Researching and developing music provision in Special Schools in England for children and young people with complex needs

Evangeline Cheng

Institute of Education, University of London, United Kingdom

Adam Ockelford

Roehampton University, London, United Kingdom

Graham Welch

Institute of Education, University of London, United Kingdom

Abstract

The House of Commons Select Committee on Education (2006) estimated that around 18% of all pupils in England were categorised as having Special Educational Needs (SEN). 'Around 3% of all children (250,000) had a statement of SEN and around 1% of all children were in special schools (90,000) which represent approximately one third of children with statements' (House of Commons, 2006, p. 5). However, until very recently, there has been no overall perspective on what might count as an appropriate music curriculum for pupils with complex needs (here defined as Severe Learning Difficulties [SLD] or Profound and Multiple Learning Difficulties [PMLD]).

In order to investigate the nature of music provision in special schools in England that catered for children and young people with complex needs, Welch et al., (2001) undertook a nation-wide research investigation, which became known as the PROMISE (Provision of Music in Special Education) project. The PROMISE project was funded by the Esmée Fairbairn Trust (see http://www.esmeefairbairn.org.uk/index.html) and supported also by the Royal National Institute for the Blind (RNIB). The research was designed as an exploratory study of three phases using questionnaire sampling, school visits, and informal discussions with teachers and other professionals. A total of 53 schools participated. The evidence gathered from the project suggested that 'there is considerable variation in the quantity and quality of music education and music therapy available to pupils' (Welch et al., 2001, p. 5).

In the course of PROMISE research, it was noted that, within the special school population in England, there were more than 30,000 children (32%) with complex needs (SLD or PMLD). SLD and PMLD children were to be found in many different parts of the special education sector and were often educated with children who had other forms of disability. Most of the participating schools catered for a broad age range from early years to post-16. The paper reports research and development in the music provision in Special Schools in England for children and young people with complex needs following the PROMISE research (2001).

***Keywords*:** Special Educational Needs, Severe Learning Difficulties [SLD], Profound and Multiple Learning Difficulties [PMLD]), PROMISE (Provision of Music in Special Education) project, Sounds of Intent.

Australian Journal of Music Education 2009:2, 27-48

Introduction

The House of Commons Select Committee on Education (2006) estimated that around 18% of all pupils in England were categorised as having Special Educational Needs (SEN). "Around 3% of all children (250,000) had a statement of SEN and around 1% of all children were in special schools (90,000) which represent approximately one third of children with statements" (House of Commons, 2006, p. 5). However, until very recently, there has been no overall perspective on what might count as an appropriate music curriculum for pupils with complex needs (here defined as Severe Learning Difficulties [SLD] or Profound and Multiple Learning Difficulties [PMLD]).

In order to investigate the nature of music provision in special schools in England that catered for children and young people with complex needs, Welch et al., (2001) undertook a nation-wide research investigation, which became known as the *PROMISE* (Provision of Music in Special Education) project. The *PROMISE* project was funded by the Esmée Fairbairn Trust[1] and supported also by the Royal National Institute for the Blind (RNIB). The research was designed as an exploratory study of three phases using questionnaire sampling, school visits, and informal discussions with teachers and other professionals. A total of 53 schools participated. The evidence gathered from the project suggested that "there is considerable variation in the quantity and quality of music education and music therapy available to pupils" (Welch et al., 2001, p. 5).

In the course of *PROMISE* research, it was noted that, within the special school population in England, there were more than 30,000 children (32%) with complex needs (SLD or PMLD). SLD and PMLD children were to be found in many different parts of the special education sector and were often educated with children who had other forms of disability. Most of the participating schools catered for a broad age range from early years to post-16.

The main findings from the *PROMISE* report were:

- Virtually all schools had a designated music coordinator, although over half of these had no qualification in music.
- Most children received music tuition from their own class teacher.
- Approximately one third of schools provided music therapy on site, although only about 5% of children were actually receiving music therapy at the time of the survey.
- Continuing professional development (CPD) in music education appeared to be *ad hoc* and depended mainly on local provision.
- The majority of schools based their schemes of work on the current version (at that time) of the 'National Curriculum for Music' in England and there was no common curriculum framework evident for children with complex needs.
- Nevertheless, all headteachers were very positive about the benefits to their students engaging in music activities.
- All schools made extensive use of music and musical activities within the wider curriculum, although there was little or no obvious connection between this and the formal music curriculum.
- The majority of music coordinators stated that musical objectives appeared regularly on most SLD/PMLD children's Individual Learning Plans.
- The resources for music varied across schools, with the widespread use of unpitched percussion instruments. This probably reflected the music curriculum being conceived within an early year's framework, and the lack of specialist music expertise within the teaching force.
- The technology used in schools for music largely comprised sound reproduction equipment.

1 For more information see http://www.esmeefairbairn.org.uk/index.html

- The linkage with the wider music community for musical activities was widespread and varied.
- The majority of respondents did not distinguish between attainment and progress in music.
- However, music was a significant component in the daily lives of pupils with SLD and PMLD, whether at home, travelling to and from school, or in the classroom (Welch et al., 2001, pp. 5-8).

From the findings in the PROMISE report, it seemed that most of the headteachers thought that development *through* music is more widely recognized and considered than development *in* music. The PROMISE survey suggested that children and young people participating in musical activities were helped in other areas of development through musical engagement, including the development of communication skills, concentration, attentive behaviour, and emotional regulation. The project also acknowledged that, amongst the main features of its survey's findings, were the lack of an agreed musical curriculum, the wide variation within pupil populations, and the lack of empirically based research data on SLD and PMLD children's musical behaviours and development.

The PROMISE report provided a wider context of music provision in special schools across the UK. The research team suggested that further research was needed to provide clearer evidence-based guidance that could frame music education for children and young people with complex needs. This would need to be done through a coherent and comprehensive set of studies into the musical behaviours and development of such children in various educational settings.

The UK Government's 'P–levels' music curriculum and assessment

As mentioned above, there was no nationally agreed music curriculum for those with SLD or PMLD in areas of the development *in* music until relatively recently. Nevertheless, the Qualifications and Curriculum Authority (QCA) published *Planning, teaching and assessing the curriculum for pupils with learning difficulties* (2001) that introduced performance descriptions (termed 'P levels'/'P scales') to enable teachers and other professionals who were striving to meet the needs of children and young people to observe and record small steps of progress made by these children with SEN (Jaquiss & Paterson, 2005). These children and young people were considered to be functioning 'below' Level 1 – the first stage – of the National Curriculum (Ockelford, 2008).

The QCA's 2001 publication outlined early learning and attainment for a range of different subject areas that linked to the National Curriculum subjects, including music. In common with the other curriculum area, music contained 'Performance Descriptions' that were designed to chart progress through eight levels, from P1 to P8, up to National Curriculum Level 1.

In the first three levels from P1 to P3, the performance descriptors were common across all subjects and corresponded to those with the most extreme forms of complex needs. The performance descriptions "outline the types and range of general performance that pupils with learning difficulties might characteristically demonstrate" (QCA, 2001, p. 21). Each level was subdivided into two sublevels: P1 (i) and P1 (ii), P2 (i) and P2 (ii), and P3 (i) and P3 (ii). Even though these six performance descriptions were the same across the whole curriculum, different subject-focused examples were added to illustrate some of the ways in which staff might identify attainment in their specific subject's context (QCA, 2001). In the case of music, Table 1 lists the examples according to different levels as follows:

From Levels P4 to P8, the document stated that many believed it was possible to describe performance in a way that indicated the

Table 1: Performance descriptions of the P-levels 1-3 with music examples.

Level	Performance descriptions across subjects	Music examples
P1 (i)	Pupils may show simple reflex responses. Any participation is fully prompted.	- Startling at sudden noises or movements
P1 (ii)	Pupils may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects. They may give intermittent reactions	- Becoming still in a concert hall - Sometimes becoming excited at repeated patterns of sounds
P2 (i)	Pupils react to new activities and experiences They begin to show interest in people, events and objects They accept and engage in coactive exploration	- Turning towards unfamiliar sounds - Looking for the source of music - Being encouraged to stroke the strings of a guitar
P2 (ii)	Pupils communicate consistent preferences and affective responses They recognize familiar people, events and objects They perform actions often by trial and improvement, and they remember learned responses over short periods of time They cooperate with shared exploration and supported participation	- Relaxing during certain pieces of music but not others - A favourite song - Repeatedly pressing the keys of an electronic key board instrument - Holding an ocean drum
P3 (i)	Pupils request events or activities They explore materials in increasingly complex ways They observe the results of their own actions with interest They remember learned responses over more extended periods	- Leading an adult to the CD player - Tapping piano keys gently and with more vigour - Listening intently when moving across and through a sound beam - Recalling movements associated with a particular song from week to week
P3 (ii)	Pupils may initiate interactions and activities They can remember learned responses over increasing periods of time and may anticipate known events They may respond to options and choices with actions or gestures They actively explore objects and events for more extended periods They apply potential solutions systematically to problems	- Performing an action such as clapping hands to initiate a particular song - A loud sound at a particular point in a piece of music - Choosing a shaker in a rhythm band activity - Tapping, stroking, rubbing or shaking an instrument to produce various effects - Indicating by eye contact or gesture the pupil whose turn it is to play in a 'call and response' activity

emergence of subject-focused skills, knowledge and understanding (QCA, 2001). Table 2 lists the music examples according to subject performance descriptions.

The QCA's document claimed that teachers could use the Performance Descriptions in the same way as the National Curriculum level descriptions to decide pupil's performance level, develop assessment and long- to short-term planning, track linear and lateral progress, and record pupils' overall development and achievement over a period of time and in different contexts (QCA, 2001).

Despite the QCA's claim on the function of the P-levels and the representativeness of these musical examples, Ockelford (2008) criticized their text and raised several serious issues within the P-levels. He questioned the evidence that was used to form the basis of the P-levels and asserted that its construction was unclear. He argued that the short list of examples given for P1 to P8 in the above two tables had no empirical foundation and that there was no systematically derived research to back up the P-Level's music curriculum design and assessment. These musical examples also had no mention of vocalization nor vocal interaction which is considered to be one of the most prominent features in early musical development (Welch, 2006). It is thus difficult to

Table 2: Performance descriptions of the P-levels 4-8 with music examples.

Level	Performance descriptions in music	Music examples
P4	Pupils are aware of cause and effect in familiar events	- What happens when particular instruments are shaken, banged, scraped or blown, or that a sound can be started and stopped or linked to movement through a sound beam
P5	Pupils respond to signs given by a musical conductor They pick out a specific musical instrument when asked	- to start or stop playing -a drum or a triangle
P6	Pupils begin to categorise percussion instruments by how they can be played	- striking or shaking
P7	Pupils listen to music and can describe music in simple terms They make simple compositions	- describing musical experiences using phrases or statements combining a small number of words, signs, symbols or gestures. - by choosing symbols or picture cue cards, ordering them from left to right, or making patterns of sounds using computer software.
P8	Pupils understand and respond to words, symbols and signs that relate to tempo, dynamics and pitch They use a growing musical vocabulary of words, signs or symbols to describe what they play and hear They make and communicate choices when performing, playing, composing, listening and appraising	- faster, slower, louder, higher, and lower - fast, slow, high, low -prompting members of the group to play alone, in partnerships, in groups or all together

see on what basis that these official examples could be representative.

When looking at the content and structure of the P-levels, Ockelford (2008) asserted that the P-levels overlook the following issues:

- The discontinuity from generic performance descriptions (up to P3) to subject-focused descriptors from P4;
- The ambiguous nature of descriptors across different levels;
- Difficulties in making music conform to the general developmental path;
- Confusing musical elements and non-musical elements: the so-called 'music' examples given in the P-levels only partially pertain to attainment in music.

Ockelford (2008) noted that "it appears that this conceptual blending has arisen from an ignorance of what musical development actually comprises, and, paradoxically, has tended to limit an appreciation of music's true capacity to inform wider learning and development" (p. 111). The mixture of musical and non-musical elements in the 'P-levels for music' also seemed to coincide with the headteachers' perceptions and attitudes toward music for children with complex needs reported in the PROMISE report.

Moreover, Welch et al., (2008) have since claimed that the P-levels for music had not apparently helped practitioners' recognition of attainment and progress for such children in the earliest stages of musical development. The major weakness of the 'P-levels' is that they are not rooted in music development research of children with complex needs.

The Sounds of Intent *(SoI)* theoretical framework

The evidence-based difficulties that the P-levels represent stimulated a process of charting an alternative and empirically-based route for the musical development for children who have complex needs.

From the late 1990s, a group of researchers strove to map out the musical developmental

path, music curriculum and assessment for children with complex needs using empirical data. The research project, known as the *Sounds of Intent* (*SoI*) project, has been based at the Institute of Education, London and has been part of a series of studies involving music and special education. It is seen as a somewhat natural successor to the survey-based PROMISE research. The *SoI* framework seeks to build a musical assessment protocol for children with SLD and PMLD.

The core research team members of the PROMISE project and *SoI* have been exploring the nature and significance of music in the lives of children and young people with complex needs (Welch et al., 2008; 2009). The PROMISE report attempted to "place music education in a broad and realistic context, and to gauge its potential relevance to children throughout the school day and beyond" (Welch et al., 2001, p. 14) and this provided the impetus for the '*Sound of Intent*' project.

The *SoI* framework attempts to combine: (a) applied findings from 'mainstream' developmental music psychology (such as Lecanuet, 1996; Papoušek, 1996; McPherson, 2006); (b) constructs from Ockelford's 'zygonic' theory of how music makes sense to people (e.g., Ockelford, 2005, 2006); and (c) recently completed exploratory empirical research into musical behaviours in children and young people with complex needs (Ockelford et al., 2005, 2008; Welch et al., 2008).

(i) The *SoI* framework – Phase 1: a PMLD focus

Following the completion of the PROMISE survey, the research team set out to gather evidence by directly observing children and young people with complex needs in order to model their musical development. Part of the project's activities was funded by the Esmée Fairbairn Foundation from 2005 to 2007, again with additional support from the RNIB. The new research team also involved a group of practitioners (musical specialists and non-specialists) to participate in the *SoI* project (Ockelford, 2008). These music practitioners were drawn initially from a national conference in London where the PROMISE report was discussed (Welch et al., 2008).

In Phase 1, the *SoI* project aimed to investigate how children with PMLD engage with music and it was designed to explore the musical behaviours and developmental needs in music of these children. The *SoI* framework offered a common platform for the exchange of ideas about communication and interaction through sound in different disciplines. It also set out to offer a broad curricular outline to inform the development of schemes of work and other planning, such as being a tool for assessment, recording, and organizing resources for children and young people with PMLD.

In this first phase of the project, initial data collection and analysis were carried out with individual cases. The research team analysed video recordings of their own and each other's pupils in detail. They also undertook direct observations in one another's classrooms. Ockelford (2008) observes that "the children's responses, actions, and interactions were carefully noted, and attempts were made to gauge which could reasonably be considered to be representative of musical attainment or progress" (p. 75). The first version of the *SoI* framework was then generated. Even though there was no longitudinal data available of these children, it was felt by the *SoI* research team that this initial model could be used to inform longer-term empirical work as well as being informed by it.

Subsequently, funding was awarded by the Esmée Fairbairn Foundation for a more sustained school based study (Welch et al., 2008). In the first year (2005-2006), a series of visits was conducted over two terms to gather observational data in five special schools. A total of 630 observations of 68 pupils with PMLD were made of their engagement with music. The *SoI* research team

reported that some children and young people with PMLD seemed to react to music according to the basic qualities of sound, such as high and low, loud and soft, quick, and slow. This behaviour mapped against that which might be expected from the first few months of a normal infant musical development, such as in relation to maternal vocalization (Welch et al., 2001; Ockelford, 2008). There is also a developmental relationship between the children's awareness of sound structure and their capacity to respond to it. It was observed by the *SoI* team that some young people with complex needs developed a preference for sound repetition and the capacity to anticipate changes in pitch, loudness, tone colour, or tempo, based on their previous hearings of a short piece. Some of them also seemed to react to music as it stimulated memories of emotional and intuitive experiences with which they were previously associated.

The *SoI* PMLD framework was first designed into two dimensions as 'reactive', which embraced 'listening and responding to musical stimuli', and 'proactive', which signalled 'causing, creating, and controlling music and musical sounds'. A third dimension was added, termed 'interactive', which denoted that 'listening to sounds and making them occurred in the context of participation with others' or actual communication (Ockelford, 2008, p. 77). This new dimension emerged through discussion with practitioners on how they used music and how this might be conceptualized using the emergent *SoI* framework.

The research team then identified five broad levels of attainment as key stages in the recognition and understanding of musical development that children with PMLD were likely to follow. The 'typical' early musical development was used as the basis to map out the *SoI* framework.

To reflect the nature of the videoed observations, the design of the *SoI* framework in the first level of reactive domain was 'encounters sounds', then 'shows awareness of sounds and silence' and then 'attends and responds to a variety of sounds', each of which correspond in 'typical' development to the final months of feotal life into the first few months after birth. The fourth level in reactive domain was 'attends and responds to simple patterns in sound' which corresponded in 'typical' development to two-and-a-half to five months after birth. The fifth level of reactive domain was 'makes distinct response to familiar short pieces, fragments or features of music and/or anticipates clear contrast within a familiar piece' which corresponded in 'typical' development from the age of seven to 11 months.

The first level of the 'proactive' domain was 'makes sounds accidentally' which corresponded in 'typical' development when movement appears in foetal and neonate life. The second level of proactive domain was 'makes sounds intentionally' which corresponded in 'typical' development from birth. The intentionality in sound production comes after the development of an awareness of sound. Therefore, it was hypothesized that the proactive domains would tend to appear after the equivalent reactive stages. The third level of the proactive domain was 'makes a variety of sounds' which corresponded to 'typical' development from birth onwards. The fourth and fifth levels of the proactive domain were 'produces simple patterns by repeating sounds' and 'repeats short groups of sounds, which may incorporate recognisable fragments or features of music' which corresponded to 'typical' development from between four and 11 months.

The 'interactive' domain drew on elements from the reactive and proactive strands. The first level of interactive domain was 'chance interactions' which corresponded in 'typical' development from birth. The second level of interactive domain was 'makes sound in response to external stimulus and/or to stimulate a response' which also corresponded to 'typical' development from birth. The third level and fourth levels of the interactive domain were 'takes

turns, neither copying what is heard nor reacting differently if own sounds are copied' and 'takes turns, copying individual sounds that are heard and/or relishing own sounds being copied' which corresponded in 'typical' development from two months onwards. The fifth level of interactive domain was 'takes turns, copying short patterns in sound and/or anticipating own short patterns being copied' which corresponded to 'typical' development from 12 months onwards or before. The interactive stages only occur alongside or after the equivalent proactive and reactive stages.

While assessing children and young people with complex needs, Ockelford (2008) states:

"Yet the reality is, depending on the nature of their medical condition and its functional implications, that some pupils with PMLD will change, developing new skills and abilities, knowledge, and understanding; some will stay much the same, retaining what they have; while the capacities of others will wane, irrespective of the external input they are given. But, depending on a pupil's personal circumstances, each state may be equally valid. It is the quality of the educational experience in enabling potential to be maximized that the *Sounds of Intent* research team felt was the important thing." (p. 81)

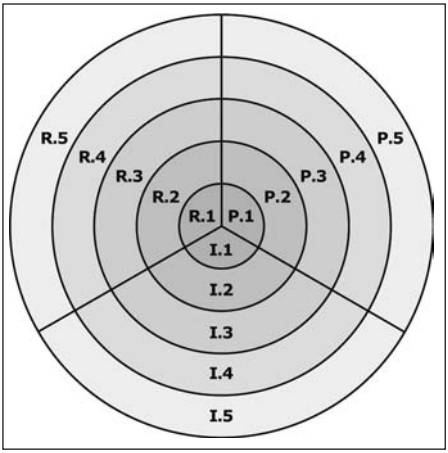


Figure 1: Summary of the domains and levels in the SoI framework for PMLD children and young people.

In presenting the *SoI* framework as a diagram, the research team explored a variety of options before settling on a series of concentric circles that situated the three domains of engagement with music in five developmental levels (see Figure 1). Each level had a descriptor to summarize a particular experience or ability related to PMLD musical development (see Figure 2). Ockelford (2008) acknowledged that "the framework is a gross conceptual simplification of a highly complex area of human activity: it could only function as a model by being selective and summative" (p. 82).

(ii) The *SoI* framework – Phase 2

Whilst evaluating the first version of the *SoI* framework, the research team found several issues that needed to be taken into account to improve and extend the *SoI* framework. Firstly, more detail was needed on the headlines to provide better understanding of each level of attainment. Secondly, there was a need to modify the label wording in the three domains (interactive, reactive and proactive) to fit better the fieldwork observations. Finally, the framework needed to be expanded to encompass the abilities and experiences of children and young people with SLD, whose musicality may be highly developed by any standards (Ockelford, 2008, p. 88). The 630 observations made in five schools during the first phase of the *SoI* research were re-profiled and along with further observations with pupils who have SLD and PMLD's engagement with music, the second version of the *SoI* framework was then generated from modifying the first[1].

The concentric representation of the second version of the *SoI* framework on the musical abilities of children and young people with either SLD or PMLD (= combined to cover complex needs) is shown in Figure 3. The three domains of musical engagement were extended into six

1 Example observations on video were examined with the research team to ensure that the assessment procedure was being applied in a valid and reliable manner.

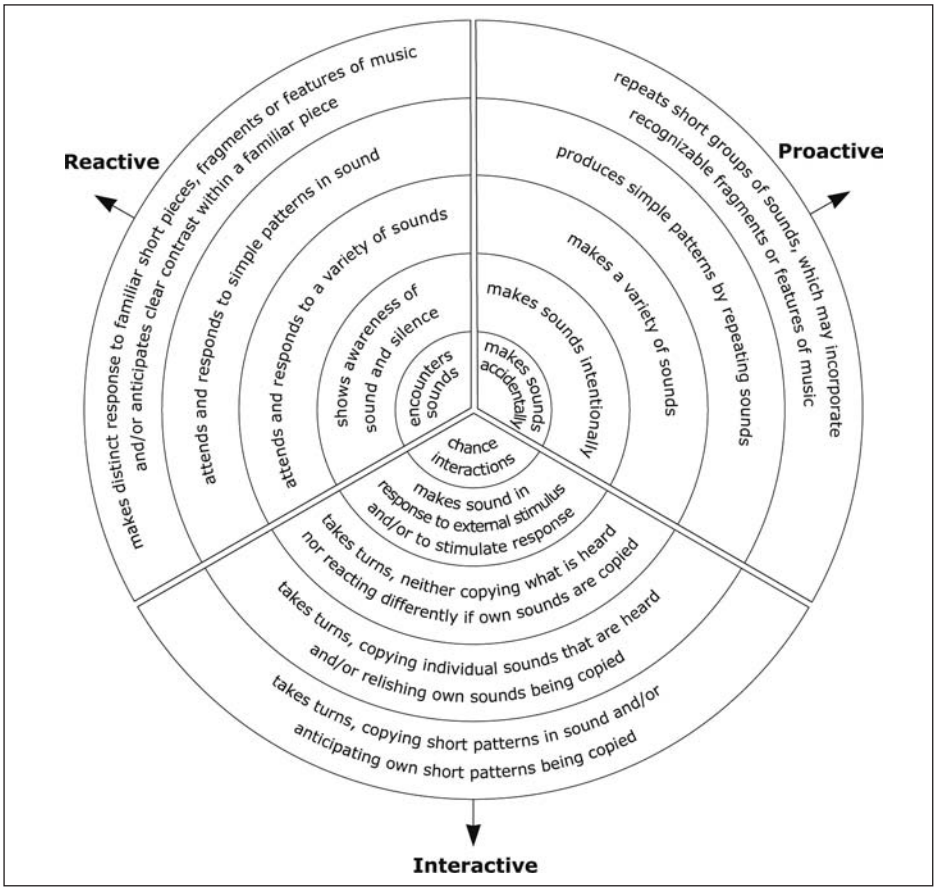


Figure 2: The *Sounds of Intent* framework, Version 1 for PMLD pupils.

levels in the second version of *SoI* framework. Each level was a necessary forerunner or successor to another on the basis of contingency and theories of 'typical' musical development. As previously, the progression of musical development is seen to be moving from the inner to the outer ring.

For each level (n=6) in every domain (n=3), there are four further elements which serve as examples for the researcher/teacher/carer to be able to categorize various musical engagements into relevant levels. Since there are six levels and three domains, the total number of elements is 72 (see Figure 4). For example, the second level in the proactive domain [P.2] – 'causes, creates, or controls sounds intentionally' – has four associated exemplar elements:

P.2.A 'causes sound intentionally through an increasing variety of means';

P.2.B 'creates an increasing diversity of sounds intentionally through an increasing variety of means';

P.2.C 'shows increasing control over sounds that are produced';

P.2.D 'uses sounds in conscious association with particular people, places, and/or activities'.

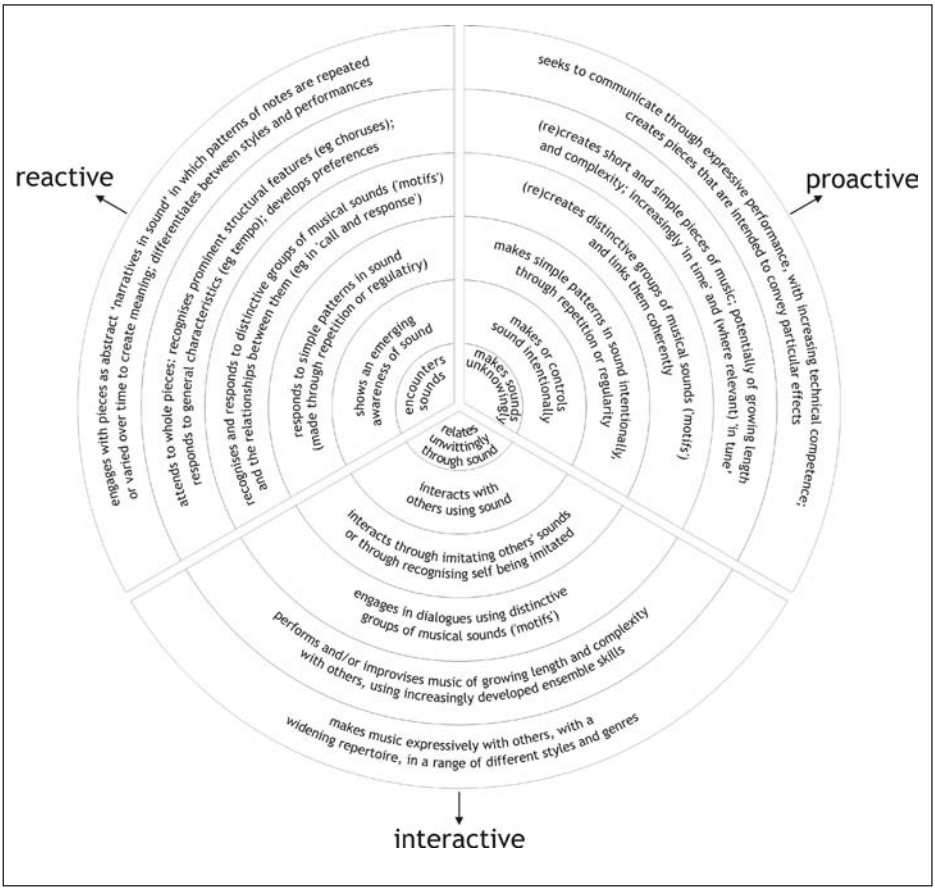


Figure 3: The *Sound of Intent* framework, version 2 for SLD and PMLD pupils.

The research team also designed shaded areas to present different segment headings. The majority of the elements pertain purely to sound and music. Some elements pertain to sound and music being perceived or produced in other sensory contexts, or related to other things. Two elements (P.5.D and P.6.D) refer to a young person's developing technical capacity to perform music. The 630 classroom observations were also used to support the elements' identification and verification in the model. Welch et al., (2008) stated that,

"All development is fuzzy and complex and contextually bound. The new framework [*SoI* framework] is designed to be indicative – to show possible locations and subsequent trends – that may potentially be useful to practitioners as they consider how best to support their pupils' and clients' engagement with music over time… Practitioners should expect profiles of ability and interest to vary in different contexts: it is the long-term trends that are likely to be most valuable in planning appropriate future provision." (p. 7)

The *SoI* framework accommodated the data

that had been gathered within an internally coherent theoretical framework (Ockelford, 2008). It seeks to provide both a simple overarching framework that is sufficiently complex enough for informed judgements to be made in the ways that level descriptors and elements relate to each other within and between the three domains. The achievement at higher levels is dependent on the accomplishment of all those that precede them. The pattern of contingencies that linked the 72 elements are seen to reflect the intricate nature of musical development which is "multi-layered and multi-stranded, with many irregularities." (Ockelford, 2008, p. 105)

A case study of the *SoI* framework in use

As part of the first author's doctoral studies in the area of music and complex needs, extensive fieldwork has been undertaken in a special school in London (Cheng, 2009). The following reports an example of the *Sounds of Intent* framework in use to gather longitudinal data over several months, the first time that it has been applied in such a manner.

J was 11 years old when this research was conducted. The school documentation in J's Individual Educational Plan (IEP) file recorded that J's disabilities included visual impairment, cerebral palsy, epilepsy, severe learning difficulties, physical disability, and speech, language and communication difficulty. J was a wheelchair user. His ethnicity was Black Caribbean and his home language was English. He had two brothers and two sisters in his family. At the time of the research, J was able to say a few single words including 'hi, bye, no, me, more, book' and the names of a few members of staff who had been working with him for years. He would nod for 'yes' and speak in loud voice.

The school record in J's IEP file stated that J needed help in daily living with feeding, moving around, and toileting. He liked to use a switch device to relay a message from home in the morning and to use a switch for conversations around the school. It was reported that he loved being helped to do things with his hands in different classes. Although his school record stated that he had a visual impairment, J seemed to be able to see things when objects or a switch were placed in front of him on his tray during fieldwork observations.

Across the fieldwork observations, J had good control of his seizures through medication and no incidence was observed. He could sit upright by himself without head restraint, but occasionally dropped his head when he became tired, dozed off or lost concentration and interest. J was able to make choices when two options were given to him accompanied by symbols or a verbal prompt. The school documentation in J's IEP file stated that J needed 'firm encouragement' to maximise his potential for learning. In general, J liked doing the tasks requested by the school staff.

For J, the whole observational period was 22 weeks across two school terms from November 2006 to July 2007. In order to increase the validity and reliability of this research, the researcher only considered the musical behaviour in the weeks that had video or audio recordings.[2] In weeks 1 and 2, the researcher was exploring and orientating herself in the environment. In weeks 4 and 13, J was absent. In weeks 8 and 9, the researcher had problems with audio recording devices. Therefore, the formal recording for J's musical behaviours started from week 3, and video or audio data for weeks 4, 8, 9, 13, were not available. Consequently, the total number of weeks with available data according to the above criteria is 16.

For the whole observational period, musical behaviour and development for J could be further divided into two developmental

2 Where an observation embraces more than one type of categorisation, then more than one SoI framework number and level are indicated.

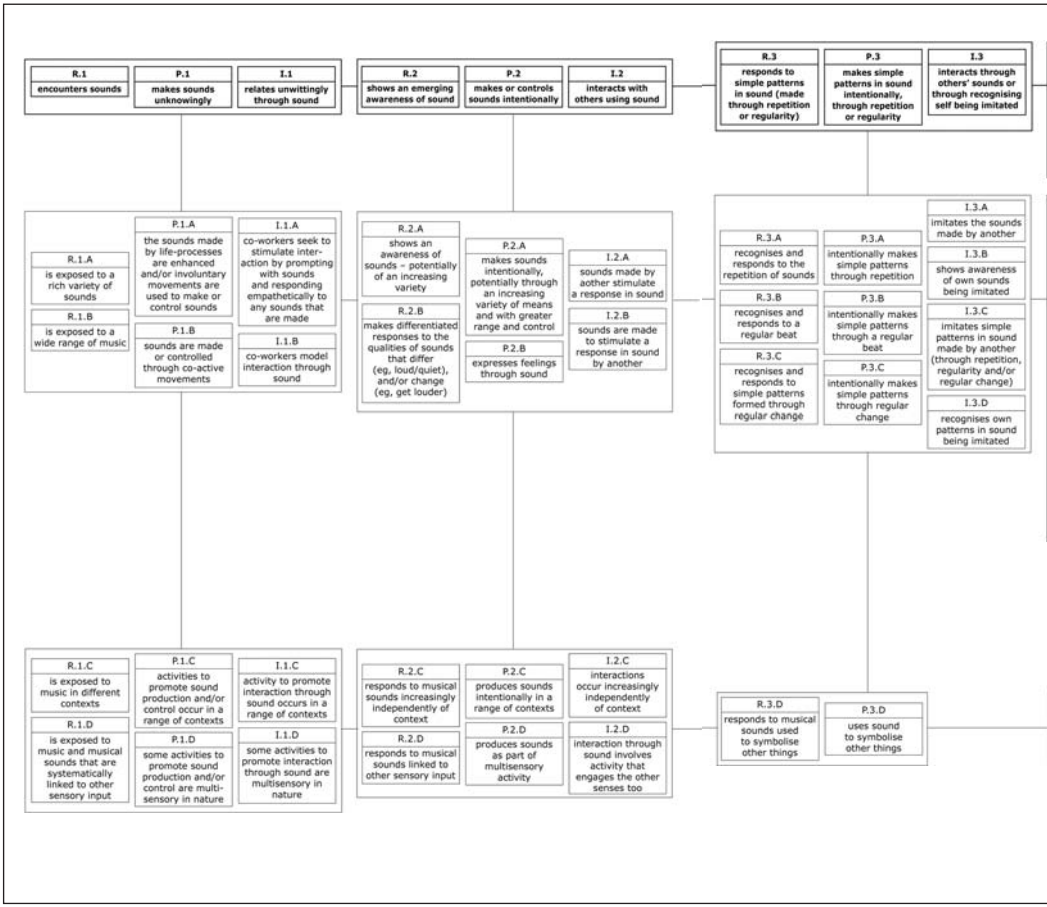
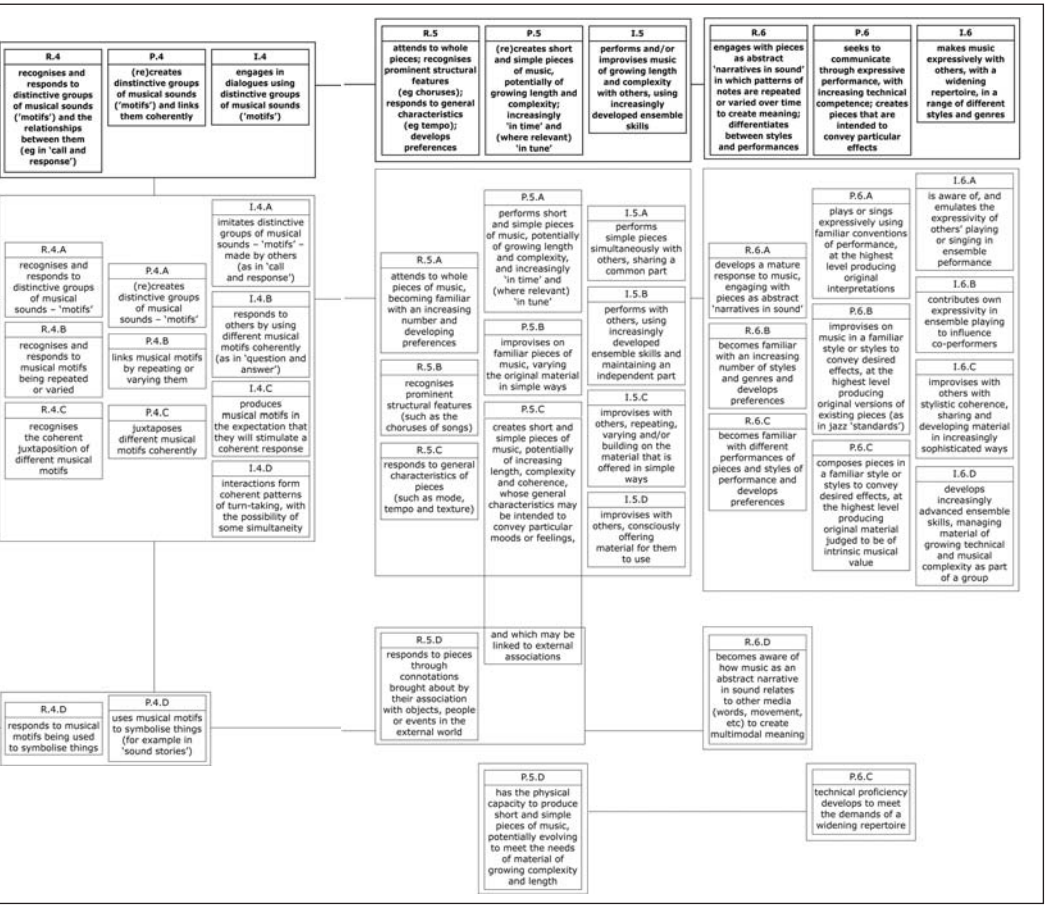


Figure 4: The second SoI framework with exemplar elements.

phases. A special music community link project called 'Music Makers Sing!' served as a natural separation point.[3] This project changed the nature of the musical curriculum being offered by the addition of two professional musicians and a music technician. For phase one, the starting point was when the researcher went into the school and began her fieldwork observations, and the end point was the week before the music project launched. For phase two, the starting point was the beginning of the special music project and the end point was the week that the project finished.

3 From week 15, the children in J's class started to work on a special music project called 'Music Makers Sing!' with a well-known professional orchestra as part of the orchestra's discovery series. The children started to use the switch pads in singing two songs called 'Hop along popcorn' and 'Sugar cake'. Subsequently, they performed on stage with the orchestra in the Barbican Centre, a major international music centre in the City of London, in week 21. The music project involved 7 different schools, one youth choir, one instrumental learning programme, the orchestra, and special guests. The project was supported by the Cripplegate Foundation, Finsbury Educational Foundation, Peter Harrison Foundation, Capital Radio's Help a London Child, and the Marina Kleinwort Charitable Trust. The children's family members were also invited to go to the concert in week 21.



Therefore, phase one was from week 1 to 14 and phase two was from week 15 to 21.

Overall, 543 moments of musical engagement for J were noted over the fieldwork observational period. When allocated to the three *SoI* domains, there were 191 events in the reactive domain, 201 events in the proactive domain, and 151 events in the interactive domain. For the whole observational period, there were an average of 12 events in the reactive, 13 events in the proactive, and 9 events in the interactive domain per observational week.

Initial impression in week 1 and 2

The researcher's first impression with J when she met him in November 2006 was that he was quiet and had only a short concentration span in the music lessons. The music teacher commented that J often dozed off during the music sessions whilst the teacher was working with other children. J did not participate much on his own initiative.

J's main non-verbal communication was through vocalisation, facial expression, and

body movement. J needed fully prompting in his instrumental playing due to his physical disability which meant that he could not hold a beater or instruments to play. He would look where the sounds came from and showed an emerging awareness of sounds, especially when someone came through the door or when school staff members talked to him. At times, J would produce fleeting reflexive vocal sounds related to certain social interactions or musical contexts. In the lunch break observations, J often sat in his wheelchair and sucked his thumbs quietly. Sometimes it seemed that he merged into the background when situated in a big group context.

However, he engaged well in one-to-one interaction, especially when the music teacher sang a familiar song to him such as, for example, the 'Hello song' in the music lesson. He would vocalise 'hello' back to the music teacher within the musical phrase clearly. J seemed to recognise the musical structure of the repeated 'Hello song' which the children had sung for two to three years. He started to respond actively using his vocalisation when the music teacher sang the song in the beginning of each lesson.

Week 3

In week three, J responded to the 'Hello song' through using vocal sounds. J had responsive and direct intentional vocalisation to the teacher's direct face-to-face greeting in singing the 'hello song'. He vocalised with the teacher's singing and he could sing his name clearly and appropriately in the 'hello song'. It seemed that he knew the music sequence and understood when he needed to respond in the song. (This was coded within the SoI framework as R4A, P4A, I4B[1]).

In a musical activity called 'Coo, coo, where are you?', the teacher wheeled J to sit in front of the class and turned him around. J was asked to guess which child played the triangle when the teacher sang 'Coo, coo, where are you?' (s m ss m). J had several wrong guesses in the beginning and then he began to get the answers correct. It was hard to say whether J was able to distinguish the instrumental sound quality or recognised the direction of the sound when facing away from the sound source. However, he was able to imitate the teacher in saying the child's name who played the triangle (coded R3A, I2D). J also allowed the music teacher to hold his hands to tap a rhythmic pattern (♩♩♫♩) on his tray while the teacher sang 'Coo, coo, where are you?' (R3A, I2C).

In a similar group activity, J formed fragmentary responses through his vocalisation along with the teacher's singing (R3A, I3A).

J enjoyed laughing to certain social contexts. For example, he giggled at the teacher's exaggerated animal sounds while chanting the rhythmic sequence: quack, quack, quickie quack! (♩♩♫♩) and took his hand to point to the rhythmic card (R2B, P2B, I2A). When given enough time, J was able to respond and said the last word of the rhythmic chanting through imitating the teacher's sounds (R3C, P3A, I3C).

In recognition of musical symbols, J was able to say the first and last word 'ta' of the rhythmic sequence on 'ta ta ti ti ta' (♩♩♫♩) a few times in the lesson. Especially with the last word 'ta', J would say it with loud, expressive, and confident sound which probably showed his awareness at the ending of the musical phrase (R4A, P4A, I4A). When everyone clapped for him, he screamed with excitement. However, his performances on this task fluctuated in focus in the music lesson.

The teacher asked another child to distinguish and make a connection between the rhythmic notation (♩♩♫♩) and chanting 'ta ta ti ti ta' by offering her three different rhythmic notations to choose. When the teacher read out the correct rhythmic notation card while tapping the rhythm with a stick, J joined the activity with his vocalisation and imitated the last word 'ta' with more consistency (R3D, I3C). In the 'Goodbye song', when the teacher sang 'goodbye' to J, he responded 'goodbye' back to the teacher (R3A, P3A). J also interacted independently of his peers

by saying 'goodbye' within the structure of the song followed by the teacher's instruction (R4A, P3C, I4A).

Week 12

In week 12 (approximately the mid point of the reported observation period), the teacher was preparing the children to practise the animal song and planned to present the song in the school assembly. J had a 'long' conversation with the teacher by answering yes or no. He understood the questions well and was clear about the answers, demonstrating a good memory of the previous week's task (e.g. presented with a dog and producing a 'bow wow wow' sound) (coded as R4A, P4A). He followed the teacher's instructions well when the teacher asked him to press the switch to see if the switch was working. J also pressed the switch appropriately when it was his turn (R4D, P4D, I4D) in turn taking with another child in the animal's song.

Later, J pressed the switch with good timing within the prominent musical structure even though the song was becoming more complex with an increased length (up to six animals in turn taking with other children involved several times) (R5B, P5A, I5A). When the teacher asked the children to choose an instrument to represent their animals, J chose a shaker to represent the dog in the song. For instrumental playing, J found it hard to play because of his physical difficulties and needed the TA's hand to help. When it was J's turn to play the shaker, he sometimes vocalised to show his awareness (R5A, P1B, I4D). The researcher felt that he recognised the turn taking and the structural features of the song, but his responses were constrained due to his physical disabilities and communication difficulties.

Week 21

In week 21's music lesson, the orchestral musicians came in for a rehearsal with the children on the two songs for their planned performance in three days time. J opened his mouth and lifted up his hands when he listened to the live music playing. The teacher held J's hands and moved to the music to dance. J had big smiles on his face and appeared very happy (R4B).

The music teacher handed the children some shakers and small drums for them to play along with the live music. J vocalised shortly when the teacher held his hand to play a shaker and he enjoyed it very much with a big open mouth (R4B, P1B). The teacher then gave J a big drum and helped him to beat on the drum according to the live music's tempo. J had expressive vocalisation toward the ensemble playing (R4B, P1B). J's left hand was relaxed down on the tray and his face lit up.

When the musicians started to play one of the songs and the researcher sang quietly to a child who sat next to J, J recognised the song immediately and turned to the researcher with wide opened mouth and big smile (R4B). In practice, the teacher asked J to sing the musical phrase 'bobble bobble sugar cake' and J vocalised in response (R4D, I4D).

In a rehearsal of the songs, J was presented with the musical phrase 'spice and coconut' and vocalised in time when it was his turn and opened his mouth wide open with evident full engagement (R5B, P5A, I4D). J listened very well with good concentration throughout the whole song and vocalised the very last word 'lot' in a good timing with the teacher's singing (R5A, P5A, I5A). When the teacher placed the switch in front of J, he pressed the switch in turn taking with other children (R5A, P5A, I4D). When the teacher moved away, J's eye followed the teacher's direction. Later, the music teacher went up to J and held his hands. J vocalised a short pattern of musical sounds in turn taking with others in the song 'sugar cake' (R5B, P5A, I4D).

On the second song 'hop along popcorn', J started vocalising while he heard the teacher singing: 'in out, up down, catch me if you can'. J was very excited and vocalised with great

enjoyment (R5C, P5A, I5A). He sang at the very last word 'can' clearly and in good timing. J's singing got more confident when the TA sang the music with him. He turned to the TA with louder voice at the end of the song. He was smiling and listened well to the music (R5B, P5A, I5A). Later, J started to vocalise expressively with another child and the teacher's singing in good voice (R5A, P5B, I5B).

J participated in singing and vocalising the two songs along with the teacher's singing. His vocalisation was sometimes in time and in tune with the music. Because of his visual impairment, he might not always know who sat next to him when it was his turn to press the switch in the group performance. The Teaching Assistant (TA) needed to whisper in his ear and adjusted the switch on his left hand side so that J would have a better position to press the switch. However, this did not always work and the TA would take the switch to touch J's hand if they waited for too long.

In listening to live music played by the orchestra musicians, J put his left hand thumb into his mouth and then closed his eyes, seemingly in reflection to the mood of the music. When the music finished, J opened his eyes and looked at the musician's direction (R4D).

An overview of J's behaviour and development over time

An overview of J's observed musical behaviours according to the SoI framework are shown in the table below (Table 3) which aggregates all the weekly data within each phase across the three domains.

Phase 1

The table shows that J's musical behaviours range was from R1 to R5 in the reactive domain in phase 1. There is a concentration in the reactive domain located at R4, which corresponds to 'recognises and responds to distinctive groups of musical sounds and the ways they relate' in the *SoI* framework. R3 and R5 occurred less frequently, whereas R1 and R2 musical behaviours occurred only a few times. Overall, in the reactive domain, most observations occurred at R3 and R4, which accounted for 67% of the total occurrences, with the concentration locating at R4.

In the proactive domain, J's musical behaviours ranged from P1 to P5. The concentration was located around P3 and P4, which corresponds to 'intentionally makes patterns in sound through repetition or regularity' and 'creates or re-creates short groups of musical sounds and links them coherently' in the *SoI* framework, whereas P1 and P2 occurred only rarely. The occurrence frequency of P5 is roughly between the frequency of P3 and P2. Overall, most observations concentrated at P3 and P4, which accounted for 64% of the total occurrences.

In the interactive domain, J's musical behaviours ranged from I2 to I5. The concentration was located at I4, which corresponded to 'engages in dialogues using distinctive groups of musical sounds' in the *SoI* framework. Compared with I4, all the rest of the levels occurred only moderately. Overall, the pattern in the interactive domain had a greatest concentration at I4, which accounted for more than 50% of the total occurrence.

It is possible to convert this data into a phase concentric profile (Figure 5) to summarise the analysis above. This concentric profile illustrates J's music-developmental status in phase 1.

Phase 2

In phase 2, J's reactive musical behaviours ranged from R3 to R5, and the concentration was located at R5, corresponding to 'attends to whole pieces: recognises prominent structural features; responds to general characteristics; develops preferences' in the *SoI* framework. R4 occurred relatively less frequently, and R3 occurred relatively rarely. Overall, for the reactive domain, most of J's observed musical behaviours

occurred at R5, which accounted for 57% of the total observations.

In the proactive domain, J's musical behaviours ranged from P1 to P5. The concentration was located at P5, corresponding to '(re)creates short and simple pieces of music, potentially of growing length and complexity; increasingly "in time" and (where relevant) "in tune" in the *SoI* framework. Overall, most of J's observed musical behaviours were concentrated at P5, which accounted for 48% of the total occurrences.

In the interactive domain, J's musical behaviours ranged from I2 to I5, and the concentration was located at I4, corresponding to 'engages in dialogues using distinctive groups of musical sounds' in the *SoI* framework. Overall, most of J's observed musical behaviours occurred at I4, which accounted for 64% the total occurrences.

As previously for phase 1, a phase concentric profile can be created (Figure 6) to summarise the analysis above. This concentric profile illustrates J's musical behaviour and developmental status in phase 2.

Phase comparison and analysis

Figure 7 collates the above data to generate a stack profile which includes data from both phase 1 and phase 2 of J's musical development.

In comparing J's musical behaviour and development across phases one and two of the school's musical year, there were obvious changes across all three domains.

In the reactive domain, not only did the range converge from R1-R5 in phase 1 to R3-R5 in phase 2, the concentration also moved from R4 in phase 1 to R5 in phase 2. Furthermore, the combined concentration of R4 and R5 increased from 71% in phase 1 to 87% in phase 2.

In the proactive domain, the range stayed the same through the two phases. These all ranged from P1 to P5. However, the concentration structure apparently changed. Whereas in phase

Table 3: Relative frequency distribution table for J in phase one and two.

Phase Profile by Relative Frequency (%)								
Phase 1								
Domain	**Freq**	**%**	**Domain**	**Freq**	**%**	**Domain**	**Freq**	**%**
R1	1	1	P1	4	3	I1	0	0
R2	6	6	P2	12	10	I2	18	22
R3	23	22	P3	40	34	I3	8	10
R4	48	45	P4	35	30	I4	44	54
R5	28	26	P5	25	22	I5	12	15
R6	0	0	P6	0	0	I6	0	0
Total	106	100	Total	116	100	Total	82	100
Phase 2								
Domain	**Freq**	**%**	**Domain**	**Freq**	**%**	**Domain**	**Freq**	**%**
R1	0	0	P1	12	15	I1	0	0
R2	0	0	P2	1	1	I2	9	14
R3	10	13	P3	9	11	I3	1	2
R4	24	30	P4	20	25	I4	42	64
R5	45	57	P5	39	48	I5	14	21
R6	0	0	P6	0	0	I6	0	0
Total	79	100	Total	81	100	Total	66	100

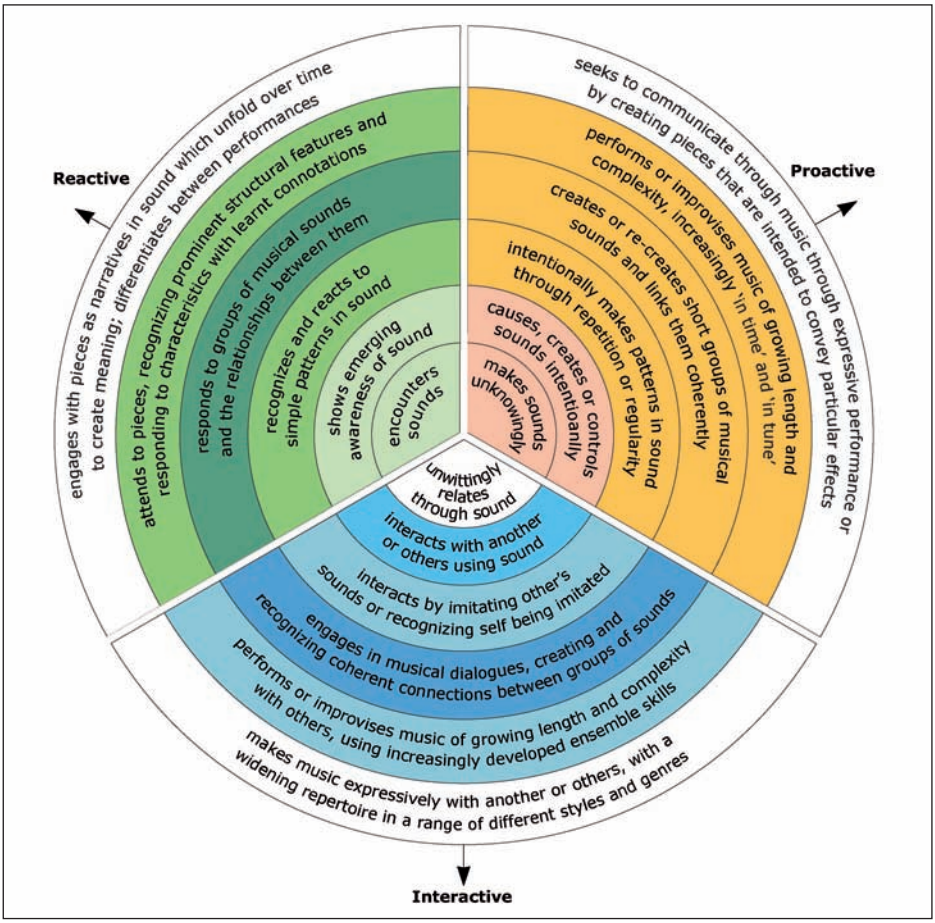


Figure 5: A concentric profile for J's musical behaviour in phase one.

1 the combined concentration of P4 and P5 was at 52%, the combined concentration increased significantly to 73% in phase 2.

In the interactive domain, the range also stayed the same through the two phases. They all ranged from I2-I5. Even the main concentration stayed at I4 across the two phases. However, change could still be seen in the overall concentration structure. Whereas in phase 1 the combined concentration of I4 and I5 was at 69%, this combined concentration increased to 85% in phase 2.

Overall, the distributional pattern analysis suggests that there was progress in J's musical development from phase one to two. Across all three domains, J's observed musical development trend was towards more complex musical behaviours. Either the range converged to higher levels of development, or the overall concentration structure moved towards higher levels. The comparison between the two concentric profiles above also offers similar illustrations of J's musical development from phase 1 to phase 2. The

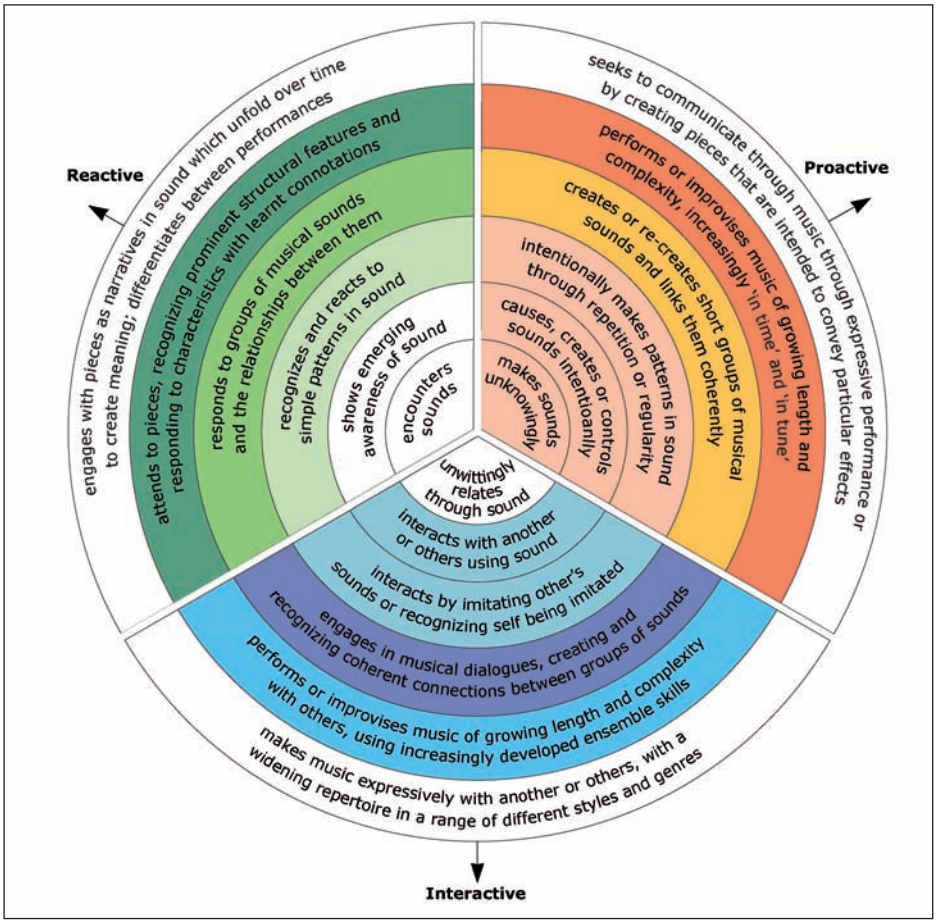


Figure 6: A concentric profile for J in phase two.

concentric profiles demonstrated an outward moving tendency from simple to more complex musical behaviours for J across all three domains.

Summary

This paper briefly reviewed a range of literature concerning special educational needs (SEN) and the current UK government guidance on music curriculum and assessment, with its performance descriptions 'P-levels' for music, published by QCA in 2001.

The paper also set out the *SoI* theoretical framework, which provides another route to assess these children's musical development. The *SoI* framework offers a basis for curriculum planning and delivery, and to assess attainment and progress in musical activities for children and young people with complex needs.

The three domains ('Reactive', 'Proactive', and 'Interactive') of musical engagement are presented through a series of concentric circles. Each domain has six levels to depict

Phase Profile Chart			
Phase 1		Phase 2	
Domain	%	Domain	%
R1	1	R1	0
R2	6	R2	0
R3	22	R3	13
R4	45	R4	30
R5	26	R5	57
R6	0	R6	0
Phase 1		Phase 2	
Domain	%	Domain	%
P1	3	P1	15
P2	10	P2	1
P3	34	P3	11
P4	30	P4	25
P5	22	P5	48
P6	0	P6	0
Phase 1		Phase 2	
Domain	%	Domain	%
I1	0	I1	0
I2	22	I2	14
I3	10	I3	2
I4	54	I4	64
I5	15	I5	21
I6	0	I6	0

Figure 7: A stack profile for J's musical behaviours across the two phases.

different levels of achievement, engagement or experience and to illustrate important contingent relationships between them. The *SoI* framework tries to portray the notion of growth "of expanding from a small inner core of self to a wider world of other" (Ockelford, 2008, p. 81).

As an application of the current *SoI* framework, a case study analysis was then presented to illustrate the musical behaviour and development of a child with complex needs. The analysis looked into weekly musical behaviour for child J over two school terms, and J's musical development was divided into two phases by a special music project launched in the music class.

Through the application of the *SoI* framework, detailed longitudinal data-gathering and analysis of musical behaviour data for child J is provided from several perspectives, including weekly musical behaviour comments and phase analysis, with relevant stack and concentric profiles to illustrate J's musical development over time. This longitudinal case study helps to map out empirically the individual child's music-developmental profiles over time.

The case study findings, illustrated through the analysis for J, suggest that J did indeed develop musically over the observational period. Across all three domains in the *SoI* framework, J's

observed musical development tended towards more complex levels of musical engagement.

References

Cheng, E. (2009). Musical behaviour and development of children and young people with complex needs: longitudinal music education case studies. Unpublished upgrade thesis. London Institute of Education.

House of Commons Education and Skills Committee (2006) *Special Educational Needs – Third Report of Session 2005-2006*. London: The Stationery Office Limited.

Jaquiss, V. & Paterson, D. (2005). *Meeting SEN in the Curriculum: Music*. London: David Fulton.

Lecanuet, J. P. (1996). Prenatal Auditory Experience. In I. Deliege & J. Sloboda (Eds) *Musical Beginnings – Origins and Development of Musical Competence* (pp. 3-34). Oxford: Oxford University Press.

McPherson, G. (2006). *The Child As Musicians – A Handbook of Musical Development*. New York: Oxford University Press.

Ockelford, A. (2005). Relating Music Structure and Content to Aesthetic Response: A Model and Analysis of Beethoven's Piano Sonata Op. 110. *Journal of the Royal Musical Association, 130*(1), 74-118.

Ockelford, A., Welch, G. F., Zimmermann, S. A., & Himonides, E. (2005). Sounds of Intent - Mapping, Assessing and Promoting the Musical Development of Children with Profound and Multiple Learning Difficlties. *International Congress Series* 1282: 898-902.

Ockelford, A. (2006). Implication and Expectation in Music: a Zygonic Model. *Psychology of Music, 34*(1), 81-142.

Ockelford, A. (2008). *Music for children and young people with complex needs*. Oxford: Oxford University Press.

Papoušek, H. (1996). Musicality in Infancy Research: Biological and Cultural Origins of Early Musicality. In I. Deliege & J. Sloboda (Eds.), *Musical Beginnings - Origins and Development of Musical Competence* (pp.37-55). Oxford: Oxford University Press.

Papoušek, M. (1996). Intuitive Parenting: A Hidden Source of Musical Stimulation in Infancy. In I. Deliege & J. Sloboda (Eds.), *Musical Beginnings - Origins and Development of Musical Competence* (pp. 88-112). Oxford: Oxford University Press.

Qualifications and Curriculum & Authority. (2001). *Planning, Teaching and Assessing the Curriculum for Pupils with Learing Difficulties*. London: QCA.

Welch, G. F., Ockelford, A., & Zimmermann, S. A. (2001). *Provision of Music in Special Education: PROMISE*. London: University of London Institute of Education and Royal National Institute for the Blind.

Welch, G. F. (2006). Singing and Vocal Development. In G. E. McPherson (Ed.), *The Child as Musician - A Handbook of Musical Development* (pp. 311-330). New York: Oxford University Press.

Welch, G. F., Ockelford, A., Zimmermann, S.-A. & Himonides, E. (2008). *Sounds of Intent Research Project Outcomes - Assessing, Recording and Promoting Musical Development in Children with Profound and Multiple Learning Difficulties: Research Project Outcomes*. London: Institute of Education.

Welch, G. F., Ockelford, A., Carter, F. C., Zimmermann, S. A. & Himonides, E. (2009). 'Sounds of Intent: Mapping Musical Behaviour and Development in Children and Young People with Complex Needs'. *Psychology of Music*. 37(3),348-370.

Endnotes

1 The second version of SoI framework level 2 integrated first version's levels 2 and 3 and the second version's level 3 had previously been the first version's level 4. To extend the model to include children and young people with SLD, a further three broad levels of attainment were hypothesized and designed to include levels that corresponded to 'typical' development (Lecanuet, 1996; Papoušek, 1996; McPherson, 2006) from age 7 to 11 months in level 4, 4 to 5 years in level 5, and early teenage years in level 6 in the second version of SoI framework (Ockelford, 2008). Finally, some of the headings were modified to give a better integration with the observations.

In reactive domain for SoI framework second version, level 4 now became 'responds to groups of musical sounds and the relationships between them' which corresponded in 'typical' development from 7 to 11 months onwards. Level 5 in reactive domain was 'attends to pieces, recognizing prominent structural features and responding to characteristics with learnt connotations' which corresponded to 'typical' development from the age of 4 to 5 years. Level 6 in reactive domain in second version was 'engages with pieces as narratives in sound which unfold over time to create meaning; differentiates between performances' which corresponded to 'typical' development from the early teenage years.

In the proactive domain of the second version of SoI framework, level 4 became 'creates or re-creates short groups of musical sounds and links them coherently' which corresponded to 'typical' development from the age of 7 to 11 months. Level 5 became 'performs or improvises music of growing length and complexity, increasingly 'in tune' and 'in time' which corresponded to 'typical' development from the age of 4 to 5 years. Level 6 in the proactive domain on the second version was 'seeks to communicate through music through expressive performance or by creating pieces that are intended to convey particular effects' which corresponded in 'typical' development from the early teenage years.

In the interactive domain of the second version of SoI framework, level 4 was 'engages in musical dialogues, creating and recognizing coherent connections between groups of sounds' that corresponded to 'typical' development in the age of 7 to 11 months. Level 5 in the interactive domain on second version was 'performs or improvises music of growing length and complexity with others, using increasingly developed ensemble skills' which corresponded to 'typical' development fro the age of 4 to 5 years. Level 6 in the interactive domain on the second version was 'makes music expressively with another or others, with a widening repertoire in a range of different styles and genres' which corresponded to 'typical' development of the early teenage years.

Evangeline Cheng is a Doctoral candidate in the Institute of Education, the University of London.

Professor Adam Ockelford teaches in the University of Roehampton, London. Adam has had a lifelong fascination for music, as a composer, performer, teacher and researcher. While attending the Royal Academy of Music in London, Adam started working with children with special needs – a number of whom, he noticed, had special musical abilities too – and he became interested in how we all intuitively make sense of music, without the need for formal education. Adam pursued this issue and gained a PhD in music at Goldsmith's College in London in 1993, in which he set out his 'zygonic' theory of musical understanding. This theory has proved a valuable tool in music theory and analysis, in investigating musical development and exploring interaction in music therapy and education. Adam is Secretary of the Society for Education, Music and Psychology Research ('SEMPRE'); Chair of Soundabout, an Oxfordshire-based charity that supports music provision for children and young people with complex needs; and founder of The AMBER Trust, a charity that supports visually impaired children in their pursuit of music.

Professor Graham Welch teaches in the Faculty of Culture and Pedagogy Department of Arts and Humanities, Institute of Education, the University of London. Areas of interest include: musical development and education across the lifespan, including in mainstream and special schools and community settings; lifespan singing and vocal development; and music teacher education. Graham's professional activities include Elected Chair of the internationally based Society for Education, Music and Psychology Research (SEMPRE), President Elect of the International Society for Music Education (ISME) (becoming President in 2010) and past Co-Chair of the Research Commission of ISME. Current and recent Visiting Professorships include the Universities of Queensland (Australia), Limerick (Eire), Sibelius Academy (Finland), as well as Canterbury Christ Church, Coventry, Roehampton, UEL and the Royal College of Music in the UK. Member of the UK Arts and Humanities Research Council's (AHRC) Review College for music. Acted as a specialist consultant on (i) aspects of children's singing and vocal development for the USA National Center for Voice and Speech (NCVS) in Denver, the Swedish Voice Research Centre in Stockholm, as well as UK and Italian Government agencies; (ii) the British Council in the Ukraine and Ministry for Education and Youth in the United Arab Emirates on education and teacher development; and (iii) the National Research Foundation of South Africa and British Council in Argentina on the development of the national research cultures in music. Current external examining at Masters' level: Limerick, Reading. Extensive PhD examinations across the world.