	1	1

Focus on the lyrics

			PreGTs	Y1	Y2	Y3
	little		Conny		●	
Priority on melody	solid		Martha			●
	strong		Sarah			●
				0	1	2

Children's engagement

			PreGTs	Y1	Y2	Y3
	fun		Viky			●
	maximises		Lily			●
				0	0	2

Self-evaluation of work on lyrics

			PreGTs	Y1	Y2	Y3
well thought out	single verses		Sarah	●		
				1	0	0

Topic 6: Working on rhythm

Focus on rhythm

			PreGTs	Y1	Y2	Y3
not strong			Conny	●		
strong			Conny		●	
				1	1	0

Transmission

			PreGTs	Y1	Y2	Y3
Music-making rather than singing			Conny		●	
				0	1	0

Enacting subject specific skills

			PreGTs	Y1	Y2	Y3
Let children play	Chords		Carmen		●	
Conducting	Arms movements	through work on the lyrics	Carmen			●
		visual aid	Viky			●
				0	1	2

In the category 'enacting subject-specific skills' of topic 5, 'working on the melody', Viky-2 reported that her pitch level was stable when singing with the children (Table 10). In the third year, Vicky reported on 'starting pitch to sing' as a skill to enact the work on the melody. She stated that she always played the starting pitch and encouraged the

children to sing it. Verena-3 reported on the possibilities of "adapting" and "simplifying" the melody.

The next Table 11 shows the results of topics 7 and 8, 'demonstrating parts' and 'working on parts of the song', respectively. These two topics are closely interconnected. For children to acquire the song, demonstrating it in parts and working on those parts individually are key skills in the formal song transmission. By 'parts' we mean two aspects of the song's musico-linguistic structure. Firstly, its three components - melody, lyrics and rhythm - as already shown in Table 10. Secondly, in terms of longer or shorter phrases also structured in terms of bars. Only Lily commented on topic 7 'demonstrating parts' in the second year, while only Ruth commented on topic 8 'working on parts of the song' for each year.

Topic 8 'working on parts of the song' shows that we only coded a different category from topic 7 'demonstrating parts', which is 'song segmentation'. Ruth-1 and Ruth-2 reported segmenting the song into verses. In Table 10, we had shown that we identified tools in the PreGTs' comments only in topic 5 'Working on the Lyrics'. The occurrence of these two categories for topics 7 and 8 suggests that the PreGTs referred to the demonstration and working on the parts of the song in terms of working on the lyrics and not the melody or rhythm. This is also evidenced when Lily-2 reported that she demonstrated parts of the song by "reciting words" (category 'ways of demonstrating parts', topic 7), while Ruth-2 and Ruth-3 reported that the children worked in groups with semantic gestures on the parts of the song (category 'ways of working on parts of the song', topic 8).

Table 11: Results of the qualitative content analysis of the subject-specific topics 'demonstrating parts' and 'working on parts of the songs'

Table 12 shows the results of the analysis of the particularly controversial topic 9 'Song-related Interactions'. Here, some PreGTs intended the children's independent interaction with the song, while others intended the overall dynamic teacher-song-child interaction.

The category '(independent) children-song interactions' is structured into two sub-categories, based on whether the PreGTs reported that there was an interaction or not. Thus, Table 12 shows that PreGTs reported skills such as 'bringing in ideas' (Laura-1 and Laura-2), and 'demonstrating-imitating singing' (Laura-3) to enact interactions. Lily-2 and Lily-3 let the children interact with physical contact with each other. Conny-1 let the children interact with with the song independently. The children played and interacted in pairs. In contrast, Conny-2 stated that there were no 'song-related

interactions' in the lesson. The interpretation of this statement is difficult following the controversial interpretations of this topic mentioned above. In the category 'tools for the interactions', some tools are the same as those we had coded in the answers to the open questions (Q1 to Q7), e.g., pictures, semantic gestures and objects. Here, Lily-3 justified the use of pictures for the interaction as support for the lyrics. Laura-1, Laura-2 and Laura-3 reported free movements as tools for interaction.

Table 12: Results of the qualitative content analysis of the subject-specific topic 'song-related interactions'

Topic 9: Song-related interactions

Tools for the interactions

			PreGTs	Y1	Y2	Y3
Pictures			Lily	●		
			Laura		●	●
	very much		Lily	●		
	Support of the lyrics		Lily			●
semantic gestures			Laura	●		●
			Lily	●		
			Carmen			●
	Support of the lyrics		Lily			●
	partly		Carmen	●		
	pupil-oriented		Lily			●
	Application controlled		Lily			●
free movements			Laura	●	●	●
			Viky			●
Objects	Sleigh		Conny	●		
	Sleigh	suitable	Carmen			●
audio devices	Playback (target song)		Laura		●	
				7	3	10

Goals of the song-related interactions

			PreGTs	Y1	Y2	Y3
Involving children	different ways	Song memorisation	Lily	●		
	active		Verena	●	●	
	active	important	Verena			●
	accepting children's ideas		Verena			●
successful	implementing children's ideas	Kindergarten level	Verena			●
	active involvement					●
	self-activation		Carmen	●		
Fun			Verena			●
				2	2	5

(Independent) interaction children-song

				PreGTs	Y1	Y2	Y3
Yes	many			Viky	●		
	Less is more			Viky	●		
	Listen			Laura	●		
	Bringing in ideas			Laura	●	●	
	Singing together			Laura	●		
		on a syllable		Laura			●
	Reciting together			Laura		●	
	Demonstrating-imitating singing			Laura			●
	Playing in pairs			Conny	●		
	Interacting in pairs			Conny	●		
	Distribution of roles			Conny			●
	Focus on lyrics	sematic gestures		Carmen	●		
	Group work	active		Verena			●
		Change tools		Verena			●
	Repetitions	lost focus		Lily			●
	Many changes	use only one tool		Lily			●
	Physical contact with each other			Lily		●	●
	self-activation	Children		Carmen			●
No				Conny			●
					8	9	4

Professional experience

				PreGTs	Y1	Y2	Y3
Small input	Seminar on music didactic			Carmen	●		
Inputs	Supervisor			Verena	●		
Perspectives	Creativity	no limit		Verena	●		
	Let the children stage the activity			Viky			●
	Using material	absolutely		Carmen			●
	Asking the children			Lily			●
					3	0	3

The category 'goals for song-related interactions' shows the relevance of involving the children in different ways. For example, this was a recurrent goal for Verena-1, Verena-2 and Verena-3 as they considered it "important" that the children were "active". The category 'professional experience' shows a noticeable difference between the first- and third-year comments. In the first year, Carmen and Verena's comments referred to the music didactic seminar (Carmen-1) and the supervisor (Verena-1), thus a professional experience related to the training. In the third year, Vicky's, Carmen's and Lily's perspectives refer to their future as in-service teachers and are more concrete, e.g. 'let the children stage the song' (Viky-3) and "absolutely use materials" (Carmen-3). The next table shows the results of the analysis on topics 10 and 11, 'performance of the whole song' and 'letting children sing alone and giving feedback' (see semi-structured questionnaire design, section 2). With these two topics, firstly, we aimed to explore how the PreGTs comment on the performance of the whole song because of the (assumed) previously organised work on the parts. Secondly, we wanted to explore how PreGTs comment on the essence of the class singing lessons, i.e., the successful transmission of the song as an abstract cultural model to the children.

The two topics in Table 13 have one category in common which is the use of tools. Comparing them, Ruth-1 stated that she "always" used an audio device (CD) for the

performance, while Martha-2 reported on her use of the guitar when she required the children to sing alone. Martha justified the use of the musical instrument as "more motivating than without instrument" and "more motivating than with CD". Furthermore, the regular use of musical instruments is a vision in her future as an in-service teacher (in Table 13, category 'professional experience', Martha-2).

Table 13: Results of the qualitative content analysis of the subject-specific topics 'performance of the whole song (alone or together)' and 'let children sing alone and giving feedback'

Topic 10: Performance of the whole song (alone or together)

Tools for performance			PreGTs	Y1	Y2	Y3
semantic gestures			Ruth	●	●	
			Verena		●	
			Laura			●
audio devices	Playback	always	Ruth	●		
Bringing in ideas (children)			Ruth	●	●	●
objects	Characters		Ruth			●
				3	3	3

Ways of performance			PreGTs	Y1	Y2	Y3
Group presentation			Ruth		●	●
			Verena		●	
	Gender division		Laura			●
Together (children and teacher)		always	Laura		●	●
			Verena		●	
Repetition	Characters		Ruth			●
				0	4	4

Goals of and for the performance			PreGTs	Y1	Y2	Y3
Putting parts of the song together			Ruth		●	
Stimulating the senses	visual		Verena		●	
	auditory		Verena		●	
	kinestetical		Verena		●	
				0	4	0

Managing the situation			PreGTs	Y1	Y2	Y3
Lost thread	mistakes	Trouble	Sarah	●		
Mistakes in singing	not bad		Sarah			●
Dealing with the children	more relaxed		Sarah			●
Being responsive to the children	better		Sarah			●
				1	0	3

Focus during the performance			PreGTs	Y1	Y2	Y3
not on the children			Sarah	●		
on the children	good		Sarah			●
on their own singing			Sarah	●		
				2	0	1

Performance during co-leading			PreGTs	Y1	Y2	Y3
Confidence	more		Sarah		●	
Focus on the children	better		Sarah		●	
Performing spontaneous ideas	better		Sarah		●	
				0	3	0

Topic 11: Let children sing alone and giving feedback

Tools for children to perform on their own			PreGTs	Y1	Y2	Y3
Musical instruments	Guitar	more motivating than without instrument	Martha		●	
		more motivating than with CD	Martha		●	
				0	2	0

Difficulties in letting the children sing alone			PreGTs	Y1	Y2	Y3
Target level	Kindergarten	needs support	Martha		●	
				0	1	0

Conditions for the children's independent performance			PreGTs	Y1	Y2	Y3
Song well practised			Martha		●	
				0	1	0

Enacting subject-specific skills			PreGTs	Y1	Y2	Y3
Playing	Guitar	more confident	Martha		●	
				0	1	0

Professional experience			PreGTs	Y1	Y2	Y3
Perspectives	Use of musical instruments	regularly when in-service	Martha		●	
				0	1	0

From the analysis, we developed two new categories. The one is 'difficulties in letting the children sing alone', which for Martha-2 depends on the target school level because kindergarten children "need support". The other category is 'conditions for the children's independent performance', which for Martha is that the song is "well-practiced".

In topic 10, the category 'managing the situation' shows a significant change in the comments of Sarah-1 and Sarah-3. At the first lesson, Sarah had difficulties because she made "mistakes" and "lost the thread", while at the second lesson she stated that the "mistakes while singing" were no longer "so bad" and that she dealt with the children in a more relaxed way. Ruth-2's statement "putting the parts of the song together" is significant in the category 'goals of and for the performance'. The category 'ways of performance' shows consistency in the "group presentation" in Ruth-1's and Ruth-3's comments.

The last two tables reporting the results of our study show the PreGTs' perspectives on 'give a signal for singing together' (topic 12), 'using instruments' (topic 13) and 'song accompaniment' (topic 14).

Table 14: Results of the qualitative content analysis of the subject-specific topic 'give a signal for singing together'

Topic 12: Give a signal for singing together

Start signal for singing			PreGTs	Y1	Y2	Y3
Yes			Florence			●
	by supervisor		Florence	●		
	almost never		Laura	●		
	little		Laura		●	
	partly		Laura			●
	counting		Ruth			●
No	unable		Ruth	●		
	ignored		Laura	●	●	
	forgotten		Laura			●
				4	2	4

Self-evaluation of the given start signal			PreGTs	Y1	Y2	Y3
successful	exactly given	listened attentively	Florence			●
	singing together		Florence			●
	children singing along	easy	Laura			●
unsuccessful	unconfident		Laura		●	
	not very clear		Laura		●	
	Children singing along	difficult	Ruth	●		
	Not loud enough	Children did not paying attention	Ruth			●
				1	2	4

Table 14 shows that only three PreGTs commented on topic 12: Florence, Laura and Ruth. Progresses or changes are obvious in each of them. Florence-3 self-evaluated her starting signal as a success because she gave it "exactly", while Ruth-3 still self-evaluated it as unsuccessful. Ruth-1 had not given the signal but noted that it was difficult for the children to sing along with her. Ruth-3 gave the signal by counting but stated that it was "not loud enough" and the children did not pay attention to it. Laura's self-evaluation from the second to the third year changed from unsuccessful to successful. Laura-2 felt "unconfident" and the signal was "not very clear", whereas Laura-3 found that it was "easy" for the children to sing along with her because of the given signal. For Laura, the frequency of giving signals increased every year: from "almost never", to "little", to "partly". Laura-1 and Laura-2 stated that they did not give the signal because they had "ignored" it, whereas Laura-3 said that she had "forgotten" it. Florence-1 reported that the signal to sing together was given by her tutor, but this changed for Florence-3 because she gave the signal herself.

Next Table (15) shows the results of the analysis of the comments to topics 13 and 14. We distinguished the topics with two designations. By 'use of instruments' we intended to explore the use of instruments more generally, e.g., when they are used by children. With the topic 'song accompaniment', we intended to explore how PreGTs comment on this specific competence of using musical instruments in class singing.

In topic 13, 'use of instruments', the PreGTs commented on when and how they used instruments (Table 15). However, they never commented if and how the children used them. The skill of 'accompanying' was also mentioned in topic 13. For example, Martha accompanied the song with the guitar in all three years. Moreover, she stated that accompanying the song with the guitar motivates the children more than using the CD and singing *a cappella*.

The way Martha managed enacting this new skill changed over the three years. Martha-1 stated that she was "nervous" because she did not know the class, while Martha-3 stated that she was "very confident". Verena did not use musical instruments in her first- and second-year lessons because she felt not "confident" to maintain the focus on the class and group work. However, Verena-3 used the instrument for the first time and successfully self-evaluated it because she was able to focus on the class as well.

The category 'professional experience' shows significant changes in Carmen's comments: "little", "never", "more experienced" and "much experienced". Carmen 1 only had experience in one-to-one instrument lessons, and in internship lessons, she had never sung with children or used the guitar. Carmen-2 had continued with individual instrument lessons and had used the instrument in class singing internships. Carmen-3 then stated that it was "easy" for her to use the instrument

Table 15: Results of the qualitative content analysis of the subject-specific topic 'use of instruments' and 'song accompaniment'

Topic 13: Use of instruments

Use of musical instruments

				PreGTs	Y1	Y2	Y3
Yes	Piano	Supervisor		Florence	●		
	Guitar			Florence		●	
		Accompany		Martha	●	●	
		Accompany		Martha			●
		Accompany	more motivating than with CD	Martha			●
		Accompany	more motivating than without instrument	Martha			●
		Accompany		Verena			●
		Accompany	positive memory	Carmen		●	
			easier	Carmen			●
			successfull	Focus on the class as well	Verena			●
No				Carmen	●		
				Florence			●
	No self-confidence	Focus on the class		Verena	●		
		Focus on group work		Verena		●	
					4	4	7

Professional experience

			PreGTs	Y1	Y2	Y3
little	Instrumental lessons only		Carmen	●		
never	sang with children		Carmen	●		
	used the guitar		Carmen	●		
more experience	Continuation	Instrumental lessons	Carmen		●	
more experience	Continuation	Internship	Carmen		●	
much experience	easy use		Carmen			●
	first in college		Martha	●		
not often	play		Conny		●	
Perspectives	Use of musical instruments	more fun	Carmen			●
				4	3	2

Managing the situation

			PreGTs	Y1	Y2	Y3
nervous	Impression of the children	not noticed	Martha	●		
playful			Martha	●		
not comfortable	Framework conditions	Unknown class	Martha	●		
confident	very		Martha			●
				3	0	1

Topic 14: Song accompaniment

Conditions for accompanying

			PreGTs	Y1	Y2	Y3
Singing (teacher)	without any difficulties		Carmen		●	
	always the same (stable)		Carmen		●	
Self-confidence	play		Carmen		●	
	Lyrics		Carmen		●	
	Melody		Carmen		●	
				0	5	0

Difficulties in accompanying

			PreGTs	Y1	Y2	Y3
Continuing the singing	wrongly played		Carmen		●	
Song acquisition	difficult as a amateur		Conny		●	
Working with gestures	Conducting	simultaneously	Conny		●	
				0	3	0

Professional experience

			PreGTs	Y1	Y2	Y3
Perspectives	Use in own kindergarten	regularly	Martha			●
Use of musical instruments	more fun		Carmen			●
				0	0	2

Topic 14, 'song accompaniment' shows that we developed two distinctly new categories compared to topic 13. These are 'conditions for accompanying' and 'difficulties for accompanying'. Here, Carmen-2's comments stand out because she mentions that the condition for accompanying consists of "confidence" about three skills acting simultaneously: confidence about lyrics, melody, and playing.

In the category 'difficulties in accompanying', Conny-2's comments on her difficulty in acquiring accompaniment stand out because she called herself an amateur. Here, it is significant that she expresses implicitly her conception of song accompaniment to be a highly professional skill of specialists. Conny-2 also stated that her difficulty was to demonstrate gestures simultaneously using the instrument. In this comment she mentioned the specific skill of giving a signal to start singing by using the technical term "directing". In the next section we discuss some key aspects of the results presented in the tables above.

Discussion and Conclusions

In this final section, we discuss the results of the qualitative content analysis of the semi-structured questionnaires and draw some general conclusions. The semi-structured questionnaires the PreGTs completed three times during their training allow us to answer the research question: How do PreGTs report on their song teaching practice during the three-years training? Having analysed their verbatim statements in the questionnaires as a team by following the systematic procedure, proposed by Mayring (2021), we are convinced that the results provide a unique richness into the topics that

arose during the three-year training as a generalist teacher. Our content analyses add an abstract level to the many topics, once, by accounting for the individual persons, then, for the topic's temporal aspects during the training, and last, the didactic context regarding the teacher-object-learner dynamics. Analyses showed that the PreGTs' comments in the first year were mainly focused on their lack of experience, whereas in the second and third year, musico-didactic considerations of practice and long-term priorities and goals started to emerge. In the following, we discuss five key points of the results of our analysis in relation to the theoretical framework of our study, i.e. didactics and activity theory.

1. Over the three-year training programme, the PreGTs' perspectives on the successful and unsuccessful implementation of their actions changed from a oneway linear dimension to the poly-directional, triangular dimension of the teacher-content-child didactic paradigm (Schneuwly, 2021). In first-year lessons, some PreGTs self-evaluated their practice based on the normative context of their training, i.e., they almost rote-implemented the procedures they were learning without taking into account the children's response. On the other hand, other PreGTs self-evaluated the successful or unsuccessful implementation of their skills with respect to the children's emotional states only, e.g., "fun", "joy". This means that the transmission of songs was 'adaptive' from an emotional and social point of view, but not yet from the point of view of the extemporaneous musico-didactic evaluation. This changed in the second and third lessons where the PreGTs increasingly related the self-evaluation of their actions to the self-evaluation of the children's response and achievement in terms of musico-didactic criteria. The goal Viky-2 set for her third-year lesson, namely "to do everything as correctly as possible", exemplifies the prototypical acting of PreGTs in the normative context in which cultural transmission takes place. We interpret this statement both in terms of musico-didactic 'correctness' and

    'well-formedness' (Merker, 2009), framed for example, in the rules of the grammar of children's songs (Stadler Elmer, 2015), and in terms of 'adoption and adaptation' of the expectations of the training programme (Güsewell et al., 2016).

2. Our analyses showed that PreGTs tended to self-evaluate their practice more critically and negatively in the third year. This is a remarkable aspect of skill development as the PreGTs' self-evaluations were increasingly grounded on musico-didactic knowledge they were acquiring. For example, Ruth had self-assessed her 'work on melody' as "good" in the second year and "poor" in the third. What, if Ruth had self-evaluated this event in the other way round, i.e., "poor" in the second year and "good" in the third? Presumably, at first sight, we would have interpreted her self-evaluation as an improvement in quality year by year. However, based also on further data collected in our project (video-recorded lessons), we interpret this type of self-evaluation in a different way. In the second-year lesson, Ruth's musico-didactic skills were not yet developed enough to allow her to critically evaluate melody work on a well-founded basis. We interpret her "good" self-evaluation of 'work on the melody' in the second year in terms of having provided enough repetitions of the song model to the children. Whereas we interpret her "poor" evaluation in the third year as a sign of musico-teaching skills and knowledge Ruth had developed over the three years.

3. During the analysis, we paid close attention to the language used by the PreGTs when commenting on their practice. This was sometimes essential in interpreting their statements. For example, many PreGTs, in the first and second year, did not properly use "melody" as a technical term when they reported working on it, for example with repetitions. PreGTs used "melody" rather as a synonym for 'song'

(e.g., Verena-1, Table 10, category 'ways of working on melody'). It is relevant for the professional development that in the third year increasingly more PreGTs used "melody" as a technical term, indicating by its awareness of an individual component of the song's musico-linguistic structure (Stadler Elmer, 2015) and reporting that they worked on it, e.g., without lyrics, singing the tune only with one syllable.

4. PreGTs' comments on the skills of 'didactic transposition' (Chevallard, 1991) tended to be made only in relation to the third-year lessons and not before. By 'didactic transposition' we refer to the strategies implemented by teachers to reduce the complexity of the target content they intend to transmit, i.e., the song. In the results of the study, we did not only identify patterns in the professional development of the group of PreGTs in relation to their year of training, but also some individual aspects independent of the training year.

5. The analyses showed that the PreGTs' considerations for selecting the target song are manyfold, and the decision is also guided by the difficulties they anticipate for the children and by those they face themselves when learning it. Both, the selection of the song as well as the acquisition by the teacher, are complex processes that need further considerations through research. What are social guidances for the decision, e.g., fashionable media or events, then traditions, prescriptions and suggestions. What are the resources available to expand the own song repertoire? Colleagues, books, media? What are the strategies to learn a new song? By sight reading, instrumental support, a colleague or a course, media? We noticed that many PreGTs considered the length of the song in terms of the number of verses as a selection criterium. Yet, only in the comments of one PreGT, Sarah-3, we identified the development of even more significant musico-didactic considerations. Sarah-3 stated that she learned that song selection should not be based solely on "teacher preference" and consideration of "appropriate lyrics" for children, but rather, that "song analysis" is a "necessary" condition for successful song transmission. These comments are relevant because by "song analysis", Sarah referred to the normativity that governs the musico-linguistic structure of the song, which should be based on the grammar of children's songs, i.e., the system of musical and linguistic rules that constitute the structure of songs in this genre (Stadler Elmer, 2015, 2021).

    Although this detailed and in-depth study provides a rich insight into the practice of PreGTs and the issues they engage with during their training, it is to say that following the systematic procedure of qualitative content analysis as proposed by Mayring (2021) requires considerable resources in terms of time and teamwork to verify the consensus of interpretations. For the PreGTs, the teaching songs in class during the annual internship, the video-recording of the lesson, the related lesson-based interviews, and the annual completion of the semi-structured questionnaire created an atmosphere of enhanced self-awareness and self-evaluation. Although, according to the ethical informed consent, the ten PreGTs voluntarily participated in our study, none of them ever considered to quit. We believe that the PreGT's teaching in class, their interview statements, and self-reports in the semi-structured questionnaire were serious and authentic, and therefore, have a high reliability and validity.

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Declaration of interest

The authors report no conflict of interest.

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