Chapter 12

Conceptions of children's musical development

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Introduction

Students enrolled on a training programme for early childhood music education are asked to carry out a case study of one preschool-age child. The student visits the child at home, interviews the parents, notes the home environment in terms of what it offers musically (technologies, toys, instruments, family members who play and/or sing), and, if feasible, observes the child being musical in varied activities. The details of the child's musical life – interests, activities, experiences, abilities – are documented, adding theory-informed commentary and interpretations where relevant. The course tutors signpost the students to a range of theoretical writings that might illuminate their case study, but they do not prescribe a theoretical framework. The case study is intended to draw on different disciplinary perspectives and to emphasise that many factors are involved in understanding children as musical. What this approach hopes to avoid is the suggestion that musical development is defined by any one theoretical model but rather that it is a complex field, involving many, often competing, theories and considerations. Moreover, and this is an important aspect of the task, the students take responsibility for the theoretical selections they make and arrive at considered reasons for those selections. Thus, they hopefully come to recognise that the choices they make in how to interpret children's musical lives are not neutral decisions but carry an ethical dimension. How they understand and conceive of children and young people as musical will determine the decisions they make about what and how to teach them.

Music education theory and practice usually emphasise what children need to know about music more than what music educators need to know about children. If every teacher carried out a case study of one or more of their pupils in order to understand the musical interests, experiences, and abilities that they bring with them into their classroom, I wonder whether that would influence how teachers design their teaching? My opening example may be taken from early childhood practice, but I suggest that the need to know pupils musically is equally important at all phases of education. If teachers do not know and appreciate their musical worlds, are not constantly puzzling over what musical

DOI: 10.4324/9781003439578-15

abilities, skills, and interests they possess and how to progress those abilities and skills, then it is impossible to offer music lessons that engage, challenge, and are meaningful for them.

I might insert here that it is often assumed that there is nothing to be gained by looking down or looking up to a sector outside one's own and that early childhood, for example, has nothing to say for secondary educators or vice versa. The horizontal division of education into phases defined by age – higher, secondary, primary, and early years – entrenched, historically, in our institutional systems, has resulted in profound differences in approach to music education practice within each age phase. These differences in approach interrelate with differences in structure, traditions of practice, images of musical childhoods, teacher identity and status, conceptions of music, and what it is to learn and progress in music. Moreover, the boundaries between sectors are so sharply defined and bound up with identity that educators in each sector can remain in age-based silos, knowing surprisingly little of other sectors and missing out on opportunities to expand their pedagogical horizons.

There are conceptions of musical development that have become embedded in the structures of our music education systems and deserve to be challenged. They are responsible for deep-set beliefs that view younger children in deficit terms, as 'not yet' able to do very much of value in relation to the musical competences of adulthood. Take, for example, the ability to maintain a steady beat that is often laboriously practised in repetitive tapping activities in the first stages of a music curriculum, yet an internal sense of pulse guides social and motor behaviours from the moment of birth (Trevarthen, 1999). It is more about working musically with the competences young children already possess, than assuming they lack them. Developmentalism, likewise, has defined the endpoints of music education and has plotted pathways towards an assumed universal musical adult. So, I call for music educators to recognise how conceptions of musical development, most strikingly in some psychological versions, are constructed around expectations of age and of musical elitisms (that, in turn, embody cultural, social, class, gender, and ability discriminations), to which educators must be alert. In this chapter, I will endeavour to explain what I suggest is valuable and important to heed from the multiple accounts of musical development, and where the pitfalls and weaknesses may lie.

Developmental contextualism

Knowing children and young people musically is therefore not a simple task of consulting a table of musical development that maps out musical competences at each age and stage and – or – ensuring that lesson planning targets a list of term-by-term learning outcomes that are assumed to follow a progressive, 'one-size-fits-all', trajectory. Children cross over musical worlds, at home in their families, perhaps mixing cultures if they are members of immigrant

families, in their communities, at school among their peers, and mediated via new technologies, often portable and present all day long. My grandson's Ukrainian friend, a refugee from the war, introduces him, via his phone of course, to Polish phonk and this shared interest becomes interwoven in their friendship. Moreover, children not only absorb and are enculturated into these musical cultures, they rework them in individual ways, sometimes alone, sometimes in interaction with friends, family, or community musicians, live or online. To try to pigeon-hole all that complexity into simple categories of musical development and/or fixed knowledge maps and learning targets is to overlook (and likely under-estimate) the musical knowing they have acquired through self-initiated experiences, alone or among peers and family, and to ignore all that makes music meaningful and relevant to children. As I will explain, the earlier staged models that assumed universal musical development and drew their theoretical basis from developmental psychology have given way to conceptualisations of development that avoid single theoretical perspectives and endeavour to embrace multiple dimensions. These more recent versions of musical childhood bring together perspectives from disciplines such as sociology, ethnomusicology, biology, media and technology studies, childhood studies – alongside the mainstay psychology – and endeavour to arrive at holistic, albeit always shifting, understandings of children growing up as musical. The term 'developmental contextualism' usefully captures this complex and dynamic relationship between the many interconnecting dimensions (Lerner, 1986).

The primary aim of this chapter is to encourage every music educator to think carefully about today's children as musical and how they develop musically and how that understanding influences their practice. For this purpose, I now go on to provide an overview of theoretical perspectives on musical development. Committed to the multi-disciplinary perspective of developmental contextualism, this overview weaves back and forth between different perspectives, stretching the field to include ethnomusicological, biological, and sociological viewpoints in addition to the more usual psychological (Young, 2018). I discuss the pros and cons, intending – as my opening example illustrates – not to dictate, but to encourage educators to make their own selections, decisions and to follow up topics with wider reading. Moreover, I ask educators to do so with awareness of the responsibilities and the implications their choices carry.

Nature or nurture?

For a long time, musical development has been understood in relatively simple terms as the relationship between nature/biology and nurture/environment. Explanations of development have tended to swing, pendulum-like, back and forth between these poles. Observation of young children and infants is historically one of the most important methods in the study of

development and the study of babies and young children is still thought to provide insights into the biological origins of musical abilities; 'culture-free' as it were, although whether even a newborn can ever be culture-free is open to question. Studies of children in the tradition of child observation during the first half of the last century sought to uncover what was believed to be the innate musicality of young children. The insights from these studies are still informative today, although we would query the premises that underpinned those interpretations of young children's music-making. A well-known study was carried out at a nursery, established in the 1930s by the Pillsbury Foundation in California, United States for the purpose of studying young children's innate musicality. There, over several years, Donald Pond observed and documented the children's self-initiated musical activity (described years later in Pond, 1980). At that time, there was a strong belief, drawing on Darwinian conceptions of evolution, in the idea of development as recapitulation; that children replay, as it were, the cultural history of music in their individual development (Young, 2023). Pond's notes and observations reveal how the children's musical play contained chants, repetitive rhythmic patterns, pentatonic melodies; the musical elements – so it was said – of ancient and traditional folklore music created by so-called 'primitive' peoples. While to attach the epithet of 'primitive' to any group of children or adults is now deeply distasteful, such divisive and derogatory attitudes were common thinking in the early years of the last century. It's easy to dismiss the idea of recapitulation as long superseded, but its legacy lingers, deep-set, in methods for music education. The Orff and Kodaly educational philosophies, for example, are both 'recapitulationist' and recommend starting points for music education in reduced pitch and rhythm structures based on drones, ostinati, and pentatonic melodies.

Understandings of development as determined by nurture conceived of children as essentially a 'blank slate'. Learning took place via imitating a model and receiving feedback that reinforced the correct (according to whatever counted as correct) behaviour patterns (Aubrey and Riley, 2022, pp. 69–83; Hargreaves, 1986, pp. 18–21). According to this behaviourist conception, external experience in the form of teaching drives musical development. At first glance, such a conception of how children develop musically – as empty vessels being filled with musical input from a teacher – might seem simplistic and outdated. However, in reality, much music education pedagogy relies on a simple back-and-forth process of modelling by the teacher, imitation by the children, feedback from the teacher followed by adjustments by the children; direct instruction, in other words, to use the current teaching-as-technique terminology. Learning the skills to play an instrument from the European classical tradition typically relies on teaching that conforms to this behaviourist model of pedagogy and likewise formal instruction in how to read notation or the rehearsal-style approach for learning a song or instrumental performances in a class or ensemble. Indeed, for teaching basic skills and some forms of

knowledge, well-judged to enable the children to progress at that point in their musical learning, this can be an effective method.

The influence of Piaget's theory of | cognitive development

In the late 1960s and 1970s, a marked change in the conception of children's development took place, motivated by Piaget's theory of cognitive development (Piaget, 1952). Piaget's work had two major dimensions, a focus on children's cognitive processes – that is, their distinct ways of thinking and learning – and how those processes go through definite changes: the 'ages and stages' of development. Always some years behind the curve, music education research that was interested in applying Piagetian theory to children's music learning arose in the late 1970s and 80s. The Piagetian influence on educational practice, including music education, was profound. Here was the promise of being able to tailor teaching to fit the age and cognitive stage of all the children gathered together in one class. According to age, it was thought, children could be slotted neatly into a matching set of cognitive capabilities and typical ways of conceptual processing for the subject area they were learning. There were a number of interesting studies that sought to apply Piaget's theories directly to music, mainly through research that asked quite large samples of children to perform uniform tasks, analysed their responses, and then plotted the regularities (see Young, 2023 for summary). There were also attempts to arrive at universal models of development that proposed distinct shifts in musical processing and conceptualising from early childhood through to adulthood. 1986 represented a landmark year with the publication of David Hargreaves' comprehensive book on the developmental psychology of music and two models of musical development published in journal articles, the now well-known model of musical development known by the name of its authors as the 'Swanwick and Tillman spiral' (1986) and a model of singing development by Graham Welch (1986). Both models were influenced by Piaget in endeavouring to identify steps in musical development that pass through distinct qualitative shifts in music cognition processing (Hargreaves and Lamont,2017, p. 53).

No sooner were these models of musical development published than researchers started to challenge them, usually by providing evidence that either demonstrated greater musical competence at earlier ages than the models implied or alternative conceptions of competence. Often these researchers adopted methods that engendered more genuine responses from children because either the test conditions were more naturalistic or the task the children were asked to do did not inadvertently limit or channel their responses. For example, the spiral model of musical development had been informed by Tillman's collection of primary-age children's improvisations with instruments made in response to specific task requirements and these tasks had inbuilt

constraints. In contrast, Coral Davies invited five to seven-year-olds to make up their own songs and her analysis of their improvised songs revealed that the children possessed an intuitive understanding of musical form and structure at a much younger age than the Swanwick and Tillman spiral of development had suggested (Davies, 1992). She suggested that the children's made-up songs reveal abilities that they were not able to reveal when improvising with educational percussion instruments. Moreover, through their made-up songs, children were integrating different modes simultaneously, rather than sequentially as staged developmental models suggest. Davies agreed with an earlier conclusion of Gardner (1973) that children do not need to pass through any qualitative distinct phases of musical development, but that even quite young children have absorbed musical understanding through immersion in a musical culture. It is merely that they may not have the performance skills yet to be able to enact and demonstrate that understanding.

However, while theories that suggest musical development follows a predetermined pathway that can be applied universally to all children are now largely abandoned, this era of research promoted a focus on children's modes of musical thinking and understanding that remains useful. There can be a tendency for contemporary approaches to understanding children as musical to sweep aside earlier theories and risk throwing babies out with bathwater. Carefully evaluating what remains pertinent is valuable. For example, the recent theorising of embodied, enactive models of musical cognition connects with the embodied origins of musical understand that Piagetian theory originally identified (van der Shyff, Schiavio and Elliott, 2022, p. 165). Certainly, over-reductionist models of development and the inflexibility they can imply are deserving of critique, but outright dismissal risks losing the insights and contributions of developmental perspectives that recognise the transformations in relation to perception, concept formation, quantity of experience, physical size, skill ability, and so on (see Young, 2023). Self-evidently, there are certain biological changes and accumulations of experience that take place as children grow that can be assumed to have some common features (of which more shortly). Certainly, accounts of musical development can provide useful templates that can inform teachers' interpretations of children's musical progress and suggest how to plan forward, as long as they remain flexible.

Development within sociocultural contexts

So, the promise of developmental models that could be applied uniformly to all children – and so could dictate to teachers what to teach and when – was relatively short lived. In the 1990s, the pendulum swung from nature to nurture. Interest shifted from searching for universals of musical development in cognitive processing to understanding the wider social and cultural conditions of childhoods and how environmental experiences (nurture) shape children's emerging musical abilities and identities. Important contributions

were made by educators trained in ethnomusicological methods who observed children in naturalistic situations such as the school playground and collected instances of their musical play and interpreted them (e.g. Campbell, 2010; Ilari and Young, 2016; Marsh, 2008; Lum and Whiteman, 2012). This rich and continuing strand of research activity revealed the quantity and variety of music in children's lives and, importantly, how children actively and agentically use music for a range of self-determined purposes. Campbell combined observations of children's play and conversations with older children and used this information to explore the meaning and value of music to these children and young people. Her conversations capture the functional, personal, and social-familial dimensions of their music-making (Campbell, 2010). Moreover, this new wave of studies continued to challenge the expectations that had been set by developmental models of the previous decade or more, typically demonstrating that children may exceed and expand earlier expectations. Marsh, for example, found that the level of musical and kinaesthetic complexity achieved by children in playground games was often very high, much more difficult than the expectations written into music education curricula (Marsh, 2008). This she attributed to children having agency over their musical activity when playing and to the modes of informal, collaborative learning that they employed. She also emphasised the high level of kinaesthetic involvement in musical game playing that, she suggested, heightens the experience socially, emotionally, and cognitively. For Marsh, musical development is propelled by this holistic engagement.

This group of studies also provide an essential reminder that the majority of prior research into musical learning and development has been carried out among children growing up in Westernised communities. A few studies focussed on children growing up musically in diverse international locations (e.g. Ilari and Young, 2016; Lum and Whiteman, 2012) and started to reveal the cultural variety in their musical lives. However, we still have far too little understanding of the diversity of children's musical lives and how varied musical upbringing impacts musical development.

The concurrent interest in Vygotsky's theories of learning and development led to conceptions of learning as embedded in social and cultural contexts (Hargreaves and Lamont, 2017, pp. 109–110). Learning was conceived not as individualistic and taking place 'inside the child's head' but as taking place in and through social interactions. For educational practice, this was a fundamental shift that emphasised the role of the teacher in drawing out, guiding, and scaffolding children's learning. Moreover, Vygotsky believed strongly that learning promoted development (Vygotsky, 1978). Teachers did not have to wait for children to be intellectually ready before they could be receptive to certain forms of learning, as the Piagetian-inspired models of development had implied. Development could be pushed forward by teaching. Importantly, according to Vygotskian informed pedagogy, for the impetus to development to be successful the next steps in learning need to be well judged in order to

connect with and build on what children reveal they know and can do (see Young, 2023). Wiggins and Espeland (2012), drawing on Vygotskian theory, describe a number of scenarios in which children create music as a class or in small groups and the teacher role has shifted to what they term 'artful scaffolding' (p. 348). By 'artful scaffolding', they have in mind the blending of musical and pedagogical inputs offered by the teacher in response to children's self-guided compositional work.

The influence of childhood studies

Alongside this shift to sociocultural theories in the psychology of learning, an important change in how children were conceptualised took place in the 1990s (see Prout, 2005). A new field of the sociology of childhood emerged which later expanded into the interdisciplinary childhood studies. Sociologists explained and demonstrated how conceptions of childhood are constructed in ways that vary historically and culturally; hence how musical childhoods are constructed reflects the values and expectations of society. Early childhood provides an obvious illustration. Young children, typically, are socially constructed in a romanticised, sentimental image of innocence, purity, and needing protection, and the music and media provided for them typically reflects and reinforces this image. Deeply critical of developmental psychology, the sociologists pointed to how psychology created an image of childhood that did not allow for children to just 'be' in the present but placed them on a linear pathway constantly moving forward to something always just beyond. Schooling, in particular, they said, traps children on this constant treadmill of 'becoming' and not 'being'. A further criticism of pathways of development was that children were understood to be moving from incompetent to competent where the endpoint was predetermined. For music, as I mentioned earlier, the skills and knowledge of Western Art Music were the assumed arrival points of development that cast young children as musically lacking. Indeed, I wrote 'were' but in a recent return in policy to ultra-conservative conceptions of curriculum (e.g. DFE, 2021), these appear to be firmly reinstated as the ideal achievements of music education.

The biology of human musicality

At the same time as sociocultural explanations for development and conceptions of childhood from sociologists, anthropologists and ethnomusicologists were expanding and complicating our understanding of how children grow into music, there was a return to interest in the biology of human musicality that had its origins in research with babies during the 1970s and 1980s. This new strand of research was more sophisticated than the early twentieth-century observational studies I referred to earlier. Researchers designed clever experimental methods that required laboratory equipment and conditions for testing

the perception and responses of babies to musical stimuli. They became interested in trying to pinpoint what musical abilities might be genuinely innate. Although not specifically aiming to inform education, this research field has provided some useful discoveries for educators. For example, they found that babies are able to detect very small differences of pitch and quickly acquire expectations of musical phrasing, cadence, and rhythmic structure in keeping with the music of their community (see Trehub, 2006 for overview). Findings from these studies suggest that young children 'know' music intuitively, long before they can become conscious of that intuitive knowing. The implication for music education practice is that we should never underestimate children's capabilities to 'know' and 'do' music before they may be able to articulate that knowledge. Recall my mention of Coral Davies' work with young children's improvised singing (1992). These findings challenged the assumptions that children begin as blank slates inbuilt into many conceptions of development and the curriculum models they give rise to.

With respect to innate musical ability, there was much effort in the 1990s to dispel the idea that, contrary to popular opinion, musical ability is not gifted to a lucky few but is a human capacity endowed to all (Sloboda, Davidson and Howe, 1994). Even if this mistaken belief remains in popular opinion, music education has certainly dispatched such an outdated idea. However, more recently, discussions of innate musicality have been interested in the spectrum of genetically determined ability. Interesting studies of adults with amusia, an innate disorder that has been shown to have a negative influence on pitch perception, and in around 50% of cases, also a deficit in rhythm perception, demonstrate that amusia has a genetic source rather than being caused by lack of musical experience in upbringing (Peretz, 2016). Amusia is estimated to affect around 4% of the population, a percentage that music educators might hold in mind. At the other end of the ability spectrum, I live with a professional pianist who has aural-perception skills and music-memory abilities that astound me and must be, in part, genetically determined even though they combined with environmental opportunities. There was a piano in his home from birth and parents could afford lessons from an early age. The majority of children teachers meet are located on the classic bell curve of distribution between these two minority extremes.

And while we are discussing biological musicality, musical performance obviously relies on bodily capacities and so biology, in the sense of maturing bodies that grow in size and strength, change in proportions, and gradually acquire physical skills to play and sing, is an aspect of development that teachers take into account. Clearly, children can only start to learn certain instruments when they have the physical capacities to lift, hold, reach, blow, and so on, or are provided with small-size, adapted instruments. There are other aspects of biological maturation that teachers may take for granted yet require careful consideration. The soft vocal folds of early childhood gradually change, lung capacity increases as children's bodies grow in size and hormone changes affect

the voice. Researchers interested in singing development may disagree among themselves over the details of how children learn to sing, but these accounts of how children's voices mature and how singing pedagogy and repertoire choice might accommodate those physical changes remain very informative to educators (Elmer, 2011; Rutkowski and Miller, 2002; Welch, 2006). Another aspect to consider, often overlooked, is how physical size relates to the pace and dynamic of rhythmic movements. The common activities of music education practice such as body percussion, performing songs with movements, or moving to music that are designed to support the learning of rhythmic and expressive features of music can take into consideration the differently sized and proportioned bodies of growing children. All too often, the adult teacher sets the pace of rhythmic movements, and the children struggle to accommodate. Here is an instance where 'child-centred' can mean just that; allowing children to set the pace, space and dynamic of the movements and the adult-sized teacher making the adjustments.

Innovations in digital technology

Bringing this overview up to date, since the turn of the century, the nature of everyday musical experience for children and young people has been profoundly changed by innovations in digital technology. Today's children encounter music in digitised musical environments that are quite different to the musical environments of the children whose singing, instrumental improvisations, responses to tests, or spontaneous musical play gave rise to earlier interpretations of musical development (Bickford, 2017). Touchscreen technologies, now ubiquitous in the lives of children, are accessible even to babies and toddlers who quickly learn how to swipe and tap in order to listen to their favourite multi-media clips. Driving my 11-year-old grandson home from school one day, he synced his phone to the car system and played me phonk tracks, explaining, when I asked, what makes phonk distinct from other styles. He then switched to playing his own tracks in similar style made using a composing app; music he makes to pass the time as the school minibus (he is the last solitary passenger) wends its slow way around the lanes to his rural home. The rapid advance in digital technologies presents a challenge to music educators, for academic research can barely keep in step with the innovations and the new music-media experiences they enable.

So it is feasible to propose that increased exposure, and the opportunities to exercise musical agency afforded by digital technologies are advancing children's musical capabilities, and likely advancing them in ways we do not yet understand. From a study of primary-age girls singing with karaoke equipment at home, I discovered much about how they were teaching themselves to sing and learning about melodic line, song structure, and more (Young, 2012). When I compared their self-taught abilities with the learning expectations of their in-school music lessons, their self-taught were well in advance.

Yet, looking back to 2012, those karaoke sets are long superseded, illustrating the problem of research keeping in step with technology advances. As another example, I participated in a European-funded technology project that explored the potential of a software linked to keyboard, a form of artificial musical intelligence, that could offer children musically coherent replies based on the input of their improvised phrases (see Rowe, Triantafyllaki and Pachet, 2017). We found that even young children of five to seven years old quickly grasped the potential of the software, creating extended improvised musical events that generated quite sophisticated musical thinking when supported by the musical AI. Artificial intelligence is just around the corner, so who knows how that may support children's musical thinking and advance their musical development? Understanding how children's contemporary musical environments, technologically, culturally, and socially, engender certain forms of musical activity and allow children independent musical agency needs to go hand-in-hand with our increasing understanding of the biology, the neuroscience and cognition of musical processing. Musical development brings together this complex mix of multiple factors.

Conclusion

To summarise, in this chapter, I have endeavoured to show how divergent disciplinary directions and contemporary developments in children's lives have complicated and enriched understandings of how children grow into music. It can be helpful to conceptualise musical development across three broad dimensions, although it is important to emphasise that the dimensions, from the perspective of developmental contextualism, are never discrete but dynamically interrelate.

- Each child's multiple biological processes – genetic profile, growth, size, physical strength, morphological changes in body structure, hormone changes, neurological system
- Each child's psychological processes – cognitive, emotional, behavioural – including their social relational processes
- Each set of contextual factors and how these interact – in each child's lifespan, including multiple factors such as parent-child relationships, material environment including technology, culture, race, ethnicity, religion, ecology, health, poverty/affluence, pandemics, war – leading to a range of varied musical experiences

Finally, recent educational thinking is concerned with the current challenges facing the world. Gert Biesta (2017) offers a philosophical theory of arts education in which children are brought into contact, as he says, 'with the world'. For Biesta, education is more than individualistic development or simply about developing musically through the process of acquiring core music knowledge

and skills, the contextual dimension is of the utmost importance. He proposes that the aim of an artistic education should be to bring children into an encounter with the wider world of relationships and differences. Stetsenko, a psychologist in the Vygotskian tradition (who is influenced by the critical pedagogy of Freire), takes Biesta's proposition further arguing that it is not enough to encounter and interact with the wider world as it is, but that educational process must incorporate an intention to change things for the better (Stetsenko, 2017). In what she terms transformative activism, development in learning is, from this perspective, a collaborative process of children 'changing the world while being changed by it' (Stetsenko, 2017, p. 270). As children actively contribute to a musical 'world in the making' that embraces an ideal sought-after future (of social justice, equity, peace, love and living well on the planet), they develop musically. A significant or meaningful musical event occurs when we feel ourselves to be transformed. By producing particular forms of significant encounters, engagements, or even confrontations, musical experiences generate transformative effects. When my grandson plays Polish phonk tracks to me in the car and we discuss the musical detail (I'm a music teacher after all), think about what it must be like for his Ukrainian friend to have left his home and why sharing music is an act of friendship, something changes, through one small event with wider resonances.

Reflective questions

1 If asked to explain musical development, briefly in a few words, how would you explain it?
2 Can musical development be promoted by teaching – and if so, to what extent and how?
3 What forms of musical progress do you – or will you – aim to encourage in your teaching?

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