
JOURNEYS TOWARDS LEARNING IN A NEW KEY

Researching the challenge of introducing deep cultural and psychological resources in classrooms

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Abstract: This paper seeks to explore and reflect upon the staged process that took place in the LINK project to introduce musical listening and improvisation as a regular social, emotional and therapeutic experience in the classroom. It will describe the gradual steps necessary for shifting cultural perspectives and practices in one partner school so that non-verbal forms of communication are valued. Teachers engaged in a two-year programme of professional development with music therapists and teacher trainers to enhance their teaching practice by introducing music listening and music making with vulnerable young people. A participatory action research approach was taken by gathering data from narrative accounts of practice in five different classrooms, throughout the project. The training process was in three stages. Teachers were encouraged to reflect systematically throughout the whole course and explored for themselves the process of listening to and making music away from the classroom. Over time their confidence increased and their capacity to participate in the classroom with young people developed. Additionally, teachers advanced insight into the impact of listening and playing music for young people's capacity to self-regulate, as the young people achieved enhanced levels of sensory integration, building social skills through non-verbal approaches. Teachers also understood the value of such experiences to prepare young people for engagement in more formal learning processes.

Keywords: teachers' professional development, musical listening and improvising, young people, self-regulation

JORNADAS PARA A APRENDIZAGEM NUM NOVO TOM: PESQUISANDO O DESAFIO DE INTRODUIZIR RECURSOS CULTURAIS E PSICOLÓGICOS PROFUNDOS NA SALA DE AULA

Resumo: Este artigo explora e reflete sobre o processo que ocorreu no projeto LINK sobre a introdução da audição musical e da improvisação como experiência social, emocional e terapêutica frequente na sala de aula. Descrevem-se as etapas que se revelaram necessárias para mudar as perspe-

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tivas e práticas culturais numa escola parceira do projeto, de modo a que as formas não-verbais de comunicação fossem valorizadas. Os docentes envolveram-se num programa de desenvolvimento profissional com musicoterapeutas e formadores de professores durante dois anos, para melhorar a sua prática educativa através da introdução da audição de música e da produção musical com jovens vulneráveis. Usou-se uma abordagem de investigação-ação participativa, que permitiu a recolha de dados relativos aos relatos narrativos da prática, em cinco salas de aula, ao longo do projeto. O processo de formação teve três etapas. Os docentes foram incentivados à reflexão sistemática ao longo de todo o percurso e exploraram, por si mesmos, o processo de escutar e produzir música fora da sala de aula. Ao longo do tempo, a sua confiança aumentou e a sua capacidade de participar na sala de aula com os jovens também se fortaleceu. Além disso, os docentes desenvolveram as suas perspetivas sobre o impacto da audição e da música na capacidade de autorregulação dos jovens, uma vez que estes alcançaram níveis mais elevados de integração sensorial, construindo competências sociais através de abordagens não-verbais. Os docentes também compreenderam o valor dessas experiências na preparação dos jovens para o envolvimento em processos de aprendizagem mais formais.

Palavras-chave: desenvolvimento profissional docente, escuta e improvisação musical, jovens, autorregulação

PARCOURS VERS L'APPRENTISSAGE DANS UNE NOUVELLE APPROCHE: À LA RECHERCHE D'UN DÉFI POUR INTRODUIRE DES RESSOURCES CULTURELLES ET PSYCHOLOGIQUES PROFONDES DANS LES SALLES DE CLASSE

Résumé: Cet article cherche à explorer et à réfléchir sur le processus organisé qui a eu lieu dans le projet LINK pour introduire l'écoute musicale et l'improvisation comme une expérience sociale, émotionnelle et thérapeutique régulière dans la salle de classe. Il décrira les étapes graduelles nécessaires pour déplacer les perspectives et les pratiques culturelles dans une école partenaire afin que les formes de communication non verbales soient évaluées. Les enseignants ont participé à un programme de perfectionnement professionnel de deux ans avec des musicothérapeutes et des formateurs pour améliorer leur pratique pédagogique en introduisant l'écoute musicale et la création musicale chez un public de jeunes vulnérables. Une approche participative de la recherche-action a été choisie pour permettre l'obtention de données à partir de récits narratifs touchant à la pratique tout au long du projet dans cinq classes différentes. Le processus de formation s'est déroulé en trois étapes. Les enseignants ont été encouragés à réfléchir systématiquement tout au long du projet et ont exploré pour eux-mêmes le processus d'écoute et de production de musique en dehors de la salle de classe. Au fil du temps, leur confiance a augmenté et leur capacité à participer à la classe avec les jeunes s'est renforcée. En outre, les enseignants ont développé leur aptitude à percevoir l'importance de l'écoute et de la musique dans la capacité des jeunes à s'autoréguler, car les jeunes ont atteint des niveaux accrus d'intégration sensorielle, créant des compétences sociales par des approches non verbales. Les enseignants ont également compris la valeur de ces expériences pour préparer les jeunes à s'engager dans des processus d'apprentissage plus formels.

Mots-clés: développement professionnel des enseignants, écoute musicale et improvisation, jeunes, autonomie

Introduction

This paper will research the staged process that took place in the LINK project to introduce musical listening and improvisation as a regular social, emotional and therapeutic experience for young people and their teachers in the classroom. To this end it will describe and reflexively engage with the gradual steps necessary for shifting cultural perspectives and practices in one partner school so that non-verbal forms of communication are valued. This practice was developed with and for teachers with no music teaching specialism and limited specific musical knowledge. Although this paper focuses on work within the UK, comparisons may be made with international partner organisations across the LINK project as there are many synergies.

Over 18 months in the UK teachers engaged in a programme of professional development to support their capacity for emotional and trauma-informed teaching practice. The focus of practice involved using music listening, and music making during the course of daily lessons.

Musical improvisation has the potential to enhance wellbeing and health (MacDonald & Wilson, 2014). In addition, music therapy approaches, which involve either improvisational practice or reflective listening, is known to have the potential to engage young people affected by trauma through non-verbal means in a number of different ways (Porter et al., 2016). With this knowledge members of the LINK interdisciplinary project were inspired to introduce musical listening and improvisation activities as a group classroom experience for young people with traumatic life experiences. The programme in the UK involved initial training outside the classroom, followed by trainers being present within the classroom when the activities were introduced and trialled. The intention was to find ways in which knowledge from creative arts therapy practice, in particular, music therapy, could be developed into teachers' emotional competencies and also to develop a toolkit of practices for teachers to use in the classroom, whether or not they believed they had any musical skills. The authors did not interview young people but collected comments through the writing of narrative accounts of the sessions each week.

The authors take a psycho-social perspective of the work, drawing upon our different disciplinary experiences: one as a music therapist and researcher with 25 years of experience, and the other as a highly experienced teacher, teacher trainer and researcher specialising in working with children with special needs, who has subsequently trained as music therapist.

Methodological approach

The approach to the professional development process is one of participatory involvement. This is reflected in the research approach taken of participatory action research (Reason &

Bradbury, 2008) and in particular a critically reflexive version of this (Hopkinson, 2015). The difference in background of the two authors has allowed us to act as critical friends, and to question our assumptions about our individual professional stances many times during the project. It has highlighted the many subtle assumptions of power we might take within both therapy and teaching practice. Although this has been uncomfortable at times, it has ultimately allowed us to view each profession with mutual respect, and to challenge more protectionist ways of thinking. The sharing of knowledge has been essential to this interdisciplinary process, and also the capacity to allow ourselves the capacity for *not knowing*, a quality emphasised by psychoanalyst Donald Winnicott (1989) which has strong currency in some music therapy thinking.

The use of participatory action research has been established in educational research for several decades but has been embraced within music therapy research for a relatively short time (Warner, 2005), and involving research with children for the first time even more recently (Rickson, 2012).

Interdisciplinary working methods: three stages of training

Within the LINK Project the process of knowledge exchange had three stages, starting with specialist training for the classroom-based trainers. The training was developed and carried out by a team of four: two music therapists both of whom had extensive experience working with children using receptive music listening approaches (Grocke, Wigram, & Dileo, 2007) or musical improvisation within therapy (Rickson & McFerran, 2014; Wigram, 2004) working in conjunction with two experienced teacher trainers, one of whom had subsequently trained as a music therapist. This group shared their own insights into and experience whilst introducing the six creative arts based therapists in the school to practical activities. These experiential activities led trainers to explore for themselves the process of listening to and making music.

During all stages there was a continuous process of feedback and reflection in the spirit of participatory action research enabling the most useful approaches and activities to be honed and refined for adaptation within the classroom. The epistemological emphasis was on experiential knowledge, gained through the musical activities used, the valuing of tacit knowledge held by both therapists and teachers, and the propositional knowledge shared through theoretical discussion arising from the experiential activities, consistent with the extended epistemology of Rowan and Reason (1981).

The second stage involved direct teacher training outside the classroom: monthly sessions of half a day where many musical experiential activities were explored with teachers alongside creative arts therapists, led by the trainers. Ten teachers were involved, three originally trained

in primary education and seven secondary teachers, one of whom was an art teacher but none of them had musical expertise. The process was intended to build teacher confidence. Similar cycles of action and reflection were used at this second stage engaging teachers' reactions and written reflections in planning for the third stage.

This third stage saw the introduction into the classroom of the practices learned. These were initially supported and observed by the trainers. The participatory action research approach was sustained through gathering data from written narrative accounts of practice by both teachers and trainers in four different classrooms, once a week, over a period of three months. The narrative accounts documented the experiences of music listening and music making in class. They include comments spoken by the young people and the teachers during the class-based training. Following each day of practice the teachers were encouraged to reflect upon their practice (Schön, 1983). Written and spoken reflections form the data used to document the step by step approach. Written informed consent was gained from all teachers and young people, or their parents when appropriate, involved in this classroom intervention.

Context

The process took place in a residential special school in the UK for young people who have had adverse childhood experiences, severely impacting upon their emotional and social development: characterised as *developmental trauma* (Perry, 2006). Typically, they are placed at the school following a series of exclusions from mainstream schools.

Acknowledging that the term *developmental trauma* has its roots in the medical model, the authors have found it helpful to recognise the growing, understanding within medical neuroscience that early adverse experiences, have a physical impact on the developing brain (Perry, 2006; McGilchrist, 2010; Schore, 1994) which may be felt beyond adolescence, as well into adult life. This is particularly the case when a young person suffers trauma or neglect at crucial stages of neurodevelopment, such as between the ages of 1 and 2 years. Musical improvisational play can offer a reparative role in that it employs forms of communicative exchange similar in intensity, narrative and pulse to early caregiver-infant non-verbal exchanges (Malloch & Trevarthan, 2009). This kind of exchange appears to be innate rather than learned, and there is no reason why musical exchange of this kind cannot be used by anyone, regardless of musical training, just as parents naturally develop early communication with their own children (Malloch & Trevarthan, 2009; Stern, 2001).

During the initial training process, teachers identified that the most challenging times for young people in class were transitions such as arrival into the classroom from the residential

context, returning for and from lunch and on leaving at the end of the school day. Therefore, teacher participants chose to introduce short musical experiences at these times, with the initial intention to sooth and calm both young people and teachers themselves.

Participant teachers were not music specialists so introducing music into classroom involved teachers taking a leap of faith. Hence, the training programme crucially needed to build their confidence and capacity to engage in music making alongside the young people as role models and for their own emotional benefit.

Rationale for using music in the classroom

Music therapy with adolescents has been shown to significantly improve social communication and self-esteem and significantly lower depression following 13 weeks of therapy (Porter et al., 2016). Although in the UK teachers cannot become music therapists without a full training at Master's level involving sustained personal therapy, there are fewer than 1000 music therapists registered in the UK¹, and many young people with developmental trauma are unlikely to access music therapy directly. However, teachers play a crucial role in the emotional development of the young person, for example as role models. So the LINK team was interested to explore how this interdisciplinary training involving arts therapists (primarily music therapists) and teachers could influence and enhance teachers' practice when working with young people affected by trauma in the classroom therefore broadening access to supportive non-verbal processes of self-expression and communication.

Saunders (2016) argues that teachers' emotional voice is central to their professional growth and development and that teaching is essentially an emotional practice (Hargreaves, 1998). Any teacher training which promotes emotional voice, for example through mentoring, can help teachers develop confidence in the relational aspects of teaching and help change the emotional culture. This is precisely the kind of teacher training that can be influenced by music therapists who work primarily in terms of relationship with the child, developed through music (Bunt, 2003). Saunders highlights that how and whether a teacher's emotional voice can be heard is highly contingent upon the emotional intelligence of the school management group and the performative culture of the school; therefore there may be implications for how this kind of teacher training can be incorporated into a culture where emotional learning may not be emphasised.

¹ See: www.hpc-uk.co.uk

Interdisciplinary exchange

How might the exchange of knowledge take place between therapists and teachers? A consultative approach was taken by music therapists Rickson and Skewes (Rickson, 2012; Rickson & McFerran, 2014) in their work supporting teachers throughout schools in New Zealand and Australia. The cultural change within schools following this work was evident when music listening and making become embedded into regular teaching practices. This goes beyond the earlier idea of a spectrum between indirect to direct consultative approaches described by Bunt (2003).

King et al. (2014) were interested in how both teachers and therapists viewed their «expertise» following professional development in relation to the mental health of young people. In this case, therapists were psychologists, occupational therapists and speech and language therapists. The study highlighted that experienced teachers and therapists viewed their change in expertise in similar ways. Expert teachers working with children with mental health difficulties identified the importance of flexibility, being open to other frames of reference and making strong relationships with students as the most important factors in their expertise. Similar themes emerged during the teacher training programme of the LINK project where relational practice was constantly valued by the teachers, and where considerable willingness to take risks and try new frames of reference was shown.

King et al. (2014) found that a focus on psychosocial issues was directly linked by teachers to the success of their teaching. The main difference between teacher and therapist development in this study was linked to child-centred goals, as teachers were restricted by the expectation to teach within a confined curriculum, whereas therapists had more freedom to develop goals with the children themselves (King et al., 2014). One way round this in the LINK project was the way that teachers began to incorporate the musical activity as part of the curriculum lesson rather than thinking of it as separate from the maths or geography they were planning to introduce.

Interprofessional collaborative practice between teachers and therapists is not new and the climate for cross-agency working is improving in the UK. Forbes and McCartney (2010) identify that interprofessional «knotting points» may be surmounted with a conceptual toolkit in order to understand the values and practices of different professions. The ethics of «non-othering» of different professions are important in this. Using the theory of social capital, Forbes and McCartney (2010) identified three levels of interprofessional governance: *bonding* involving the building of strong working relations between professions; *bridging* involving good interagency work relations including sharing of subject disciplines, academic qualification and skills; and *linking* involving good working relations and exchange at all levels of the hierarchies of different organisations. We argue that the LINK project presently seeks to develop *bonding* between

teachers and therapists during the teacher training process, and *bridging* work relations by the use of the scaffolded approach to introducing music into the classroom presented here. The *linking* is anticipated to be promoted within the hosting organisation by disseminating the results of impact studies on this process.

There can be some difficulties in sharing knowledge of therapeutic practice. When sharing art therapy practices with teachers in Hong Kong, the art therapists write «out of respect for the art therapy profession we found ourselves simultaneously wanting to share and withhold» (Kalmanovitz & Potash, 2010: 24). The narrative here divides practitioners into the categories of «art therapists» and «non-art therapists». Despite this it was clear that in this project many inter-professional boundaries were opened up.

Kalmanovitz and Potash (2010) were concerned that complex theories and practices may not be fully explored in interprofessional exchange and therefore incorrectly used. This also continues to be a challenge in sharing integrated practices using music in the classroom and formed a regular feature of reflection within the teacher training group. However, what the UK LINK project developed was a highly practical and accessible set of resources and a stepped model in order to increase the likelihood of successful application.

In the following section the practical content of the training sessions is described.

Building the stepped process of music making

Two overarching structures are explained here: the three stages of teacher training, and the eight steps of the *step-by-step* model.

Teacher training

Stage 1: training the trainers

During stage 1, creative arts therapists and teacher trainers from the partner school engaged in activities designed by the music therapists involving listening to recordings from the Bonny Methods of Guided Imagery (Bonny, 1998), using improvisation instrumental playing techniques (Alvin, 1975; Wigram, 2004) as well as musical games and experiences designed to free creativity and not to feel bound by previous musical training.

Stage 2: training the teachers outside the classroom

In stage 2 similar activities were trialled and tailored to optimise our understandings of the

impact they may have on the young people. For example, one activity involved teachers leaving the room whilst it was set up in a circle with instruments in a basket placed centrally. Teachers were asked to enter the room. Some teachers reported excitement and others fear, allowing exploration of how the environment itself may have different impacts on young people.

The trainers began to develop a toolkit of different group skills to be used as a resource for planning classroom activities.

Stage 3: training the teachers inside the classroom

The training team decided early on that for ethical reasons the observations were to be carried out by trainers based at the schools as they were known and trusted by the young people.

As part of the action learning process teachers reflected in the afternoon meetings about the weekly musical input in the class and what had happened. Notes were made of these weekly reflexive discussions and were subsequently analysed inductively using a thematic analysis approach we draw on some of this data here. Code numbers are used for the young people and teachers to protect their anonymity.

A developmental step-by-step model

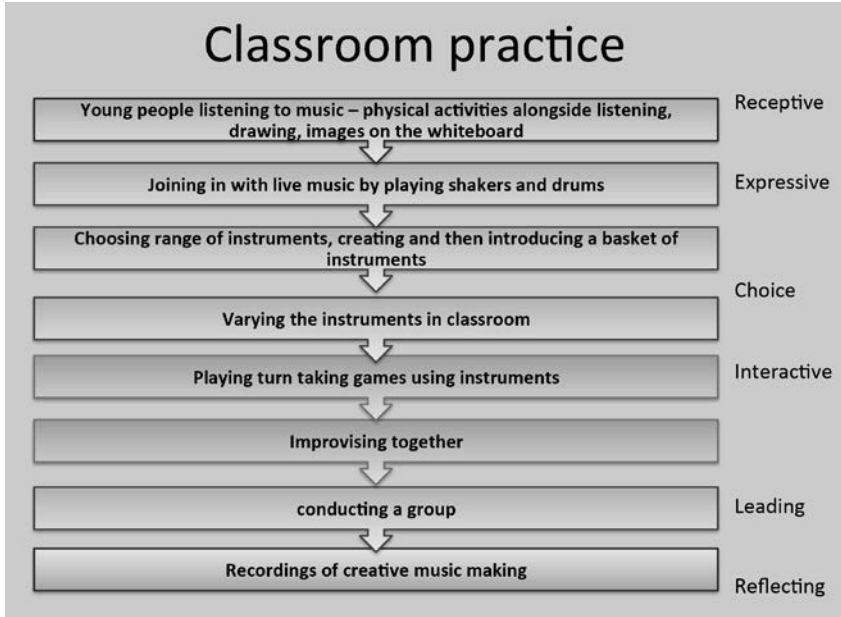
Teacher feedback led to the realisation that the process of introducing music to the classroom needed to be shaped in smaller steps than originally projected. What has emerged is a developmental process matched to the learning pace of the teachers and young people involved. This consists of starting with receptive listening whilst undertaking calming activities, before moving to active instrumental playing, and finally encouraging young people to take new roles, reflect more deeply on their experiences.

We felt there were some parallels with theories of child development, in that although there is a general shape and direction, some stages may happen at different times depending on the individual young person or classroom situation. For example, in some classes it was important to move onto interactional group instrumental playing quite rapidly.

Overview of the model

Figure 1 shows both the sequence of activity steps and the relational development. There is an evolution from receptive or passive engagement through a more interactive and social way of being, leading to greater confidence, autonomy and self-awareness.

FIGURE 1
Step by Step approach



Presenting the data

Preparation

As non music-specialist teachers, building confidence was an important aspect of the programme in order to persuade teachers that the use of music could enhance their work, and also that problems could be surmounted. Trainer 1: «What were your expectations about working with creative arts therapists before working on the LINK project?»; Teacher A: «I think mine were hopeful because I was keen to do something different and so I was interested to see, maybe with a bit of scepticism as well, as to how it would work in the classroom» [Teachers' transnational focus group, UK teacher].

Sometimes things did not work to plan. Teacher B: «Yes, when I first started, I felt sceptical, definitely. But then it didn't take long to then feel the positives. But yeah, in some points when it didn't work I felt a bit disheartened maybe, like... just keep trying» [Teachers' transnational focus group, UK teacher].

Some teachers found improvising freely with instruments daunting taking several training sessions to build confidence. One strategy involved introducing a collection of drums from

Zimbabwe, chosen for their soft sound. Teachers were introduced to ways of exploring dialogic musical conversations in pairs, and playing together in small groups to a pulsed drum beat. Direct use of music therapy practices such as matching the intensity of a musical utterance on an instrument was then put to use (Wigram, 2004). Teachers focused on imitation games initially progressing to the use of freer expressions on instruments.

Step 1: receptive approaches

Introducing listening to music in the classroom was initially less threatening to the teachers than active music making. This involved the identification of a few pieces of music from guidance given by a music therapist trainers specialising in the Helen Bonny Method of Guided Imagery in Music (Grocke et al., 2007). Teachers were exposed to carefully selected high quality music recordings. They were usually no longer than four minutes duration and did not involve rapid or dramatic mood changes. These resources were used in the classroom with confidence as teachers knew it would not excite the young people too much.

Trainers were able to make suggestions about the musical examples and gradually teachers developed skills in choosing appropriate recorded material depending on the needs in the classroom. Rather than expecting young people to sit still, physical activity was involved as well in the classroom during listening, using activities chosen by young people: drawing, colouring, creating mandalas and making models. In some classrooms teachers projected calming images on the whiteboard to support young people to focusing on listening. Teachers became aware that the music also had an impact on themselves.

FIGURE 2

Mandala made in marbles

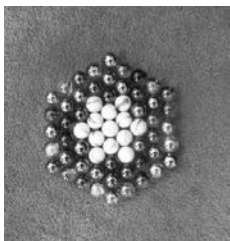


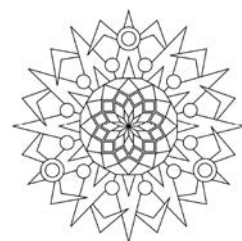
FIGURE 3

Calming image during listening



FIGURE 4

Mandala to colour



Teachers expressed surprised at the impact listening to music had on the classroom environment. Early feedback in teacher reflections included descriptions such as *no raised voices*, *calm*, *contemplation*, *focussed*, and *stillness*, all of which were unusual during transition times. Even when young people were testing the boundaries it was not particularly problematic.

One teacher reports «the quality of the quietness was tested by an audible fart but this did not cause disruption, only momentary amusement subsiding quickly». A calm teacher presence was important at this stage: «young people often need an adult close by to support them in the listening process». Another was surprised that young people «shushed» another student when they made noise listening; this was highly unusual.

Teachers reported «even the other adults who enter seem to respect and safeguard the quietness». In one case the music allowed a young person who had been away for some time to return without upset: «this listening interlude provided a stress-free opportunity to welcome him without drawing attention to his reappearance».

Generally, young people were not introduced to tracks that included singing with words as these associations distracted from the relaxation process. The most popular track was the *Humming Chorus* from Puccini's opera *Madam Butterfly*; the quiet start and simple string playing was attractive for the young people. Occasionally young people did not like any of the tracks offered, particularly in the older age group (ages 15 to 18). In these cases a wider variety of musical genres were introduced. Music from Ghana with a strong rhythmic beat proved to be more popular.

Teachers noticed that they had time to observe the young people and assess their moods or emotions, so they were better placed to judge their interventions throughout the rest of the day. One teacher commented «I can sense that the music is doing the work [i.e. relaxing] for young person 4 and myself».

Young people were not always able to engage with music listening directly with the student group, but found other ways to contribute. One student explored the internet for music during the LINK session instead, choosing music about two grandmas sitting by a fire drinking tea. The music was played to the whole class, allowing her choice to have made an impact.

Step 2: expressive approaches

The move into involving young people in playing instruments was carefully managed. This was considered by teachers, trainers and therapists to be a crucial step towards engaging young people in LINK activities. It involved trainers playing mbiras (African thumb piano) quietly, allowing young people and teachers to join them with shakers and drums as they wished. Mbira music is particularly valuable due to a gentle timbre, repetitive melodies and complex cross rhythms; it did not become a distraction in the classroom context but rather a powerful focus. The two trainers performed *Nbemamusasa*, a piece written to accompany travellers, supporting them to find a safe night time stop. Students naturally progressed from listening to music to discussing where a safe place would be for them.

Young people were then encouraged to join in with the music using egg shakers to encourage participation built on listening. One teacher commented «it felt natural with the egg shak-

ers»; these instruments are small, unobtrusive and inexpensive; it would be possible to resource a classroom with egg shakers for each person. It was important not to pass judgement on the quality of the young people's music.

Use of volunteers or community musicians who can bring in relaxing music of fairly constant energy or predictable form could also be used when introducing music during this delicate stage.

Step 3: Choice

Following the teachers' training experience of instrumental play they decided early on to take drums into the classroom. Here young people engaged in playing drums in pairs with an adult. Teachers reflected on how focus and concentration improved significantly. For example, two young people both played drums together and engaged in drum conversations with an adult for several minutes.

Teachers were directly involved in the decisions about purchasing a range of instruments for use in the classroom recommended by therapists. The quality and range of instruments was essential to ensure that young people enjoyed engaging in playing at a sensory level. Training sessions showed that it was most manageable to provide instruments in a basket for each classroom. This allowed the opening and closing of the activity to work naturally as instruments would be put back in to end. The baskets included information cards about different instruments with cultural details.

FIGURE 5

Example of a basket of instruments



The baskets included the following instruments: colourful bongo drum, rainstick, ocean drum, shekere, large wooden frog guiro, animal rattle, set of Tibetan bells, box of six egg shakers, and later additions of harmonicas, kazoos and small tuned mbiras.

Teachers noted strong reactions of some young people to the instrument choices, and their attachments to particular instruments. One person said that the ocean drum had a soothing sound like the sea, and she would like to have one to calm her at night. The students seemed not to be afraid to make mistakes when trying them out and even when playing together.

Young people chose instruments from the selection arranged on a cloth on the floor. Over the weeks they gradually felt confident to experiment and developed favourite choices.

One young woman each week liked to take three instruments, a kazoo, small bongo and mbira, as she required much sensory stimulation. Explaining how the drum amplified the sound of the small mbira, she was proud to be able to play all three instruments together, devising a rhythmic pattern using the mbira and then a kazoo burst (Class-based training; 4th month).

Students were also introduced to additional larger instruments on a regular basis; once a visitor brought in a mandolin for the young people to hear and try out, and other times have included a balaphon a sounding bowl and a euphonium students responded with enthusiasm and this has stimulated their active engagement in music making.

Step 4: interaction

Interaction in this developing process is understood in three different ways. The young person could be: (1) interacting with the music they are listening to; (2) interacting with the instrument they have chosen; (3) interacting with other people's music within the group or; (4) a combination of all three. Each way of interacting has significance in developing the capacity to relate to others, particularly when for young people have experienced early trauma.

Here one student responds positively to music making:

YP11 moved to play the drum and the egg shaker together maintaining the constant pulse. The upbeat nature of the piece continued throughout and four young people were buoyant and engaged for most of the time. YP11 at the end of the piece said that the emos had gone; the jolly music had driven them away and now he was happy. (Class based training 3rd month)

«Emos» were described as bad feelings by YP11. One young woman had not been directly involved in group music making before but took a golden egg shaker. Her teacher took a drum and began to play a rhythm with her. She was joined by another young person on the balaphon and then another on the ocean drum. She continued to play with the golden egg shaker, smiling.

All young people need to learn about listening to each other and taking turns. From the LINK project we found that turn-taking was particularly important for young people who found it exceptionally difficult to trust others; often it was clear that there was a belief that they would never get a turn if they waited. This could well be a result of avoidant attachment patterns and neglect in early life.

Valuing the expression of others is challenging, especially when waiting for a turn. Structured musical turn-taking enables opportunities to practice these skills and explore emotional responses in a safe environment. Turn-taking is not particularly disrupted if instrumental playing overlaps. When several people play together they can all be heard in a way that is not possible if several people speak at once (Ansdell, 2016).

In one class a turn-taking activity around the circle involved each young person playing a short improvised piece on their drum. One student found it difficult to restrict playing to his turn only. The teacher altered the game so one person played alone and everyone else imitated him back in turn. This went around the circle three times, avoiding anyone waiting too long for their turn, and shows how a musical exchange can be changed to meet the emotional and social needs of the group.

Playing together is a slow challenging process that builds from small examples of listening into deeper levels of collaboration in music.

YP16 received a small mbira saying that she liked to play this instrument. She held it carefully and played with sensitivity briefly. T9 also took a small mbira. The piece gradually took on a pulse from T9 together with a care worker playing a gentle rhythm on a drum. YP11 responded to this and engaged in playing egg shaker synchronously with the pulse. Both trainers joined with the rhythm created and YP16 then quietened from talking and maintained gentle playing on the small mbira that was synchronous with the rhythmic pulse. The piece lasted for over two minutes. (Class-based training 2nd month)

This example occurred where verbal interaction between these two young people is very rare. The teacher held the interaction through maintaining a pulse on the drum. The care worker supported by playing a similar instrument. This enabled YP16 to engage more fully in playing. This experience of connection can be built upon and developed in the future.

Step 5: leading

We have observed that young people in this school need to be able to take control over situations; it is when they are in control that they feel safe, again an outcome of early traumatic experiences (Perry, 2006). Leading a musical improvisation is often easier than following instructions from another peer. Once students recognised that music making was safe we found that they would frequently demand to be the leader, allowing them to take control of the situa-

tion. The role of conductor (as in an orchestra or band) involved becoming confident to make gestures that others would understand and respond to. The following example demonstrates how one student engaged in a highly social musical interaction within his class group.

YP43 then became the conductor; we changed our instruments and he led the music making. He pointed to players encouraging them to play loudly or softly or stop with his gestures. He engaged in this process wholeheartedly and generously and did not leave anyone out. One young person was playing the shekere, but very quietly. The conductor on two occasions encouraged him to play louder but he did not respond. One young woman found it a bit difficult to follow his conducting but she did play her instrument and cooperate to a certain extent in the piece of music. The piece lasted 2 minutes. Adults asked young people how they felt about playing the music and conducting. Generally there was much smiling and laughter. (Class-based training 3rd month)

It was not always easy for young people to conduct each other. This young person was nervous of conducting the others.

He said «no one will listen to me or do what I say». His teacher encouraged him to conduct and he decided to have a go. He pointed at individuals and they played. He teased his teacher a little making her stop and start a lot! He pointed to start and stop rather than the hand up which was a little confusing. He had a clear gesture to get louder and the group followed. At the end of the piece he said it was beautiful. (Class based training 3rd month)

This process was further developed into leading with musical sounds resulting in different responses:

One young person enjoyed playing the harmonica. He was highly inventive using the whole range of sounds and trying out speaking into it and also beat boxing. He gave out harmonicas and asked others to imitate his playing. The response was good level of engagement. (Class based training 2nd month)

Another young person led music making by playing his drum strongly. The whole group joined him, matching his sounds. Afterwards he said «It was good to have a crowd behind you».

Step 6: reflecting

This is a step still being developed within the LINK project, by encouraging students to create then record their own work. The process of listening back to their creations is already prompting further reflection. For young people with significant challenges in identity development this is a process that needs sensitive support, and is likely to be more successful if the step-by-step process has been followed. Teachers need the confidence to introduce the idea, and ideally the young people will request it themselves. In two classes young people are asking to record their group improvisations. This requires thoughtful handling by the teacher. A useful idea from music therapy is Aldridge's notion of the *performance of the self* through playing music (Aldridge,

1996). We would argue that group improvisation involves performance of the self in relation to others. Therefore, recording this music and listening back will involve processes of recognition of the self which may be complex, hard to manage but potentially valuable.

Conclusions and discussion

The step-by-step approach taken to professional development for this project has been in direct response to the context of the residential special school. The nature of the young people's life experiences has meant that the learning process needed to develop in a gradual way. Process in each classroom may take a different course though these steps.

Participant teachers report greater confidence in their capacity to participate in active music making in the classroom alongside young people. Analysis of reflective data reveals that teachers recognise how listening and playing music has impacted on young people's capacity to self regulate and to engage in learning (Abrams et al., 2013; MacDonald & Wilson, 2014; Perry, 2006). They identify that young people achieve enhanced levels of sensory integration and relate to each other through non-verbal approaches. Teachers also demonstrate understanding that such experiences prepare students for engagement in more formal learning processes.

A wide range of music can be explored in this music listening process, enabling some young people to develop a richer understanding of diversity. One young person on listening to the mbira music played in his classroom said «I would never have thought that such a good thing could come from Africa» (Class-based training 3rd month). His teacher reflected that this experience of the music had changed his conceptual understanding of a continent.

The sensory engagement required during active music making is for most young people a pleasurable experience motivating them to engage more fully in the experience. This stimulus can be used by teachers to encourage a calm environment for learning.

Furthermore, the impact that sensory engagement has on the social relationships in the music making is another positive development. Young people who find verbal interaction difficult are given the chance to interact non-verbally through music making. This experience arguably relates directly to *communicative musicality*, the innate communication process that develops between primary carers and their young children (Malloch & Trevarthan, 2010). Young people who have experienced avoidant attachment models in their early lives can helpfully rebuild these experiences through sensory processes, in particular through using music. It is increasingly recognised that there are neural mechanisms allowing repair to occur following neurological damage caused by early traumatic experiences (Perry, 2006; McGilchrist, 2010) which may well be stimulated through relational use of music.

Teachers in the UK school emphasised the importance of developing strong relationships with young people. The LINK project enabled them to build a stronger explanation of why this is important. They are exploring how to incorporate these creative LINK activities within all their lessons rather than just as an adjunct to the lessons. These teachers have recognised they are comfortable to include music in their usual lesson planning. This has also been seen in partner countries within the project.

From these accounts, it is clear that teachers recognise the importance of observing young people at challenging transition times. Teachers can then understand their emotional states more deeply and make informed decisions about how to respond to them. This development of teachers' emotional awareness of their students indicates development of their own emotional competences and capacities in the classroom. We believe that a positive and insightful balance between both the teacher and young person's emotional capacities is where learning can be more successful. Learning is inevitably a challenging process requiring emotional stability. The nature of these emotional insights is vital for learning to take place, ultimately leading to Saunders' (2016) vision of strengthened emotional voice.

Final remarks

The LINK project has raised questions about the processes of interdisciplinary working. Sharing professional knowledge and skills is indeed challenging and this project has brought into question how and why this process needs to take place. Teachers are with young people all day. Building strong relationships that demonstrate understanding of their emotional and social state is crucial to being able to support their learning. The project has explored how creative arts therapists, who have intensive training focussed on building close relationships, can usefully share knowledge and skills with teachers in a way that can be taken on with confidence through a step-by-step approach by working with vulnerable young people.

If teachers and therapists both place the needs of the young people as the priority, then sharing knowledge and skills becomes a far easier process. So doing, they create shared values and goals such as a central emphasis on the wellbeing and health of the young people. However, we believe that it does require all three stages that Forbes and McCarftney (2010) discusses (see page 8 of this article); *bonding* together, building *bridges* across the disciplines by sharing values and *linking* together through different levels of an organisation to make the systems work for the young people. This approach has the potential to embed the practice and ensure that the needs of the young people are paramount. Saunders (2016) cautions that working within an organisation where teacher's emotional voice is not valued will make this more difficult.

Finally, we would like to highlight the calming and relaxing impact that listening and playing music has on students and their teachers. As discussed, this appears to result from the combination of sensory and relational engagement demonstrating higher levels of self-regulation. It is evident from reflective accounts that teachers are increasingly valuing opportunities to use music within lessons and during transition, enhancing young peoples' capacity to engage in formal learning by regulating their emotions so they feel ready to engage with curiosity and creativity in their learning.

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