

# Feature

## The Sounds of Intent project: modelling musical development in children with learning difficulties

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### Abstract

**Purpose** – *The purpose of this paper is to set out the current status of the Sounds of Intent project, and explains some of the theoretical thinking that has underpinned its development over a period of 12 years. Sounds of Intent maps the musical development of children and young people with learning difficulties. It currently exists as an online resource that offers practitioners a framework for assessment (with an online recording tool), information and downloadable resources.*

**Design/methodology/approach** – *The approach to the development of Sounds of Intent has been through two main phases: first, exploratory, qualitative analysis was used to inform the development of a model setting out how musical abilities and engagement are thought to develop in children and young people with learning difficulties; and second, the framework's efficacy has been evaluated through gathering data from a number of practitioners in the field that has been analysed principally through quantitative means.*

**Findings** – *The principal findings of the Sounds of Intent project to date are that virtually all children (with the exception of those who are incapable of processing sound or vibration at all) are able to engage with music, whether reactively, proactively or interactively. The great majority have potential for musical development that can be realised over time, given an appropriately rich and engaging environment.*

**Originality/value** – *Sounds of Intent is the first research project in the world to focus on the musical development of children and young people with learning difficulties, and makes the first attempt to set out how this may occur. Since its public launch in 2012, the Sounds of Intent web site has had over 4,000,000 unique hits, with over 500,000 downloads of resources, from people all over the world.*

**Keywords** *Development, Music, Assessment, Young people, Children, Profound and multiple learning difficulties*

**Paper type** *Research paper*

### Music education for children with learning difficulties – a neglected area of research

Some 15 years ago, in the knowledge that music education for children with learning difficulties was a research-free zone, I produced a position paper that set out issues in UK provision that were current at the time, posited a new conceptual framework for teachers and therapists working in the area, and presented potential areas for investigation (Ockelford, 2000). Several initiatives followed, including a doctoral study by Kyproulla Markou at the University of Roehampton that examined the relationship between music education and music therapy for pupils with complex needs (see Ockelford, 2008, pp. 37-45; Markou, 2010), and a survey of the music offered in special schools in England for children with learning difficulties, which was subsequently known as the "PROMISE" report (see Welch *et al.*, 2001; Ockelford *et al.*, 2002). Based on data from 52 special schools, which together made provision for 2,758 pupils,

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PROMISE offered evidence of a widespread recognition of the potential benefits of music to children with severe learning difficulties (SLD) or profound and multiple learning difficulties (PMLD), both as an area of development in its own right, as well as having the capacity to support wider learning and well-being (Welch *et al.*, 2001, p. 8). However, there was a lack of guidance as to how to frame or deliver music education for these groups, and this led to the establishment of the Sounds of Intent project, whose aim was to map the musical development of children and young people with SLD or PMLD (see, e.g. Ockelford *et al.*, 2005; Welch *et al.*, 2009; Cheng *et al.*, 2009; Vogiatzoglou *et al.*, 2011; Ockelford and Zapata Restrepo, 2012). Once this mapping was complete, the intention was to produce an interactive web-based version of the resulting developmental framework, which would enable practitioners and parents to gauge their children's levels of musical attainment, to chart the changes that may occur over time and in response to particular interventions, and to record qualitative observations in the form of verbal, video or audio data to build up a profile of a child's experiences and achievements over time (see [www.soundsofintent.org](http://www.soundsofintent.org)). The latest version of the web site went live in February 2012. In the ensuing three years, the online platform has had over 4.1 million unique visitors from all over the world, with a little over 500,000 downloads of materials, comprising video and audio files, work-cards, pupil registration forms and a paper setting out how the English "P"-scales for music relate to the Sounds of Intent framework. There are currently something over 500 registered practitioners, representing over 160 schools and other organisations, with over 2,000 pupils being assessed using the online system.

### *Setting up Sounds of Intent – initial evidence*

From the beginning, the Sounds of Intent research team adopted a "bottom up" approach, working with a group of practitioners – music therapists, teachers and others – in an attempt to develop accurate descriptions and shared interpretations of the different types and levels of musical engagement that they observed among their pupils and students with SLD or PMLD. Members of the group undertook detailed analyses of video recordings of musical behaviours that were deemed to be "typical", "exceptional" or otherwise felt to be of particular interest. The responses, actions and interactions of children with a very wide range of ability and need were carefully noted and encapsulated in short descriptions such as the following:

Abigail sits motionless in her chair. Her teacher approaches and plays a cymbal with a soft beater, gently at first, and then more loudly, in front of her and then near to each ear. Abigail does not appear to react.

Rosina is lying in the "Little Room", vocalising in an almost constant drone. Occasionally a sudden movement of her right arm knocks her hand against a bell. Each time, she smiles and her vocalising briefly turns into a laugh.

Taybah brushes her left hand against the strings of guitar that someone is holding near to her. There is a pause and then she raises her hand and brushes the strings again, and then for a third time.

Wendy giggles when people repeat patterns of syllables to her such as "ma ma ma ma ma", "da da da da da", or "ba ba ba ba ba".

Carol copies simple patterns of vocalisation – imitating the ups and downs of her speech and language therapist's voice.

Emily makes up songs with short phrases that sound connected – and when her teacher listened carefully to a recording that she had made of Emily's singing, she noticed that one phrase often started more or less where the other one left off.

Faisal has severe learning difficulties and hemiplegia. He plays the keyboard with his left hand only, learning material by ear. He has recently joined the school's band, and has found a role for himself playing the bass parts. Now he not only picks up on what the left hand of the other keyboard player is doing, but he has started to improvise around the harmonies too.

It quickly became evident to the Sounds of Intent researchers, in the light of examples such as these, that it would be difficult (if not impossible) to conceptualise musical development in terms of a single dimension. Following extensive discussion within the group, three domains emerged that were believed to capture children's different forms of musical engagement in a way that was meaningful and potentially useful to practitioners: "reactive" (listening and responding to sound

and music), “proactive” (making sound and music oneself) and “interactive” (engaging with sound and music in the context of others). It was also apparent that the behaviours that were observed covered a huge developmental range, from what appeared to be the very beginnings of musicality (or even, in some cases, stages of development in which musicality was yet to evolve) to highly sophisticated levels of musical engagement. Following a number of attempts, the research and practitioner group concluded that music-cognitive development in children and young people with learning difficulties could reasonably be conceptualised in terms of six levels. These are set out in Table 1.

**Representing the Sounds of Intent framework visually**

Extending the six Sounds of Intent levels across the three domains of musical engagement that were identified gave rise to the following “headlines” or “level descriptors” of musical engagement (see Figure 1). These were arranged as 18 segments in circular form, which were regarded as being the most appropriate metaphor for children’s development, ranging from the centre, with its focus on self, outwards, to increasingly wider communities of others. For ease of reference, levels were ranked from one to six, each of which could be preceded with an “R”, a “P” or an “I”, to indicate, respectively, reactive, proactive or interactive segments.

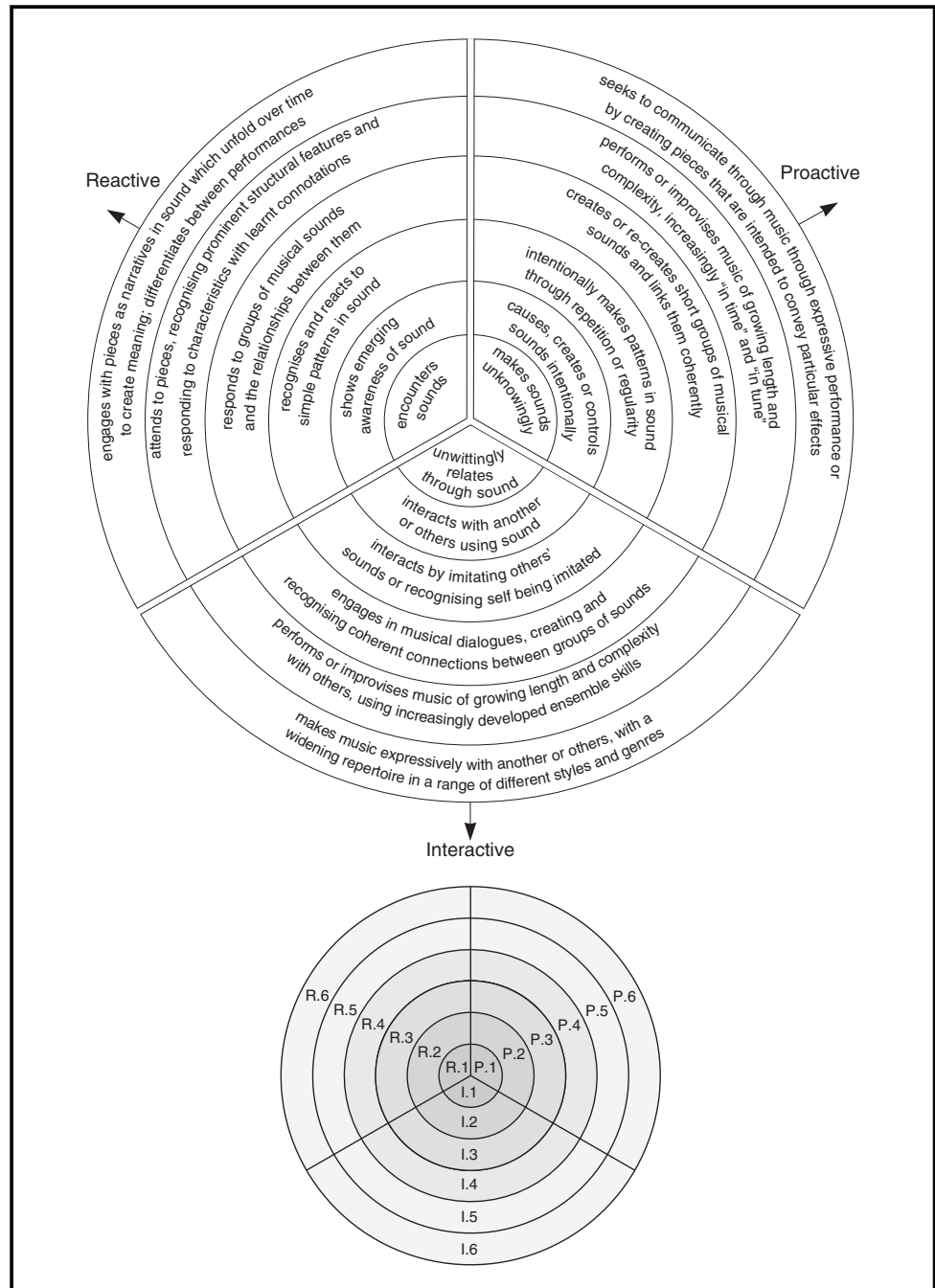
Each of these 18 descriptors was broken down into four more detailed elements (see Figure 2), which, through extended piloting, discussion, evaluation and modification, the Sounds of Intent team thought offered a fair reflection of each segment. Some related purely to engagement with sound and music, others to sound and music in relation to other sensory input, and the remainder to technical matters pertaining to performance, which it was felt became important at Levels 5 and 6. Where a developmental sequence between these can be identified, it is marked with an arrow; developmental equivalence is shown with parallel lines (Figure 2).

The way that the level descriptors and elements relate to each other within and between the reactive, proactive and interactive domains is complex. Level descriptors form a hierarchy whereby, within each domain, achievement at higher levels is dependent on the accomplishment of all those that precede. So, for example, in the interactive domain, I.4, “Engages in musical dialogues, creating and recognising coherent connections between groups of sounds”, could only occur following I.3, “Interacts by imitating other’s sounds or recognising self being imitated” and (therefore) after accomplishing I.2 and I.1. Between domains, there is a broad flow of contingency that runs from reactive to proactive and then to interactive. For instance, in the proactive domain, intentionally making patterns in sound through repetition (P.3) depends on the capacity to recognise simple patterns in sound (R.3); while interacting with another or others using sound (I.2) relies on the ability to cause, create or control sounds intentionally (P.2), which in turn requires an awareness of sound (R.2). The pattern of contingencies that links the 72 elements is more intricate. Although in some cases there is a necessary connection between elements at different levels within domains (e.g. a pupil could not engage in intentional repetition – P.3.A – before having the wherewithal to make a variety of sounds – P.2.B) and between them (for instance, imitating the sounds made by another – I.3.A – similarly requires

**Table 1** The six levels underpinning the Sounds of Intent framework (acronym “**CIRCLE**”)

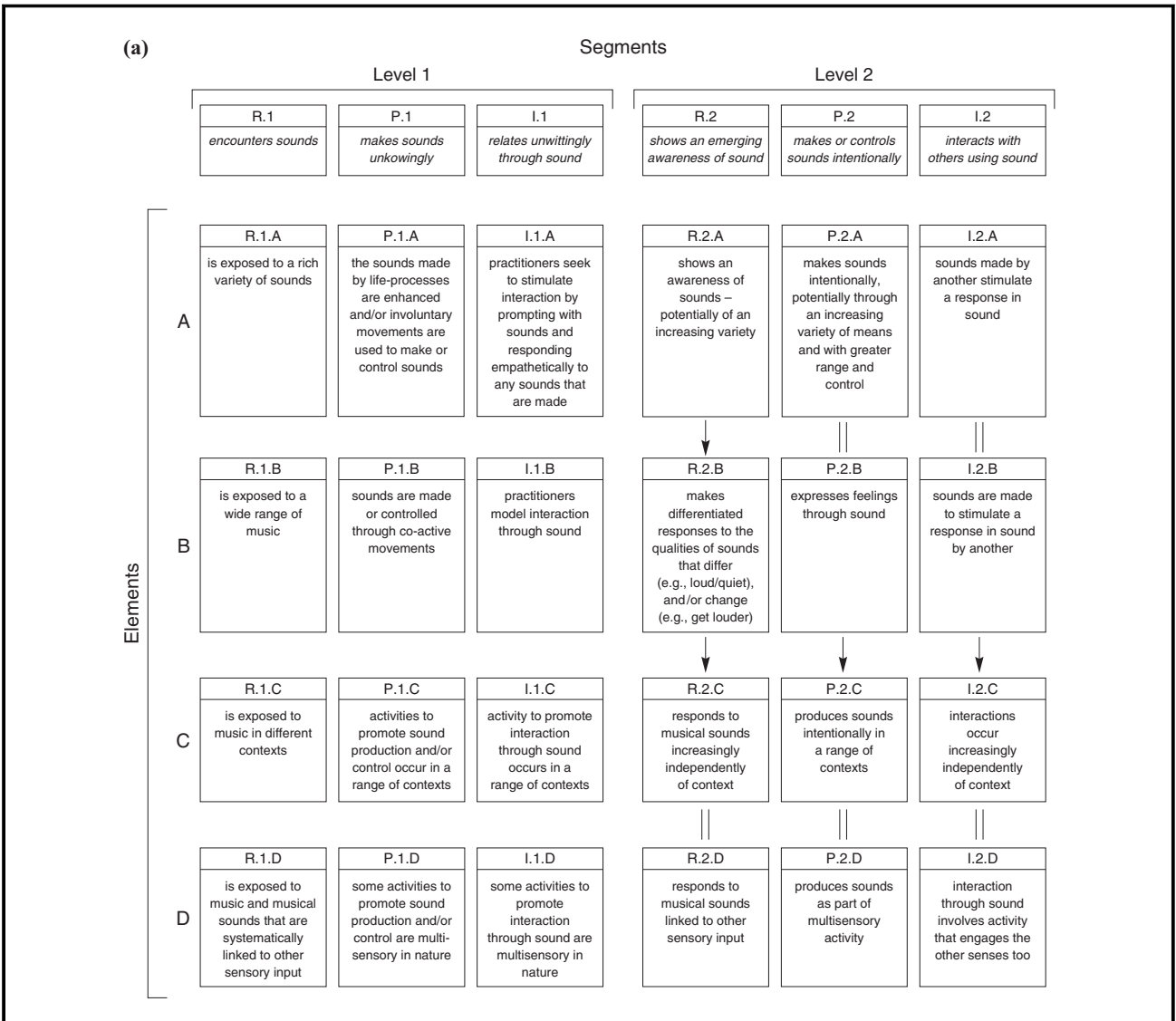
Level	Description	Core cognitive abilities
1	Confusion and Chaos	No awareness of sound as a distinct perceptual entity
2	Awareness and Intentionality	An emerging awareness of sound as a distinct perceptual entity and of the variety that is possible within the domain of sound
3	Relationships, repetition, Regularity	A growing awareness of the possibility and significance of relationships between the basic aspects of sounds
4	Sounds forming Clusters	An evolving perception of groups of sounds, and the relationships that may exist between them
5	Deeper structural Links	A growing recognition of whole pieces, and of the frameworks of pitch and perceived time that lie behind them
6	Mature artistic Expression	A developing awareness of the culturally determined “emotional syntax” of performance that articulates the “narrative metaphor” of pieces

**Figure 1** Visual representation of the Sounds of Intent framework



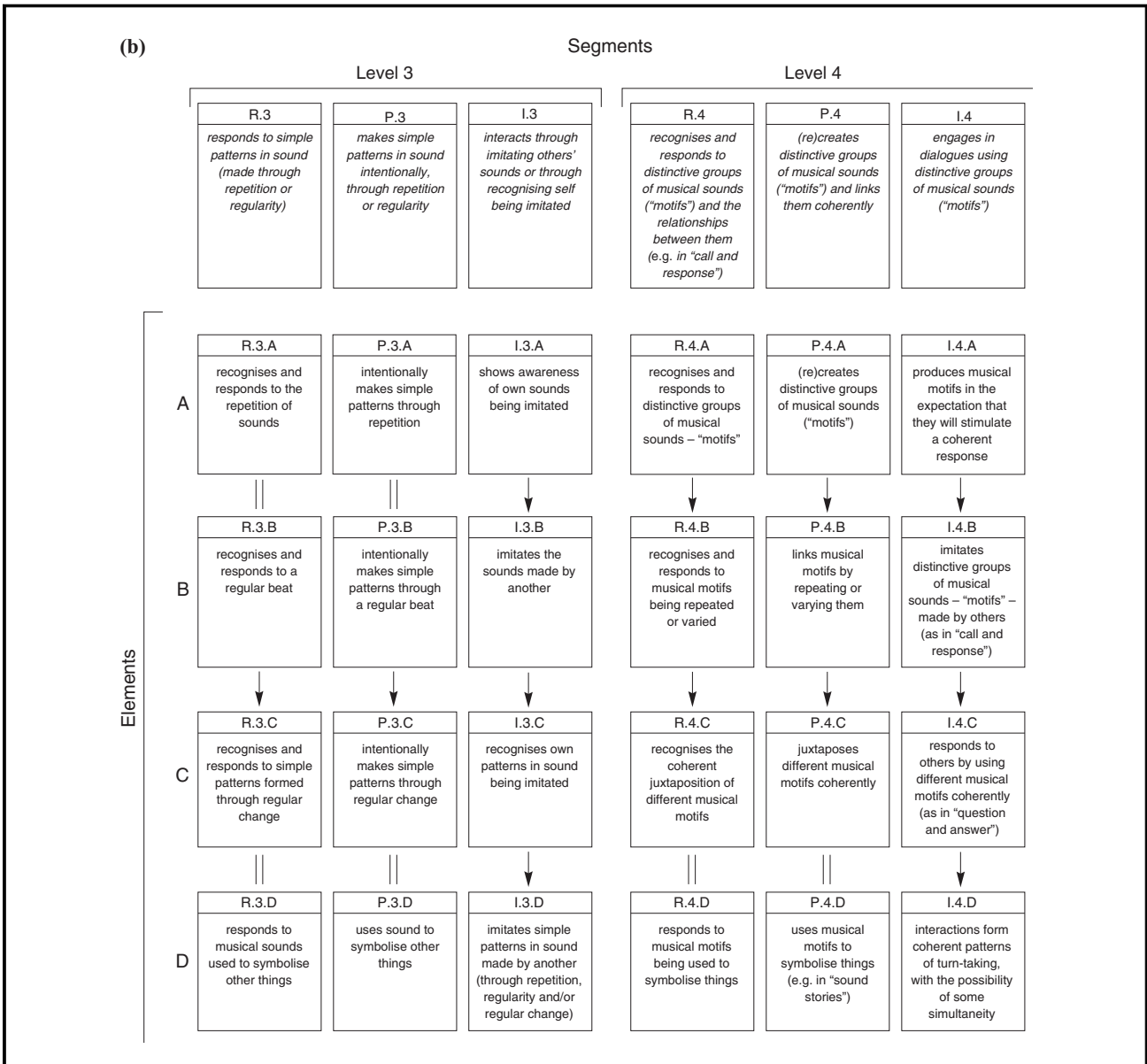
functioning at the level of P.2.B), this is not always the case. It is perfectly conceivable that a child could intentionally make simple patterns through a regular beat (P.3.B), for example, before using sounds to symbolise particular people, places or activities (P.2.D). The research team felt that intricacies of this type were an inevitable consequence of the complicated nature of musical development: multi-layered and multi-stranded. At any given time, it was unlikely that the framework would indicate a pupil as being at a particular point on a developmental scale, but, rather, having a music-developmental profile, incorporating attainment at different levels in relation to a number of different elements. But, given these complexities, how could the framework work in practice as a tool for assessment, enabling practitioners to record pupils'

**Figure 2** The Sounds of Intent elements

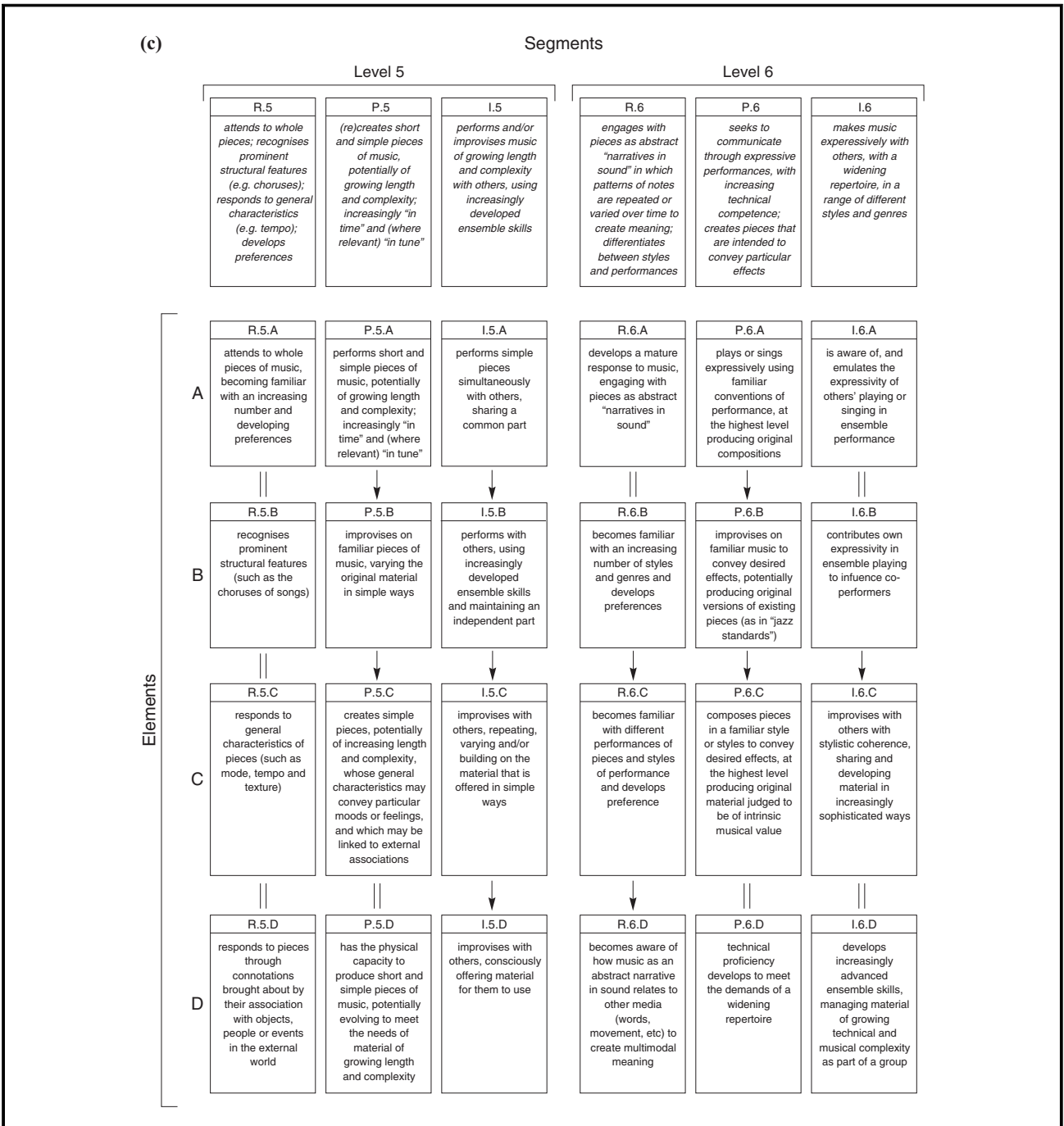


(continued)

**Figure 2**



**Figure 2**



levels of achievement and change, to draw comparisons between the attainment and progress of individuals and groups, and to gauge the potential impact of different music-educational and therapeutic interventions?

*First empirical exploration of the Sounds of Intent framework*

Evangeline Cheng, a doctoral student at the UCL Institute of Education, London, tested the Sounds of Intent framework using a series of longitudinal case studies (Cheng *et al.*, 2009;

Cheng, 2009). She observed six young people with severe learning difficulties engaging in weekly music sessions over a period of two terms (around six months), and assessed them in relation to the elements set out in Figure 2, recording the frequency with which given levels of engagement were observed, session by session. The example of an 11-year-old boy, “J”, follows:

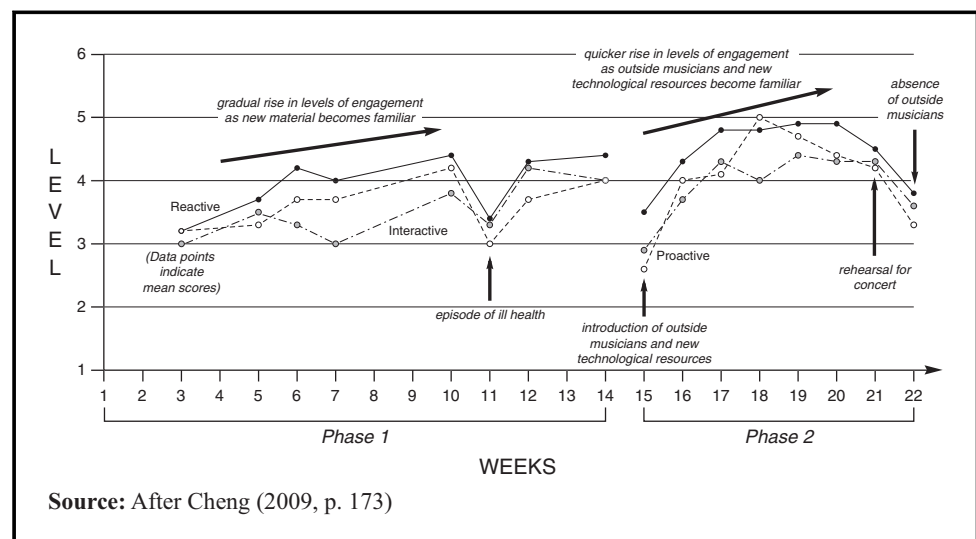
The documentation held by J’s school indicated that he had severe learning difficulties, cerebral palsy, visual impairment, a speech, language and communication difficulty, and epilepsy. J was able to say a few single words including “hi, bye, no, me, more, book” and the names of a few members of staff who had been working with him for some years. He would nod for “yes” and sometimes used a switch to play pre-recorded messages conveyed between home and school. J used a wheelchair, and needed help with life skills including eating, dressing and personal hygiene.

Cheng observed J for 21 weeks, a period that she divided for the purposes of analysis into two phases. Phase 1, which ran from Week 1 to Week 14, entailed sessions with the school’s music teacher, involving songs and musical games to promote socialisation and language acquisition, and rhythmic activities with non-tuned percussion instruments. In Phase 2 (from Week 15 to Week 21), J’s class participated in a special music community link project called “Music Makers Sing!”, with two members of a professional London orchestra and a music technician. Their presence meant that each child had the opportunity to interact more intensively with adults through music on a one-to-one basis, and switches were introduced to facilitate proactive participation.

In total, Cheng observed 513 instances of musical engagement on J’s part: 184 “reactive”, 181 “proactive”, and 148 “interactive”. Each was assessed as being at Level 1, 2, 3, 4, 5 or 6. An average of 32 observations were made in each session, and means were calculated for each domain (R, P and I). These are captured visually in Figure 3. For ease of viewing trends, reactive scores are linked with an indicative solid line, proactive with dashes, and interactive with dot-dash connectors. These scores suggest a change in “J”’s Sounds of Intent profile between Phases 1 and 2 of the observation period – the first time that the framework had been used to investigate change in a pupil’s musical engagement over time (see Figure 3).

However, in the process of Cheng’s analysis, it became evident that each element potentially embraced a range of behaviours. For example, P.2.B, “creates an increasing diversity of sounds intentionally through an increasing variety of means” could refer equally to a child vocalising within a limited pitch range and tapping a drum with the fingers of one hand, and a young person making a wide range of vocal sounds and playing a number of non-tuned percussion instruments. Similarly, I.3.A, “imitates the sounds made by another” could denote a pupil echoing a single vocal sound made by his music teacher, or a client copying a variety of vocalisations and instrumental sounds made by her music therapist. Hence it became apparent to the research team that more subtle

**Figure 3** The changing profile of J’s musical engagement over time





intra-personal changes – particularly important for practitioners working in the domain of PMLD – could be recorded if elements were themselves broken down into different degrees of engagement. To test this principle out, a further episode of exploratory empirical work was undertaken.

### *Second empirical exploration of the Sounds of Intent framework*

A group of 20 young people with PMLD, attending Linden Lodge School in south-west London, participated in the second empirical exploration of the Sounds of Intent framework. They ranged in age from 11 years 11 months, to 17 years and seven months;  $M = 15$  years and three months;  $SD = 2.03$ . The pupils came from a wide variety of ethnic and cultural backgrounds from across London and the southeast of England. All had profound levels of global developmental delay: none was verbal and the great majority were wheelchair users. Many were visually impaired.

The materials used for the study were taken from *All Join In!* (Ockelford, 1996): a set of 24 songs, designed to offer a framework for making music with young people who were visually impaired and had learning difficulties. The topics of the songs are “self and other”, “time and place”, “things around” and “music and sound”. Throughout, the language used is simple and concrete, with the avoidance of abstract concepts or metaphor (that characterise so many children’s songs). Key words and phrases are consistently allocated the same rhythm and, where possible, melodic shape, opening up the possibility of musical fragments acquiring symbolic meaning in their own right. Musically, the songs conform to what could reasonably be described as the western popular “musical vernacular” of the late twentieth century, with simple rhythms, regular metrical structures and diatonic tonal frameworks. Melodies are constrained in pitch range and repetitive. In summary, the songs are intended to be as easy to learn and engage with as possible.

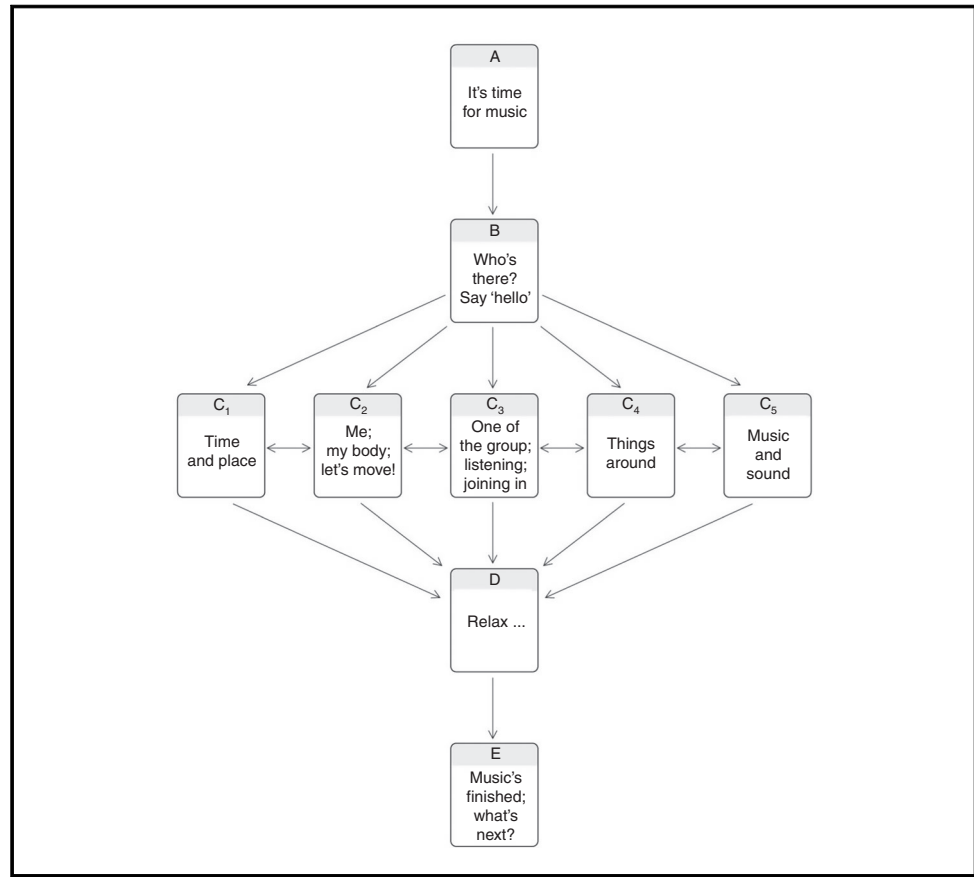
I led the young people’s weekly music lessons in the spring and summer terms, a total of 24 sessions of 45 minutes each (amounting to 18 hours of musical exposure). The format of each session was the same. Work took place in the pupils’ classrooms (the environments with which they were most familiar). Each had a one-to-one teaching assistant. Everyone – pupils and staff – sat in a circle. I had access to a touch-sensitive electric keyboard, which was set to sound like a piano. Lamorna Jewell-Gore, the music teacher at Linden Lodge, who knew the young people very well, participated in all the sessions, largely through supporting the staff, when she was not formally observing the pupils. A wide range of non-tuned percussion instruments was available.

Each session used the *All Join In!* framework, which comprises introductory songs (A and B) and concluding songs (D and E) that are fixed, with a menu of possibilities ( $C_1$ - $C_5$ ) in between (see Figure 4).

On six occasions (once a month), Jewell-Gore stepped back from proceedings and observed each of the young people in action, noting examples of musical reactivity, proactivity or interactivity that appeared to be typical of their engagement in the session concerned. Written comments were supplemented with some video recordings for later reference. Subsequently, Jewell-Gore mapped the behaviours that she had observed and recorded onto the Sounds of Intent framework, gauging which element offered the best fit for each description, and grading them as “low” (i.e. just achieving the level of engagement that was described), “high” (fulfilling the terms of the descriptor comprehensively), or “medium” (for levels of attainment between the two extremes). For example:

- “J” “showed slight reaction to loud noises but no reaction to localised instruments playing. Did not [...] change reaction to change in tempo/dynamics” – assessed as R.1.A(low).
- “G” “laughed each time the tambourine was hit, and responded to sudden chord changes” – assessed as R.2.A(medium).
- “A” “vocalised throughout songs and changed notes with key change” – assessed as I.3.A(low).

**Figure 4** The structure of All Join In!



- “B” “laughed at a particular motif played on the piano” – assessed as R.4.A(low).
- “L” “reacted to people playing matching sounds, eyes looking from one to the other” – assessed as R.3.A(low).
- “D” “listened to sounds made by the other children, sometimes just looking, sometimes smiling, sometimes laughing” – assessed as R.2.B(high).
- “Q” “laughed a lot when his own made-up musical sounds were imitated (the ‘wah wah’ song)” – assessed as I.3.B(high).

To facilitate analysis of the data, each was assigned a rank on an ordinal scale, according to its position within the Sounds of Intent framework, whereby activity at Level 1 (low) was categorised as “1”, Level 1 (medium) was classed as “2”, Level 1 (high) was allocated “3”, and so forth, with the following result (see Table II).

The results were as shown in Table III.

Over the course of the sessions, there is movement away from observed musical engagement at Level 1 and an attendant increase in classifications at Level 3 – a high degree of variability in the data notwithstanding (see Figure 5).

The underlying trend in this changing pattern of observations can be gauged by comparing means of the reported ranks, session by session, which offer a proxy indication of the children’s changing perceived level of musical engagement (Figure 6), equivalent to one Sounds of Intent level in 18 months.

**Table II** The All Join In! elements ranked on an 18-point ordinal scale

<i>Sounds of Intent elements</i>												<i>Rank</i>
R.1.A(L)	P.1.A(L)	I.1.A(L)	R.1.B(L)	P.1.B(L)	I.1.B(L)	R.1.C(L)	P.1.C(L)	I.1.C(L)	R.1.D(L)	P.1.D(L)	I.1.D(L)	1
R.1.A(M)	P.1.A(M)	I.1.A(M)	R.1.B(M)	P.1.B(M)	I.1.B(M)	R.1.C(M)	P.1.C(M)	I.1.C(M)	R.1.D(M)	P.1.D(M)	I.1.D(M)	2
R.1.A(H)	P.1.A(H)	I.1.A(H)	R.1.B(H)	P.1.B(H)	I.1.B(H)	R.1.C(H)	P.1.C(H)	I.1.C(H)	R.1.D(H)	P.1.D(H)	I.1.D(H)	3
R.2.A(L)	P.2.A(L)	I.2.A(L)	R.2.B(L)	P.2.B(L)	I.2.B(L)	R.2.C(L)	P.2.C(L)	I.2.C(L)	R.2.D(L)	P.2.D(L)	I.2.D(L)	4
R.2.A(M)	P.2.A(M)	I.2.A(M)	R.2.B(M)	P.2.B(M)	I.2.B(M)	R.2.C(M)	P.2.C(M)	I.2.C(M)	R.2.D(M)	P.2.D(M)	I.2.D(M)	5
R.2.A(H)	P.2.A(H)	I.2.A(H)	R.2.B(H)	P.2.B(H)	I.2.B(H)	R.2.C(H)	P.2.C(H)	I.2.C(H)	R.2.D(H)	P.2.D(H)	I.2.D(H)	6
R.3.A(L)	P.3.A(L)	I.3.A(L)	R.3.B(L)	P.3.B(L)	I.3.B(L)	R.3.C(L)	P.3.C(L)	I.3.C(L)	R.3.D(L)	P.3.D(L)	I.3.D(L)	7
R.3.A(M)	P.3.A(M)	I.3.A(M)	R.3.B(M)	P.3.B(M)	I.3.B(M)	R.3.C(M)	P.3.C(M)	I.3.C(M)	R.3.D(M)	P.3.D(M)	I.3.D(M)	8
R.3.A(H)	P.3.A(H)	I.3.A(H)	R.3.B(H)	P.3.B(H)	I.3.B(H)	R.3.C(H)	P.3.C(H)	I.3.C(H)	R.3.D(H)	P.3.D(H)	I.3.D(H)	9
R.4.A(L)	P.4.A(L)	I.4.A(L)	R.4.B(L)	P.4.B(L)	I.4.B(L)	R.4.C(L)	P.4.C(L)	I.4.C(L)	R.4.D(L)	P.4.D(L)	I.4.D(L)	10
R.4.A(M)	P.4.A(M)	I.4.A(M)	R.4.B(M)	P.4.B(M)	I.4.B(M)	R.4.C(M)	P.4.C(M)	I.4.C(M)	R.4.D(M)	P.4.D(M)	I.4.D(M)	11
R.4.A(H)	P.4.A(H)	I.4.A(H)	R.4.B(H)	P.4.B(H)	I.4.B(H)	R.4.C(H)	P.4.C(H)	I.4.C(H)	R.4.D(H)	P.4.D(H)	I.4.D(H)	12
R.5.A(L)	P.5.A(L)	I.5.A(L)	R.5.B(L)	P.5.B(L)	I.5.B(L)	R.5.C(L)	P.5.C(L)	I.5.C(L)	R.5.D(L)	P.5.D(L)	I.5.D(L)	13
R.5.A(M)	P.5.A(M)	I.5.A(M)	R.5.B(M)	P.5.B(M)	I.5.B(M)	R.5.C(M)	P.5.C(M)	I.5.C(M)	R.5.D(M)	P.5.D(M)	I.5.D(M)	14
R.5.A(H)	P.5.A(H)	I.5.A(H)	R.5.B(H)	P.5.B(H)	I.5.B(H)	R.5.C(H)	P.5.C(H)	I.5.C(H)	R.5.D(H)	P.5.D(H)	I.5.D(H)	15
R.6.A(L)	P.6.A(L)	I.6.A(L)	R.6.B(L)	P.6.B(L)	I.6.B(L)	R.6.C(L)	P.6.C(L)	I.6.C(L)	R.6.D(L)	P.6.D(L)	I.6.D(L)	16
R.6.A(M)	P.6.A(M)	I.6.A(M)	R.6.B(M)	P.6.B(M)	I.6.B(M)	R.6.C(M)	P.6.C(M)	I.6.C(M)	R.6.D(M)	P.6.D(M)	I.6.D(M)	17
R.6.A(H)	P.6.A(H)	I.6.A(H)	R.6.B(H)	P.6.B(H)	I.6.B(H)	R.6.C(H)	P.6.C(H)	I.6.C(H)	R.6.D(H)	P.6.D(H)	I.6.D(H)	18

However, experience of working with children with PMLD suggests such a pace of development would be very unusual. Hence it is reasonable to assume that there were exceptional factors at work in the study, which may have included:

- the young people’s growing familiarity with the materials, the routine of the sessions, and with me, which may have enabled them to engage musically more fully as time went on;
- my deepening knowledge of the young people, which may have enabled me to scaffold the young people’s interactions more effectively as the sessions progressed;
- Jewell-Gore’s practice in using the Sounds of Intent framework, which may have meant her observations became more pertinent and perceptive over the six months; and
- Jewell-Gore’s wish for progress, which may have exerted a subconscious influence on her categorisation of musical behaviours, particularly towards the end of the intervention period.

One way of cross-checking the results is to take advantage of the variation in age of the 20 young people. Mapping mean ranks onto chronological ages suggests that, in general terms, progress may often occur at a much slower rate than Jewell-Gore’s observations indicate (see Figure 7). Analysing the data in this way shows a rise of just over one rank in six years. Of course, conclusions here must be tentative given the analysis assumes that the variation by age reflects longitudinal change rather than differences between the young peoples’ abilities.

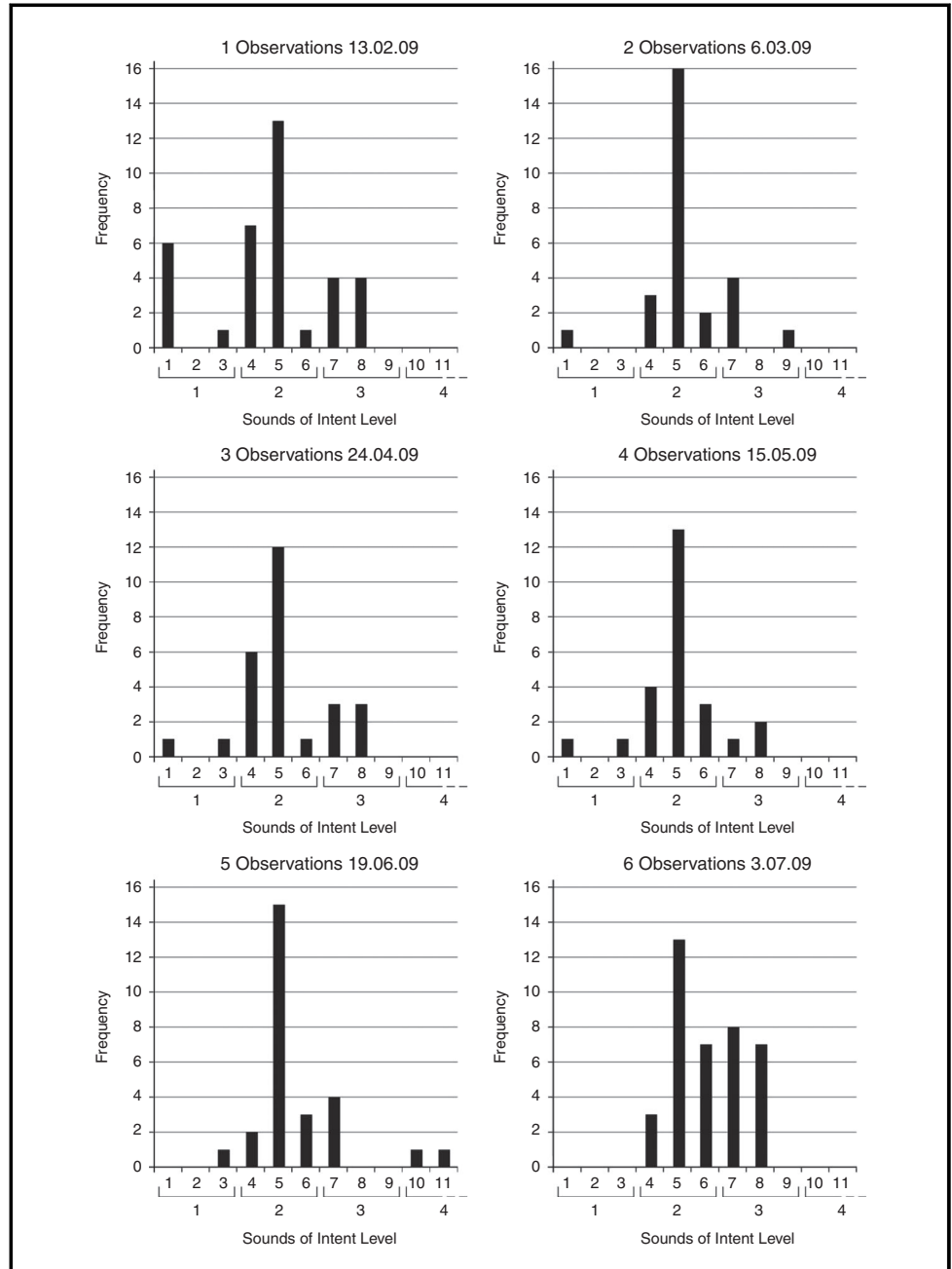
Any or all of the context-specific factors listed above may account for the great majority of the rise in the levels of musical engagement that were observed, or it could be that the intervention was particularly effective at engendering musical development, or both influences may have played a part. A great deal more data would be required to isolate and quantify the different ingredients in the mix, and to ascertain how they interrelate. The important thing is that this may be possible using the Sounds of Intent approach.

Change in musical behaviour of this small order of magnitude suggests that, to be sufficiently sensitive for practitioners to chart progress meaningfully over time, observational schedules associated with the Sounds of Intent framework needed to be even more fine-grained than the system used by Jewell-Gore. Moreover, the work of Cheng suggests that, whatever protocol is devised, this should take into account not only children’s levels of engagement, but consider also the relative frequency with which particular behaviours occur.

**Table III** Observations of 20 young people with PMLD over a six-month period using the Sounds of Intent framework ranked over different levels

Child	Age (yy.mm) as at 07.09	13.02.09		6.03.09		24.04.09		15.05.09		19.06.09		3.07.09	
A	14.03	R.2.A(M) P.1.B(H) P.2.A(L)	5 3 4	R.2.A(M) R.2.B(M)	5 5	R.3.D(L) P.2.A(L)	7 4	I.2.A(L)	4	P.4.A(M)	11	I.2.A(H)	6
B	11.11	R.1.A(L)	1	R.2.A(L)	4	ABSENT		R.2.A(L) P.1.B(L)	4 1	R.2.A(M)	5	R.2.A(H)	6
C	12.11	I.2.A(H) P.2.A(M) R.2.A(M)	6 5 5	R.2.A(H) R.2.B(M)	6 5	I.2.A(H)	3	P.2.A(H)	6	R.2.A(H) I.2.A(H)	6 6	R.2.A(H) I.3.A(L)	6 7
D	12.02	R.1.A(L)	1	ABSENT		R.1.A(L) R.2.B(L)	1 4	ABSENT		P.1.B(H)	3	R.2.A(H) I.2.A(M) R.2.B(L)	6 5 4
E	12.04	R.1.A(L)	1	R.2.A(L) P.1.B(L)	4 1	ABSENT		R.2.A(L) R.2.A(M) R.2.B(M)	4 5 5	R.2.A(M) I.2.A(M) R.2.B(M)	5 5 5	R.2.B(M) I.3.B(L)	5 7
F	13.02	R.2.A(M)	5	ABSENT		ABSENT		R.2.A(H) I.2.A(L)	6 4	ABSENT		I.2.A(H) R.3.A(M) I.3.A(L)	6 8 7
G	13.04	P.2.A(M)	5	SICK		R.2.A(M) P.2.A(M) I.2.A(M)	5 5 5	ABSENT		I.3.A(L) R.2.B(M) R.4.A(L)	7 5 10	R.2.A(H) I.3.B(M)	6 8
H	15.01	R.2.B(L) P.2.A(L)	4 4	I.3.A(L) R.2.A(L)	7 4	R.2.A(L) P.2.A(L) I.3.A(L)	4 4 7	ABSENT		R.2.A(M) P.2.A(M)	5 5	I.3.A(L)	7
I	15.08	P.2.A(M) R.3.D(U)	5 7	P.2.A(M) P.2.B(M)	5 5	P.3.B(M) P.3.C(M) I.3.C(M) P.2.B(M)	8 8 8 5	R.2.A(M) R.3.A(L)	5 7	R.3.A(L) P.2.A(M)	7 5	R.2.A(M) R.3.A(M) I.3.A(M)	5 8 8
J	16.03	P.2.A(M) R.3.D(L) P.2.A(L) I.3.A(L)	5 7 4 7	I.2.B(M) P.2.A(M)	5 5	ABSENT		P.2.A(M) R.2.A(M) R.3.A(M)	5 5 8	R.2.A(M) P.2.A(H) I.3.A(L)	5 6 7	R.2.A(M) P.2.A(M) I.3.A(L)	5 5 7
K	14.04	P.2.A(M) P.1.B(L)	5 1	R.2.A(M)	5	R.2.A(H) R.3.A(L)	6 7	R.2.A(M)	5	R.2.B(L) P.2.A(M)	4 5	R.2.A(M) P.2.A(L)	5 4
L	15.06	P.1.B(L) R.2.A(L) R.3.D(L)	1 4 7	P.2.A(M) R.2.A(M) I.2.A(M)	5 5 5	ABSENT		P.2.A(M) R.2.B(M)	5 5	I.3.A(L) P.2.A(M)	7 5	P.2.A(M) R.2.B(L)	5 4
M	16.00	ABSENT		R.2.A(M)	5	P.2.A(M) R.2.A(M) I.2.A(M)	5 5 5	ABSENT		ABSENT		I.3.A(M) R.2.A(M) R.3.A(M)	8 5 8
N	17.03	P.2.A(M) R.2.A(M)	5 5	R.3.B(L) R.2.A(M)	7 5	I.2.A(M) P.2.A(L)	5 4	R.2.A(M) P.2.A(M)	5 5	ABSENT		P.2.A(H)	6
O	17.07	R.1.A(L)	1	ABSENT		P.2.A(L) P.2.A(M)	4 5	P.2.B(L)	3	R.2.B(M)	4	I.3.A(L) R.3.A(L) R.2.B(M) I.3.A(L)	7 7 5 7
P	17.06	R.2.A(L)	4	R.2.A(M) R.3.D(L)	5 7	P.2.A(M)	5	P.2.A(M)	5	R.2.A(M) P.2.A(M)	5 5	R.2.A(M) I.2.A(M) P.2.A(M)	5 5 5
Q	17.06	R.3.D(M) R.2.B(M)	8	R.2.A(M)	5	ABSENT		P.2.A(H) R.3.B(M)	6 8	I.2.B(M)	5	I.3.B(M)	8
R	17.00	R.3.D(M) P.2.A(M)	8 5	ASLEEP		I.2.A(M) P.2.A(M)	5 5	R.2.A(M)	5	ASLEEP		P.2.B(M)	5
S	17.03	R.2.A(L)	4	P.2.AIM)	5	ABSENT		P.2.A(M)	5	P.2.A(M)	5	ABSENT	
T	17.07	R.2.A(M) R.3.D(M) R.3.QM)	5 8 8	P.2.A(H) I.3.B(H) P.2.A(H)	7 9 6	ABSENT		ABSENT	5	ABSENT	5	ABSENT	

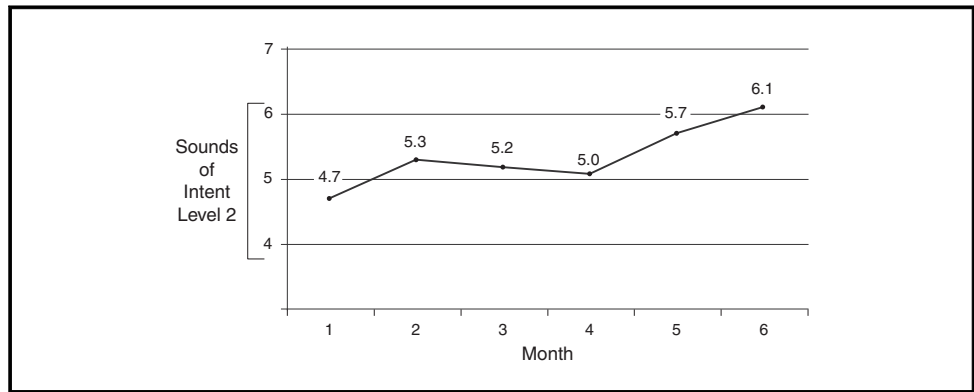
**Figure 5** Changing pattern of Jewell-Gore’s observations over the six months of the intervention



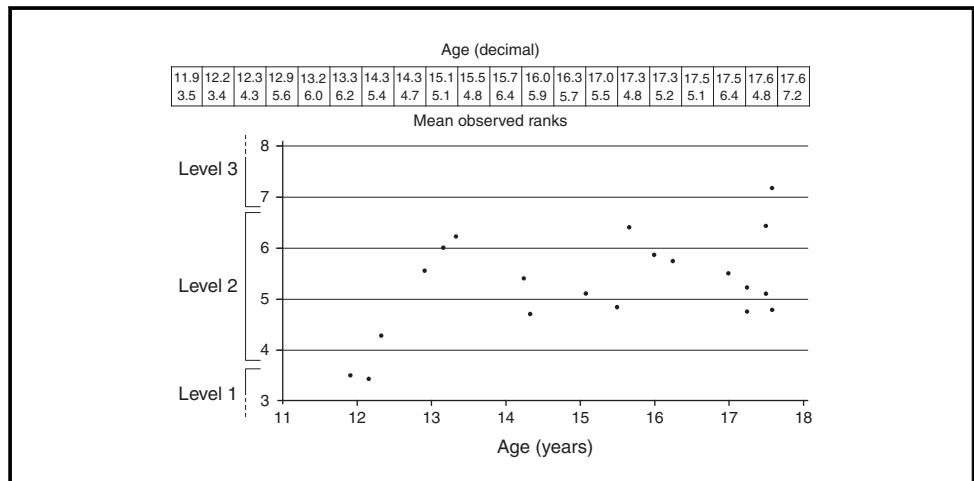
Hence, a system along the following lines was developed (see [www.soundsofintent.org](http://www.soundsofintent.org)), in which both these parameters figure equally (see Table IV).

This can be accessed on the current Sounds of Intent web site through a bespoke software package that uses any commercially available interface (including touch-screens). That is to say, practitioners can record their observations of a pupil’s musical behaviours on a range of mobile devices as and when they occur, in the classroom or elsewhere, by selecting options from a series of drop-down menus, structured around the Sounds of Intent framework and its elements. Data is processed and stored automatically for later retrieval.

**Figure 6** The change in means of the ranked observations per session offers a proxy indication of the young people’s presumed advancing levels of musical engagement



**Figure 7** Observed levels of musical engagement mapped onto age



**Conclusion**

The content and structure of the Sounds of Intent music-developmental framework was supported by initial empirical data generated from two research projects, which both show musical progression on the part of the children and young people concerned. It may well be that further studies will suggest refinements to the model set out here and that is currently being used in schools and centres across the UK and beyond. The important thing, though, is that, for the first time, practitioners have a basis for musical assessment and planning in their work with pupils and students with special needs that is both grounded in ecologically valid observation and is theoretically coherent.

Beyond this, a number of other developments are currently in train, including an early years version of Sounds of Intent (a fully inclusive enterprise for all children aged 0-5) – for freely available materials, see [www.eysoi.org](http://www.eysoi.org), and Multisensory Sounds of Intent, which considers whether the principles set out in this paper and elsewhere have broader applicability in other domains of creative endeavour in those with learning difficulties, in particular, the fine arts (drawing, painting and sculpture), movement and dance, and drama. An initial report on research undertaken with the University of Roehampton and the arts and disability charity Innersense is to be found at [www.innersense.org.uk/innersense.org.uk/Research.html](http://www.innersense.org.uk/innersense.org.uk/Research.html)

**Table IV** Example of the protocol that takes into account the level and consistency of musical behaviours within a single Sounds of Intent element

<i>Gauging a participant's level of engagement</i>		Score
No evidence		0
Reacts differentially to two contrasting qualities of sound or more, and/or to marked change		1
Reacts differentially to three or more differing qualities of or change in sound		2
Reacts differentially to four or more differing qualities of or change in sound		3
Reacts differentially to five or more differing qualities of or change in sound		4
Reacts differentially to six or more differing qualities of or change in sound		5
<i>Gauging consistency</i>		Score
Responses are never observed		0
Responses are observed rarely (on around one in eight occasions or fewer)		1
Responses are observed occasionally (on around one in four occasions)		2
Responses are observed regularly (on around one in two occasions)		3
Responses are observed frequently (on around three in four occasions)		4
Responses are observed consistently (on around seven in eight occasions or more)		5
<i>Consolidating the two</i>		
Multiply the "level of engagement" score by the "consistency" score. Change can be gauged by comparing scores over a period. The minimum score is 0 (where there is no available evidence or a behaviour is never observed) and the maximum score is 25		

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