

‘Liquid Vibrations’ - a project using sounds and music in water for children with complex needs

Introduction

The concept is that vibration of sound in water can potentially facilitate individuals’ awareness of the world around them (Drake, 2011). Both music and sound rely on the act of listening, potentially resulting in greater self-confidence and enhanced learning in the classroom (Gold et al. 2004; Kipper, 1988). Foetuses are able to recognize sound at approximately 20 weeks (Papousek, 2007). Research in the field has highlighted how musical expression, similar to verbal language, is based on communication between the mother and the child. Such communication is prosodic in nature (Mang, 2001; Papousek, op.cit.). As a continuation to this basic start in human vocalisation, the structures of sound and emotional elements create a musical language that can be used in communicating emotion through sound (Mang, op.cit.; Rinta and Welch, 2008; Robertson, 1997). In addition, the first sounds heard by an infant trigger consciousness and memory that can help them in constructing knowledge (Verschaffael, 2013).

Musical Behaviour and Movement

Case-study examples have highlighted how music can act as a motivator for movement:

- The Sound of Intent Project, which offers musical opportunities for children with complex needs, has reported several examples of such cases (Ockelford, 2010).
- Within Drake Music workshops a disabled adult in a wheelchair who had been hunched into himself opened up in order to trigger Soundbeam (Drake, 2011).
- Within Liquid Vibrations workshops a girl who is paralyzed and blind responded well to the experience of listening to sounds in a hydrotherapy pool, trusting herself to be held and finally able to move her legs independently. Although it could be said that simply being in water was sufficient motivation for the girl, listening was likely to have been an additional motivating factor, taking away the pressure of instructions (Drake, 2011).

In addition, the rewarding and reinforcing aspects of listening to music seem to be mediated by increasing dopamine levels in the nucleus accumbens and by the cerebellum’s contribution to regulating emotion through its connections to the frontal lobe and the limbic system (Peretz and Coltheart, 2003; Zatorre, 1994). Furthermore, specific neurotransmitters (i.e. chemicals) are recorded throughout the nervous system when one is engaged in musical activities (Levitin et al., 2009; Welch, 2005). In relation to this, serotonin (i.e. a hormone produced in the brain stem that is associated with the regulation of mood and sleep) and cortisol (i.e. a steroid hormone released as a response to stress) play a role due to the fact that music can have a physically calming effect

by reducing the production of cortisol and by facilitating the production of serotonin (Luck et al., 2008; Salamon et al., 2002; Thurman, 2000).

Sound is perceived differently in water than it does in air. As it travels 4.5 faster in water, sound reaches the two ears at much shorter intervals, therefore cancelling any perception of the space it travels in or its directionality (refs.). Furthermore, the sound vibrates the skull bone and skeleton, which in turn vibrate the inner ear and give the impression of the sound being heard internally (refs.). If the listeners shut their ears as hard as they can, they will still hear the sound very clearly. Although very low frequencies are not reproduced as in air, the sound content is incredibly clear and detailed.(refs.)

Method

The concept of this project has been explored and researched previously within a special school in Canterbury, Kent, where a preliminary study was performed in 2011. This preliminary project consisted of both 'wet' and 'dry' sessions whereby children were exposed to the sounds within both the classroom and hydrotherapy pool. The reactions and outcomes of this were observed and commented on to allow the development of this project for The Redway.

The lessons learnt from this study have been highlighted and amended within the method presented at The Redway School. One of the clear recommendations was to extend the duration of the project to allow for the sessions to affect the participants through weekly repetitions. This was addressed at Redway School by extending the amount of sessions to 6 sessions spanning half a term. Other recommendations included training staff and carers in preliminary sessions, which would enable them to hold the children in such a way that allows freedom of movement and maximises their enjoyment. This was implemented through sessions with Aquatic Therapy specialist and Watsu Practitioner Steve Karle.

Participants

The participating school, Redway School, in Milton Keynes is a mixed, day special school providing education for children between the ages of two and nineteen. The school caters for pupils with a wide range of severe and complex learning difficulties, including needs associated with physical disabilities, medical conditions and autistic spectrum disorder. The participation of Redway School was due to funding becoming available via Milton Keynes Community Foundation who have previously supported the Director of the current project, Adele Drake, in The Drake Music Project. In total, 8 pupils participated in the project over a six week period, six of which were boys and two of which were girls. They exhibited a range of medical conditions, including epilepsy, cerebral palsy and degenerative disorders and were all wheelchair bound. The academic level of each child was below Key Stage 1 at P1 or P2 level.

The participants involved were chosen by Senior Management at Redway School. The Management Team selected students who would enjoy being in the water and who they believed would get the most out of the sessions as a whole. In these early stages of the project, the general enjoyment of swimming was an important aspect for the selected pupils, allowing them to be comfortable in the pool environment. In subsequent projects it may be interesting to introduce slightly less confident swimmers to assess the impact the sound and vibration has on their confidence in the water.

Data Collection Methods

The primary data collection method was that of observations. Each session was observed by at least one of the research team members under the instruction to document in writing the changes in each participant's behaviour throughout the sessions. Video cameras, each focussing on different participants, were also utilized in order to provide an additional record of both wet and dry sessions. The footage was subsequently analysed to allow a post session conclusion to be drawn.

In addition to these, the use of interview during and after sessions allowed the carers the opportunity to highlight any specific observed development in the child that they were looking after. As they are very familiar with the child's behaviour, this provided the project team with an insight into each child's development and, over a period of time, helped track their progress, if any should arise. This was reinforced by the creation and distribution of questionnaires on a weekly basis to the carers. See Appendix 1.

Structure of the Sessions

Each day of therapy at the school consisted of two sessions: a 'dry session' and a 'wet session'. The 'dry session' was completed first in order to prepare the children for the act of listening that they would be required to do within the pool, as well as to introduce the theme of water to the children. This session was held in the school's main sensory room, with the use of blue lighting and draped fabrics that gave the room a seascape feel. The children sat in a circle and they were read a story called 'The Whales' Song', whilst being introduced to other multisensory stimuli intended to reinforce the story. These included: sand trays with stones and shells; crinkly silver foil to represent the sea; and yellow feathers (gifts to the whales). In addition, children were introduced to aural stimuli, including: seascape sounds; drums; a crystal bowl to start and end the sessions; and chanting. These were designed to allow students to become familiar with the listening aspects of the project and to encourage their participation during the pool sessions.

Within the 'wet sessions', sounds were played through underwater speakers, allowing participants not only to hear the sound but to also feel it. These sessions were designed to allow participants maximum freedom of movement and expression, allowing them to explore and communicate as they wish. The importance of such freedom children with special educational needs is noted here by Phil Ellis as follows:

‘Certain aspects are controlled externally - notably the sonic environment – but the essence lies in allowing the child freedom to act as she or he chooses within available parameters which remain as open as possible.’ (Ellis, 1997)

The flotation provided by the pool allows the children a freedom and comfort that some would not feel out of water. It is through this comfort and relaxation that it is hoped that participants will be open to the listening space of the water, allowing them to personally discover and actively listen, as well as enjoy, the sounds presented.

Throughout the ‘wet sessions’, three main categories of music were used. These were: a) ‘Familiar’ Music (i.e. musical themes and rhythms); b) Abstract Sounds (i.e. electro-acoustic sounds and composition); and c) Narrative Sounds (i.e. wildlife, field recordings, and vocal recordings from the dry session). Familiar Music draws on musical and rhythmical structures, which are used in music that the participants are likely to have heard in class, at home or in the media. It serves as an introduction into the underwater listening experience, as a buffer into the new experience.

Abstract music is characterised as the use of unconventional sounds with a very flexible structure and its effect is described here by composer Dennis Smalley:

‘The wide-open sonic world of electroacoustic music encourages imaginative and imagined extrinsic connections because of the variety and ambiguity of its materials...’ (Smalley, 1992)

Its use within Liquid Vibrations is to inspire imagination. Its psychoacoustic effect is an aesthetic sensory experience that, when perceived in the unique underwater setting, can have the effect of inspiring curiosity that further leads to expressions of intent and attention.

Narrative sounds were used in the form of familiar sounds dislocated from their original source. An example of such sounds are the songs of the humpback whale that are characterised by their unique nature. This allows the listener to focus on the sonic qualities of the sounds whilst recognising its position as a signifier of a sound, object or image. The dislocation of these sounds allows the sonic qualities to come to the fore and not be masked by the event or situation. In the case of participants with complex special needs, these sounds can bring enjoyment through not only the familiarity but also the ability to connect events from both wet and dry sessions (Cahen, 2013).

Observations

Development of Listening Skills

Throughout both ‘dry’ and ‘wet sessions’, developments were recorded in both the act of active listening and the intent to explore sounds being heard. Within the ‘dry sessions’, children were exposed initially to a great amount of stimulus as mentioned above in the Methods Section. Such an approach certainly appeared to affect the participants negatively, providing an over

stimulating environment where the focus was difficult to identify. This was addressed in subsequent sessions where the environment was stripped down and silence was used more extensively. Such an approach enabled the use of sound and music to become more prominent, providing participants with a more obvious focus and periods of time when listening was vital. These included the introduction of new characters and the whale songs. As the sessions progressed, it was observed that children began to remember and recall specific events, one such being the entrance of Uncle Fredrick in the story (symbolised by the banging of a drum). Preceding the drumming sound, one particular child began hitting his tray to the line of ‘stomp, stomp, stomp’ read by the adult. In addition to this, a number of children would point, look and actively listen to this new sound being introduced, often also followed by smiles, laughs or vocalisation.

In addition to the introduction of instruments, the use of chanting, in relation to the story, was effective for the majority of the children. Reactions to the chanting of individual children’s name (chanting their names formed the main body of this exercise, whilst being linked to a story about a whale) were perceived to be noticeably positive, providing children with the recognisable sound of their name in conjunction with the close contact of both the lead teacher and their individual carers. Throughout the weeks, these reactions became more prominent, moving from smiles and slight vocalisation to clear listening and realisation through the touching of the Lead Teacher’s face as she chanted their names. This provided real evidence of effective listening and positive vocalisation, as was commented by the Lead Teacher: ‘The children are responding well to the sensory stimulus, in particular the use of chanting in regards to their names.’

In terms of the ‘wet session’, key signs of listening also developed throughout the process. These signs differed from child to child, depending on their individual needs and confidence in water. Key signs observed for a number of children included intentional dipping of the head and ear underwater in order to explore what they could feel and hear a discovery made by themselves. This reaction became significantly more prominent across the weeks as the children started showing signs of expectation to hear the sounds underwater. In addition to this, different signs were observed that suggested clear acknowledgement of the vibrations and sounds. These included:

- Happy vocalisation
- Stillness and relaxation
- Physical movement
- Emotional signifiers (smiling, laughing etc)
- The movement of the eyes (specifically in blind or partially sighted participants).

It was these observed signs that were picked up and commented on by individual carers as well. For instance, one carer commented: ‘With him, I think there’s been real progression and definitely intentional listening.’

As well as the clear intention to listen when music was present, the reaction to a lack of music was also noted in a session in the pool where the sounds were not available. The observations highlighted that:

‘ At the very beginning of the session each one of the children, including Child B put their ears in the water, but the expression on their faces looked puzzled. They were definitely anticipating something.’

Relaxation

Throughout the ‘wet sessions’, relaxation was an obvious consequence of the pool environment and the relaxed support of the Watsu position adopted to the sessions. This was, for the majority of the children, a complete change of behaviour from a normal hydrotherapy session as was commented on by the school’s PE teacher and individual carers throughout the sessions. Indications of this can be seen within many aspects of individual children’s behavior including: stillness; lack of distressed vocalisation; willingness to try different Watsu positions; and content body language and facial expressions, including smiles and laughs. As the weeks progressed, the participants began to immediately take to this relaxed listening state as soon as entering the pool, showing once again a clear sense of pre-empting what was about to come in terms of listening. This was clear in a few cases where participants had struggled throughout the ‘dry sessions’ but showed concentration during the ‘wet sessions’. In regards to this, the Head Mistress of the school commented: ‘Well, Child C for example, in the water, I mean – a completely different child to what she is on land.’

The impact of such relaxation and freeness of movement is likely to have enhanced feelings of well-being and joy in participants who struggle with independent movement. This joy is likely to have positive impacts within daily life, further enhancing learning, behaviour and enjoyment for the rest of the day. This aspect of the project will be followed up and commented on by parents and carers in the near future.

Physical Movement

As mentioned earlier, one sign of this active listening within participants is changes in the physical movement of their bodies. This can be an increase of movement or a sudden lack of movement depending on each individual child. The addition of movement for many of the participants may have come as a direct impact of the essential support provided by water, allowing them to explore more of the range of movement available to themselves. The inclusion of the sound, as well as the vibrations, appeared to, in many cases, provide them with joy and happiness that was often reflected in their movement. This was shown clearly by one participant who kicked her legs, while smiling and laughing. Their position in the water (laying on their back) will have provided a strong sense of the vibrations through the spine and could have impacted on their very prominent movements.

As discussed previously, the one session which went ahead without any sound allowed an assessment of the impact of the sound and vibration on the children. In terms of the movement, the observation indicated that:

‘During the pool session, and compared to last week, the children were quieter; there was less movement through their bodies, and you could see they were searching for something, that was missing in the water, which was the sound and vibration.’

On the other end of the spectrum, the prominence of stillness to indicate listening and concentration was seen in a number of the participants. Similarly to the relaxation aspect, the stillness allowed participants to fully focus on the unusual nature of the sound and vibration under the water, as commented here in relation to one of the participants in the final session of the study:

‘...he’ll just stop, because he is constantly on the move, Child E will move his right hand because he is just happy to be in the water. As soon as he recognizes something is going to change or he feels something, he will stop. If you looked at his eyes then you will see he has a visual impairment as well. You will see his eyes moving and he will concentrate and it is quite clear he is focusing’

Despite his stillness in movement, the concentration and focus is still clear to be seen in his face and it is this that provides evidence that the child is becoming more aware of his surroundings. Other participants have exhibited similar reactions when moved towards the underwater speakers, allowing the development of listening to become clear.

Conclusions

Despite the much extended nature of this project compared to the previous smaller-scale study, it has become clear that in order for the project to provide long-term benefits, it is required to run for a much more extended period of time. This will enable an opportunity to build up and to reinforce the underwater sound practice with the children, allowing further development. This impression was echoed by the Head Mistress of the school who commented:

‘...reflecting on it last week while I was away, really we should perhaps plan if at all possible for it to last say ten to twelve weeks so we sort of built on previous experience’

Despite the need for a longer term project, the feeling is that all the children gained positives from the experience and, where possible, long-term effects will be monitored and commented on. In terms of the selection of participants, it is believed that perhaps slightly more ‘able’ children may have gained more from the sessions, in particular over the slightly shorter time scale. Through discussions with senior teachers at Redway, it has become clear that the benefits of Liquid Vibrations may also be suited to children with severe autism and challenging behaviour.

Through observations and discussions at Redway School, new possibilities arose for the development of the project into additional directions. The first of these is to work with participants who struggle to put themselves in a horizontal position due to problems of balance as a result of immature vestibular systems. This is a problem that requires specialist knowledge and therapy, but it is something that could be looked into and possibly integrated into Liquid Vibrations' work with complex needs children and young adults in the future.

As a result of the work completed at Redway School, there is significant evidence that suggests that the use of the music and vibrations can be of benefit to participants with a wide range of abilities. The Head Mistress of the school has expressed an interest in continuing their work with Liquid Vibrations throughout the school and is keen to install underwater speakers in the pool.

Despite the range of recommendations mentioned above, the current study highlights the fact that significant progress and enjoyment can be recorded for participants throughout the project. The clear development of participants' listening skills, for instance, illustrates how their ability to preempt and actively strive to listen to the sounds enhances throughout the weeks. The development of the children's listening skills further provided them with enjoyment and relaxation, as they listened to and explored the sounds and the pool environment nearly independently. The use of Watsu, and the subsequent freedom of movement, added another element to the sessions, allowing the wheelchair bound children a time to be in control of their own movement. In fact, it is a combination of this relaxation, enjoyment and freedom of movement that provides these profoundly disabled children with a time of relief. It is further hoped that this sense of freedom will lead to further developments in each individual.

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Appendix 1 – Carers Weekly Questionnaire

How did the child respond differently to how they respond usually in the water?

Did the child show intent to submerge head to hear the sounds?

Did the child vocalise during the sessions and was this to imitate the sounds?

Was the child still during parts of the session or was there a lot of movement?

Was the child generally in a relaxed state during the session?

Appendix 2- Summary of the Kent Study in 2011

The Liquid Vibrations project work was explored and researched at a special school in Canterbury, Kent, in the Autumn of 2011, with the help of Joel Cahen, a sound engineer who also works with sound art (www.wetsounds.org). The methods were designed on the basis of previous work with sound and music in a hydrotherapy pool context with adults, as well as on the basis of an extensive literature review and pre-piloting of sessions with children who possess complex needs. An action research approach with case studies was adapted to this exploratory study. This enabled the researcher to gather in-depth data on the phenomenon and to establish a framework for subsequent research.

The participating school, St Nicholas special school, located in Canterbury, Kent, is a community day special school providing education for 187 children and young people who have special educational needs and are aged 4-19. The school caters for a wide range of learning disabilities including: severe, profound and complex learning difficulties; autism; and sensory impairment.

Four children from the school participated in the project sessions over the period of three weeks, three were girls and one was a boy.

On the basis of this small-scale exploratory study, there was considerable indication as to how the sessions offered by Liquid Vibration can be of benefit. Each participant child exhibited a range of different needs, yet they all appeared to gain benefits from participating in the sessions, implying that the sessions could be of benefit for a wide range of special needs. In fact, the Parent-Teacher Association decided to buy underwater speakers in order for the school to continue running such sessions in the future.

Appendix 3 - Independent Feedback

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Feedback Questionnaires from Carers

Carer of Child A- Week 1 - 19th September 2013

1. *How did the child respond differently to how they respond usually in the water?*

Unknown as have not has the same child in the water before

2. *Did the child show intent to submerge head to hear the sounds?*

No was slightly uncomfortable with head under water

3. *Did the child vocalise during the sessions and was this to imitate the sounds?*

Yes but to the music was wanting to get out

4. *Was the child still during parts of the session or was there a lot of movement?*

Some of the session he stopped to listen

5. *Was the child generally in a relaxed state during the session?*

No as was tired and too close to home time.

Carer of Child B- Week 1 - 19th September 2013

1. How did the child respond differently to how they respond usually in the water?

Child B enjoyed the first 10 minutes, listening to the whale sounds, but when the music changed he did not want to listen any more, and sat upright. This is normal behaviour for him in water to be splashing and in a vertical position.

The music then changed and I was able to get Child B to listen to the music, in a position which was of his own doing, ie foetal on his right side facing into me with his head resting on the fold of my arm, and legs lightly resting above the other arm. Here he remained for a least 15 minutes, peacefully listening to the whale sounds and birds (I believe) twitching occasionally, but to surrender to the peace that he was experiencing in the water.

2. Did the child show intent to submerge head to hear the sounds?

Definitely, he raised his head several times, and returned to listen to the sounds.

3. Did the child vocalise during the sessions and was this to imitate the sounds?

He made gurgling sounds which he does when he is content, but cannot say if they were in imitation.

4. Was the child still during parts of the session or was there a lot of movement?

He was quiet for the first part of the session and then quite active when the music changed, but then totally succumbed to the music for the latter part of the session, as never before.

5. Was the child generally in a relaxed state during the session?

Definitely. The time frame of these sessions also parallels to when he is beginning to show discomfort in the classroom due to the pain medication that he takes wearing off. However, when he would normally be quite distressed in class, was the same time, when he was the most relaxed and calm in the session. I am his class teacher, and am with him during this time, so it was reassuring to see him in such a peaceful state.

Carer of Child C - Week 1 - 19th September 2013

1. How did the child respond differently to how they respond usually in the water?

Not really. Confident in water anyway

2. Did the child show intent to submerge head to hear the sounds?

Turned head to the side maybe to listen

3. Did the child vocalise during the sessions and was this to imitate the sounds?

She laughed

4. Was the child still during parts of the session or was there a lot of movement?

Parts of session but lots of movement too

5. Was the child generally in a relaxed state during the session?

Relaxed throughout

Carer of Child D – Week 1 – 19th September 2013

1. How did the child respond differently to how they respond usually in the water?

Initially child was quite wriggly and unsure. Once he made the connection that there was sound coming from beneath the surface of the water and we weren't in the pool for free upright exploration or hydro/swimming he settled better.

2. Did the child show intent to submerge head to hear the sounds?

Yes – he actively leant over side ways to dip one ear in the water at a time. He didn't like lying back with both ears in water

? a sign of gravitational insecurity

3. Did the child vocalise during the sessions and was this to imitate the sounds?

He was very very vocal. Not sure at this stage if he was imitating sounds heard or just general chatter

4. Was the child still during parts of the session or was there a lot of movement?

A lot of movement – it was a bit like holding a conger eel at times but we did get a few nice quiet moments when he stilled and listened

5. Was the child generally in a relaxed state during the session?

No quite excited and wriggly

Carer of Child D- Week 2 - 26th September

Dear Carers,

Thank you for your replies to my questionnaire last week, they will be really helpful across all of the sessions to gain an understanding of the benefits the children feel. As you may know, due to unforeseen circumstances, [REDACTED] and [REDACTED] were not able to make the session this week and as a consequence the session went ahead without music.

I see this as a unique opportunity to gain an insight into any differences in the children's behaviour due to the lack of music. I would be very grateful if you could complete the questionnaire again this week focussing on the absence of music and the differences in behaviour.

Thank you in anticipation.

- 1. How did the child respond differently to how they respond usually in the water?*

Child D is used to coming into the hydro pool to practice his walking and have hydrotherapy and class swimming. He therefore found week 1 quite confusing – he isn't used to lying still, floating supine or putting his ears under the water and listening. This week he seemed to know what was expected of him in the LV session. He was much less wriggly and more accepting of lying still, working with a facilitator and listening

- 2. Did the child show intent to submerge head to hear the sounds?*

Yes almost as soon as the session began he moved onto his side and actively put one ear under the water and allowed me to hold him there for quite a few minutes. Unfortunately there was no underwater sound in week 2 (Due to travel problems for [REDACTED] and [REDACTED]) and so after several attempts to put his ears under the water and listen Child D got tired of this and thereafter wasn't so bothered about putting his ears under the water

3. *Did the child vocalise during the sessions and was this to imitate the sounds?*

Child D did vocalise quite loudly but he often does so in the water anyway. There was no sound for him to imitate except for whale noises made by me and me calling Lilly, Child D etc as in the story. It wasn't clear if he was vocalising in response to me or not

4. *Was the child still during parts of the session or was there a lot of movement?*

Much less wriggling than week 1.

5. *Was the child generally in a relaxed state during the session?*

Child D seemed far more relaxed and still this week – especially to begin with. As the session progressed he seemed to tire of lying still and listening however – probably because there was no underwater sound!

Carer of Child E – Week 1 – 19th September 2013

1. How did the child respond differently to how they respond usually in the water?

Child E did not respond differently to his usual Hydro sessions

2. Did the child show intent to submerge head to hear the sounds?

No definitely not.

3. Did the child vocalise during the sessions and was this to imitate the sounds?

Yes he did vocalise a little but I did not feel that this was to imitate the sounds.

4. Was the child still during parts of the session or was there a lot of movement?

There were some still moments when I took Child E over to the speakers.

5. Was the child generally in a relaxed state during the session?

Yes! Child E very relaxed in the water

Carer of Child E – Week 2 – 26th September 2013

Dear Carers,

Thank you for your replies to my questionnaire last week, they will be really helpful across all of the sessions to gain an understanding of the benefits the children feel. As you may know, due to unforeseen circumstances, [REDACTED] and [REDACTED] were not able to make the session this week and as a consequence the session went ahead without music.

I see this as a unique opportunity to gain an insight into any differences in the children's behaviour due to the lack of music. I would be very grateful if you could complete the questionnaire again this week focussing on the absence of music and the differences in behaviour.

Thank you in anticipation.

2. How did the child respond differently to how they respond usually in the water?

No difference.

3. Did the child show intent to submerge head to hear the sounds?

No

4. Did the child vocalise during the sessions and was this to imitate the sounds?

No

5. Was the child still during parts of the session or was there a lot of movement?

Child E always moves around and splashes with one hand

6. Was the child generally in a relaxed state during the session?

Happy and content rather than relaxed

Carer of Child F – Week 1 – 19th September 2013

1. How did the child respond differently to how they respond usually in the water?

This was only my second swim session with Child F but I believe he is normally quite excitable in the water and loves to wriggle and splash. He did this some of the time, but also had phases of calm.

2. Did the child show intent to submerge head to hear the sounds?

Child F was happy for his head to be submerged but I feel this came from the way I was supporting him in the water.

3. Did the child vocalise during the sessions and was this to imitate the sounds?

Child F was very vocal during the session which appeared to be from excitement. There were times when this followed his head being submerged and I thought he had responded to a sound he liked.

4. Was the child still during parts of the session or was there a lot of movement?

There was a mixture of both.

5. Was the child generally in a relaxed state during the session?

There was a mixture of relaxed moments and also lots of movements from Child F's arms and legs. Some of these, I believe, were involuntary movements and some, I think, were from his enjoyment of being in the water and having the freedom to move independently.

Carer of Child F – Week 2 – 26th September 2013

Dear Carers,

Thank you for your replies to my questionnaire last week, they will be really helpful across all of the sessions to gain an understanding of the benefits the children feel. As you may know, due to unforeseen circumstances, [REDACTED] and [REDACTED] were not able to make the session this week and as a consequence the session went ahead without music.

I see this as a unique opportunity to gain an insight into any differences in the children's behaviour due to the lack of music. I would be very grateful if you could complete the questionnaire again this week focussing on the absence of music and the differences in behaviour.

Thank you in anticipation.

- *How did the child respond differently to how they respond usually in the water?*

A mixture of excitable moments and calm.

- *Did the child show intent to submerge head to hear the sounds?*

Appeared to submerge head in purposeful movement, but then not so relaxed as previous week.

- *Did the child vocalise during the sessions and was this to imitate the sounds?*

Vocal some of the time as previous week.

- *Was the child still during parts of the session or was there a lot of movement?*

Seemed still for longer periods of time when swaying from side to side.

- *Was the child generally in a relaxed state during the session?*

Child F was more excited this week so there were less relaxed moments.

Final Feedback from Carer of Child F

I believe child F, the pupil I supported, benefited from this project. It was a great pity that he missed the last two sessions due to illness.

In child F's first session he showed his excitement of being in the water with some smiles, wriggles and splashes. There were also periods of calm and he was tolerant of his head, up to his ears, being submerged in the water and I believe he became vocal when he heard a sound he liked. By his fourth session he clearly showed some understanding by tilting his own head back independently and then bringing his head back up again, and then repeating this several times. He responded to the sounds he liked (fast quick rhythm of chime like sounds) by giggling and moving his arms and legs more vigorously. Some of his enjoyment obviously came from being in the pool and having the freedom of movement.

Child F enjoyed the land based sessions, the story, atmosphere of the M.I.L.E. room, exploring the props and benefiting from one to one adult attention. All of this was totally appropriate to his level of understanding and development.

The two 3-hour training sessions for the adults were very in depth and the skills required were demonstrated well. During our sessions with the pupils it was very useful having Steph in the water giving advice relevant to the children we were working with and she was extremely supportive.

From a personal point of view I think it would have been helpful to have some information about the project, the aims and what to expect before it started. Maybe even a short land based introduction for the adults giving some background information. I also found being in the pool for three hours too long. A designated time for feed back and discussion would, I think, have been beneficial to us all. During the sessions I would have also like to see a group start/introduction and end/plenary.

Thanks to all of the team for the experience and good luck for the future.

Interview with Physiotherapy Support Worker

24th October 2013

S I am [REDACTED] and I work in the physiotherapy department as a support worker). I have been working with child E and I have had a week with child G.

Child E is a child that will not lie down and we have had some challenging positions. Child E really enjoys the on land lessons we had in the MILE Room with the noises we have in there, we get a lot of feedback from him.

A How do you get that feedback?

S It's quite clear with Child E. We get a lot of expressions and he chuckles as well when he's happy, it's quite obvious with him and then when we're in the pool he kind of dictates what he wants to do and what's relaxation for him as he won't lie back so we find alternative positions for him. He really likes the speakers, the whales – the deep bass in there and so we get a lot of reactions from him then.

And I had Child F last week and I think I mentioned we had a difficult first session with Child F. He is a very low tone, floppy child and quite hard to handle in the water but last week we put a float on him – which, we then had his neck free so we didn't have a collar on the float so we were still able to put his head in the water and we had a beautiful session, as I think you all know, last week, with him.

So overall, I think the interaction with Child E has been quite clear for us all. I think it's been an enjoyable and interesting session and I've really enjoyed them.

AD Yes. Overall meaning over the whole period...?

S So far, today, I've seen ...

A Yes but, not just today ... over the last few weeks.

S You can see from where ... especially with Child F, you can see quite a jump from how he is, a big difference. Whereas with Child E I think, Child E dictates ...

A And do you teach, yourself, in class?

- S No, Cathy and I work solely in the school, just the two of us, we take on the caseload – do therapy, sensory integration, in the sensory room and we do hydrotherapy so we are used to handling the children.
- A And in the sensory room, do you have music?
- S No, no, we don't use music at all, it's quite a new experience. Because it needs to be a blank canvas for us. Each child is individual and then their sensory needs are very different as well. And with Child E he has a massive sensory need with gravity and insecurity – why he won't lie back and that's all to do with what's going on in his mind and his vestibular system and it gets quite intense and Cathy (smiling .. cannot hear) ...
- A Yes, yes. She has given us her comments.
- R I think that's it really ... um in terms of when they're in the water and intent, listening and things ... **what do they do to show intent, what do they do?**
- S Child E is just so clear with his ... he'll stop, because he is constantly on the move, Child E will move his right hand constantly – he is just happy to be in the water. As soon as he recognizes something is going to change or he feels something then he will stop. And if you looked at his eyes then you will see he has visual impairment as well. You will see his eyes moving (she demonstrates) and he will concentrate and it is quite clear that he focusing;
- And the same with Child F too, he will stop
- A Well we saw that today ... so thank you very much!
- J Just one more thing. Have you any suggestions
- Anything, **if you were us, what would you do next ... to improve next time**
- S Not really. It's kind of trial and error, it's really hard. Nothing that I ... but with each session you learn more and more about what the child needs ... it's really hard because with the new – with the vibration of sound it's not something we're used to, we have the music in the background but it's totally different in the pool so it's hard to suggest anything. Nothing that I would say ...

Interview with School Physiotherapist

24th October 2013

C I am [REDACTED] and I am the School Physiotherapist. We always try and get involved in classroom activities and this was ideal to link the physio and the classroom based things. We try and integrate these into the curriculum. I've worked with Child D most during the sessions and I've found that he has been a very interactive little boy to work with. Cognitively he's quite bright, so he's really enjoyed dry sessions and I think he is conscious of the element (?) of the story. I've seen him each week remember bits and interact in the dry room and he's been interesting to have in the water as well.

The first week I felt that he was used to using the water for hydrotherapy. He usually walks and he is usually upright and quite free in the water. I think I would describe him as a conga eel because he seemed to be fighting against using the pool for a different activity and the first week it was enjoyable but he was very much fighting against lying down and floating and listening but I have seen the weeks following – he did settle the first week and do some listening - but he would only put one ear in the water or the other ear but he was not happy about going back. The second week I felt – which was the week there was no sound - I felt as soon as he came into the water after the story he knew what he was in for and his ears were in for listening much quicker and I thought that was very very definitely intentional listening but he got fed up with no sound – yes, the second week. I do lose track a bit because there was one week that I missed but the third week I was with him he was much more responsive putting one ear, both ears in the water – he had got the hang of the session and has been much less wriggly and much more interactive and enjoying the session. But I did miss one week because I was on a course. So that's what I feel with him, that it's been a very definite ...

A I think it was Michelle that had him ...

C ... and I think he had a good week then.

A Yes, he did. Absolutely. Yes, he had a lovely time.

C With him I think there's been real progression through and definitely intentional listening, I am sure there was intentional listening and communication there with him.

I've not had Child A before in the water, it's my first time with him today and I know he's been quite unsettled

- A Yes, he hasn't settled at all.
- C I don't know why he settled today. Whether it was in the dry session we let him out, let him roam round more, and he is very much one who does things on his own terms - a little boy - and he likes free exploration. He was given a little more free exploration today - I'm not sure, but he definitely seems settled, and he was adorable in the water today and listening and happy - a very positive session.
- A Well, I know that was the first time that I've seen him calm as well
- R He was much better in the session as well.
- C I really felt that lovely interaction - like, Stephanie always says - it's their session, let them move, let them take the lead and it was just ... it felt really nice, I mean I am sure we are all getting better at handling, and we are more confident aren't we, but it just seems to flow and the child is in charge and that
- R Um In terms of the intent, of listening, did he do anything else to express that?
- C Child A was quite vocal, he was happy vocalizing not sub-vocalising and he was telling me quite loudly when he wanted to come up and come down
- R OK
- C And I found the same with Child D, lots and lots vocalizing ... quite a lot to say when they were ...
- R Good. OK. That's it, really.
- A Do you think - it's too early to say really, I mean we are only dipping into the water, figuratively speaking ... but in the longer term, what do you think would /could be the outcome?
- C I think it's useful that we've got a pool that we have not explored as a listening medium before - we use it as a wonderful interactive movement experience and visual thing but I don't ... and we do lots of auditory singing above the water and we have a sound system (when it is working) ... the children are used to singing, sequencing movements to music above the water but we haven't explored ears under the water - underneath the water.
- A Is it something - and I am trying not to put words in your mouth ..

C

Is it something that would be useful? Yes, I think it's always, um ... we need to tap into these children's Vestibular systems, don't we?

... sensory integration therapy is one of my things and I'm really into sensory learning is the foundation for all play learning and we've got to give them visual experience, - auditory, intense experiences, ... vestibula ... proprioception ?? We are very much a school that ... so it does tie in nicely with some of the stuff we are doing

Interview with Senior Teacher

I am a senior teacher in the school. I am in charge of the secondary department. ...?

A You took some responsibility for choosing the children? ...

R Yes, along with [REDACTED] and with the PE Department .. and which children would benefit most from being in the water.

A And have you got any comments ... do you think that overall the children appear to benefit?

R It is difficult for me to tell

AD yes, of course

because of not being with the children. The staff have been quite positive about the feedback ... the children coming out of the water. About how the children were responding. I don't know because I don't work with the children, if their responses were different to what they would be like in a normal swimming session, because that would be the interesting thing to find out.

A **Yes.** And how many children have you got in the primary part of the school?

R Roughly 35. I couldn't say exactly how many.

R How did you choose the children? Were there any particular reasons.

R Children who would probably enjoy being in the water and that's it really – children with visual impairments.

R (difficult to hear)

R “ “

A We want to put together material so that we can present you with something by the end of November.

R That would be really interesting ...

Joel **anything about structure ... way to approach the school, or ...**

R For us the difficulty has been getting the staff to come with the children because they are not one to one in the school ... the logistics of it that have to be thought about. I don't know, no, I don't know Thank you very much.

Informal Conversation with Deputy Head

17th October

(I had raised a question about us being able to talk to the music teacher and not being able to record the children easily in the sensory room, which is dark).

- D ... because this kind of story really lends itself well to intensive interaction. Intensive interaction is a low level of communication – it's like a mother and baby communication. That's the level that these children (circles hands) are at, and so I need to be up close to them, they need to feel my presence
- A yes, of course, yes
- D so there's no way round that ... if you did just a basic music session, I am not sure what you would hope to get to from that.
- A Yes, well, I think the best thing you could do would be to talk to Joel about that and he can talk to the music teacher and see if she thinks that there is anything that she could particularly ... about where her input would be or – because normally, I say normally, ...
- R in our school, [REDACTED], in a way we are all music teachers, so although she has got responsibility – she is the curriculum co-ordinator – we do all use music with our classes in different ways
- A Oh, right
- R for different purposes, so I wouldn't ... although [REDACTED] has got some musical background I wouldn't say that is specifically ...
- A It's not her specialism
- R Well it is, but for our children ...
- D We are all SEN specialists here and we will use whatever method ... it's going to allow us, our children, to get the most from their day. We will use music in almost every – musical sounds – session that we do, as we've done with this sensory story. We've used sound. With just a pure music session, you may see some nice smiles from the children ...

A yes

D But I'm not sure that you would see kind of one-to-one interaction, necessarily, that you would see something where you can do the intensive interaction. It's all about intensive interaction.

Cross talk

A Yes, I can see the children like their names sung to them and ...

D The only way you might achieve something more, in terms of responses from the children, is just having pure intensive interaction, so staff would work one-to-one and just engage in intensive interaction. There would be no story, there would be no props – it's about person to person contact.

A Yes, yes

D Now, that's the only way I think you would achieve anything very different – probably wouldn't then – but the reason we chose this activity was because it is a story that – it's a story so that you have got something to hang it on – there are some nice sounds and it gives opportunity for intensive interaction – there's some visual development –

R And there's time for silence isn't there

D Yes, there's time for silence

A and actually, you know ..

D silence is a very important call

A And actually at the end of it, they were very calm, listening to the crystal and it might be interesting to try that next week, or Steve will be coming again, and he will have his brass bowl, like a prayer bowl or we could try that and the other, because all those things – they're sort of tangible that ...

D ... crystal bowl gives a much more resonant sound

A It calms them – well it would be interesting to see...

R sorry – I'm being stupid now, but I think the story ... I thought we were doing the same story over and over because it's consistent and we could see how the children responded, how they responded to the story

A Indeed, yes

R And they get to know it more and anticipate more. If you put different elements into it then you're kind of shifting the shape of the story,

A Yes, yes - No no,(!) just as we did today, at the end of the session, use this crystal bowl which eases them out of the room calmly, I am only saying that **may be** we could use that sound again in the water to make ...

R do you have the brass one in the water?

A well yes, yes. I mean it's not necessarily so, I am just – this is why we need to talk to you between sessions to find out how you see it as well, because it's very valuable, and it's all a learning process and of course what we want to find out is whether the sounds have more impact or whether listening has more impact when it's, when it's, when they're in the water.

D The same sound on the land as we do in the water

A Yes, yes

R So having a different sound in the water, that's going to disrupt ...

A They're never going to listen to one sound for half-an-hour. So normally Joel changes from one kind of music to another, trying to use perhaps familiar sounds with them and using sounds – of course the whale sounds

R ? ... story

A No, we haven't done that but he could, easily (what?)

D I think ... My understanding was that what you wanted to do was to compare children's responses on a land-based session and their responses in the water, to the same sound. I thought the purpose of this, the land-based session was to create sounds, to then be

R to then be

D to then be used in the water

R it's not the purpose ...

A Yes, it is, well at least it is some of it.

D We're just feeling a bit confused about the purpose of this session.
It's a lovely space and we love doing it – the children are getting quite a lot from this session –

A Yes

D But how it relates to the water session I am not entirely sure.

A Well, it is different from other situations where we have worked with – with the drama teacher actually, but probably with a slightly more aware group of children –

D That's what we suspected

A ... a different situation here, but we particularly wanted to have the younger group because of this additional factor of the vibration of sound in the water which actually goes round the body and which in a way you could say the consciousness of the children is clearer because the whole experience is different and the surrounding feeling – I don't know whether you had that – whether you experience that in the water yourselves - whether you had a sound session at the beginning –

D Yes

A so you know about that – whether that actually transmits from the body to the brain in a way an awareness of sound, that's what we are trying to get at. Now, we thought we might be able to have more sessions like this, actually, talking to you in between times because that is very important, and we would adjust accordingly, so we will try next week to get more of the scrabbling sound of silver

D (attention drawn to someone out of the room) Um, we're happy to do that. Both [REDACTED] and I have been struggling to understand what was expected from us

- A Yes
- D because it seemed to be what we were doing really wasn't what you were wanting – I mean that's the impression we were getting.
- A I know that it's difficult beforehand, because it shouldn't be what we want, it should be what is, and what happens – an observation really of how the children are, how they normally inter/react to sound
- D This is what you're getting
Exactly what you'e seeing
- A Yes, and it is very valuable, and that's fine, so I am monitoring those as I told you, and they're being monitored in various ways by different people, and particularly with 'our [REDACTED] and opposed to 'your [REDACTED] and so ... but the feedback loop is always a problem in schools because people are so frantically busy – I was a teacher, I know what it's like – and so what we want to know is if the children are more responsive to sound in the water. But that sound is difficult to say, beforehand.
- D It can be difficult to assess that, particularly with children with disabilities, because [REDACTED] was talking to you about Child F because he is finding it quite difficult to access the sounds in the water – so you've got a problem of access. Obviously the vibrations round the body he can sense – but if he's very reluctant to submerge his ears into the water
- A then he's missing out
- D then you're not really going to be able to assess that.
(NB Child F did manage later – AD)
- A No, no.
- D You could assess vibrations but that's really not quite what you want to do
- A We'll see what happens today
- D I mean you can certainly assess his response in a land-based ... because he is very comfortable and very happy in this kind of session – he is very familiar with this kind of session. He is less familiar with sounds in the water. Maybe that the

period of time you've got just for some children with such profound difficulties is just not enough

A Yes, well, we may need ...

D Much longer ... to become familiar with that

A Well what we're doing is simply the smallest of small pilot – you can hardly call it that

D I mean there are some children who are going to be very easy to analyse – those children probably like Child C – who is very comfortable in the water

A Yes, absolutely loves it

D So ...

A Is it the water, or is it the sound that she's responding to.

D You'll never actually really know (laughs), because you're working with children who are at a very low cognitive level – they're not actually going to tell you and I know that was kind of the purpose of the project was to work with children with very low cognitive functioning – which is what's happening but with that it becomes very much us observing and analyzing because Child C can't tell you

A But that is valuable.

D Child C is one of those children that's going to be pretty happy whatever she's doing because she observes sensory stimuli.

A (and she smiled when I showed her her photograph)

D ... she's a motivated child and some of these children are more motivated than others and that ... even though they are at a very low cognitive level – feelings and personality are the same as everybody else.

A Yes, yes.

D And some people are more motivated than others. And that's also what we're seeing. But hard to measure and hard to bring that into your analysis I suppose.

A Absolutely, yes. What's a smile worth?

Anyway, I'd better stop here.

Conversation with Headmistress

Monday, 4th November, 2013

Camera turned on ... conversation continues

A ... looking for progression

R ... it is, you know, because the majority of them we are working with P2 at the most, and to track any progression with that cohort of youngsters is really quite difficult when you've got to look very closely, probably what you were looking at, the responses and noting any of that down and sort of – I don't know – the sound that they made - who was ... and Child B I think on one particular occasion when I came in and observed him in the water) you could see from his facial expression that he was certainly picking up the sounds from under the water. I mean, I know there were others, but he springs to mind because I happened to see that when I came in.

S Yes, that was, Child B was amazing

A He looks like an angel of course, I mean lying in the water

R He's a lovely child to work with I have to say, actually they all are - Child B in particular because I mean 18 months ago actually, he was in mainstream. He's got a ...

(A 'degenerative condition')

R and early onset of Alzheimer's and Parkinson's, so he can remember mainstream but forgets things ... short term so we've got different things that we queue in with him because my ... teacher who works with him... she has a different ... than me, I am known as Ruth with cold hands.... Because my hands are always cold and OK when I talk to him I put my hands on his face and so yea, the different things that ... notices(gets up and goes to the window). It's really quite

upsetting actually, as he has got significantly worse in the time he has been with us.

A I have known before, very ... rarely cerebral palsy seems to be degenerative but only if there is epilepsy as well and I can remember a beautiful boy when I first started working with children with special needs who ... really it was awful because he lost his mobility and his memory.

R I mean that is one of the hard sides of the job here but you know all that we do here, but we try and be as positive ... without ... the parents. It must be devastating that you've got a child who you think is fine and all of a sudden who is diagnosed with this awful ...

A Oh dear.

R OK then. (said with resolve).

A **What we are hoping for (me and Joel is hoping) is, from a musical point of view, that maybe it would – and I know it would encourage children – to be more aware of sound.**

I do know that side by side with that (and that would be Stephanie's interest as well as Steve Karle) that it's the movement which can help the children to be better in a health and well being sense, and I know that the physios were very positive

R Yes, they were.

A I know that gradually we are coming to the conclusion that we need longer than we had because how can you tell anything, you know, in

R You really need a project that (stretches arm) ... I mean we didn't know how it was going to go (but you know nobody knows how these things are going to go until you start) but me reflecting on it last week while I was away, really we should perhaps plan if at all possible for it to last say ten to twelve weeks so we sort of built on previous experiences and I know we were trying to do that. But when you teach a group of children such as the cohort you had in the pool they often need a whole term doing the same thing with the same method not just once a week but often you would do the same lesson say four or five times a week ...

and you might just add at the last session something new and develop that new bit. You see where I am coming from.

R And really upon reflection we should have given you some more able youngsters, I don't know. You just don't know until you try it. (Or have a mix.) But I remember when you first came in you were ... when we asked you about the Institute, you said about some of the most profound ... that we had.

A. Well, I hoped so.

R Well if you look at all of them – well, Child C for example, in the water, I mean – a completely different child to what she is on land

S. Absolutely.

A. Absolutely adored it.

R. Yes, she does.

I am not saying that the children didn't benefit from it, because I think they all got something from it. I mean I know that Diane enjoyed the land based sessions because she doesn't normally get to work the youngsters very often because she is based in Post-16, but she really enjoyed doing ...

S. Was there any feedback from the parents after the sessions – had they noticed a difference?

R Not as far as I'm aware.

A We didn't get any feedback in that sense. We did actually say to people could they – even when they ...

R Well I can talk with the staff... I mean obviously [redacted] and [redacted] don't work on a Monday otherwise I could've got the physios to join us but I can talk with the cohort staff who were generally with you and get feedback from them about

S. About whether they were calmer, whether they slept well, whether they ate well ...

R I can put all of that into some sort of questionnaire format. I've certainly got Child B's Annual Review coming up and Child E's Annual Review this week.

It's like we'll be meeting with parents over the next couple of weeks, so I ask the staff, but I can also ask the parents

A. That would be great.)

R So that's ... Again, you'll have ...

A **If there were any way of developing it and coming back ... and doing something differently, would that be something that you would contemplate taking on, or not?**

R No, (presumably meaning yes!)
we would be quite willing to do that. I mean have you ever worked with children with quite severe autism and challenging behaviours?

A There were some at St Nicholas. I wouldn't say we've worked with them.

R No,... because that is the group that I feel may well benefit from a similar ... certainly from the pool-based sessions and may be that a land-based session ... they do a lot of sort of Tack Pack sensory work and ... I'll video one for you and let you have a copy of it.
I'll just ... may be if we could incorporate something around ...

A What is Tac-Pac? (google)

R It's like eight different snippets of music. So you might have – I don't know – The Aquarium say from Saint Saens, then might go on, I don't know, Tubular Bells. So you have contrasting pieces of music and for each of those pieces of music there will be a different sensory experience that an adult will be sharing with a child. So for The Aquarium they might have different brushes that they might brush over the skin in the hands. For the Tubular Bells they might have different bells that they ring. What happens is, it's done with ... one to one. The child would be allocated a member of staff for that Tac-Pac session. The music just flows through. The staff have like an A4 transcript of what to do when that next bit of music comes

A Right

R And they would work with the children **but they don't talk with the children while they're doing whatever is the instruction**, so that they're observing the

children with their responses and their reactions and that is used ... Tac is used generally over the course of a half-term to a term, and then

S Is that all on land?

R That's on land. But then there's no reason why that scenario

A Yes, exactly.

R couldn't be transferred into a pool with the music being the same but with perhaps similar activities for the children.

S Or not activities... Rather than them being stimulated in the water to actually encourage them to be calm and then let them respond in the way that they want to.

R Certainly I know [REDACTED] group in particular, well [REDACTED] group as well ... that would be a group that I would be really interested in seeing ... **My Master's is in Autism** so I am quite interested in ... but I've also got quite a lot of qualifications in PMLD but Autism is I suppose where my passion is, and I just think something like that might be interesting to see and then compare that with the cohort you have just had. I don't know ...

A You see the other thing is – of course I have to think in terms of funding.

R I appreciate that.

A And in terms of there being any development. You know we have said before, the way of going forward. We can't say yet – we haven't proved anything. (If it's possible to prove anything at all).

R We certainly think we can say that all the pupils responded at some point both in the land – and certainly in the pool and you know you went through each week – the pool-based sessions you could – there was a lot more response and reaction

A yes)

R is my understanding.

S I mean Child D for example who would not put his ears in the water and then over a period of time he wanted to but going from there it also helps his swimming journey.

R Yes of course it does. It's a big step for (them) to make.

A Child A had an incredible ... Well they all – actually child H had a lovely time in the water one time. Very ... paying attention. In fact there were so many of them really that did pay attention.

R I mean I think that they all got something from it, I really do. You know, from the feedback from staff

S I do too.

A So then, one has to say: Well, would it be, what would be the way forward, if you were interested in developing something else. Would it be better for us to do it with you (for funders) or get somebody else (you know I've got to report)

R Yes I know

A – or is that not a way you would want to approach anything?

R **Well there is always money available. I can always find money ...**

A Can you?

R Yep. (Laughter).

R I mean it's not a never-ending pit. We do employ a fundraiser at school, so if I say to her I need you to find me 'x' amount of money for a half-term ... obviously I need to talk with [REDACTED] and the ASD team but I certainly think if we took the principle. ...

I'll send you some information about Tac-Pac, [REDACTED], and give you an example of what they've been working on and get [REDACTED] to let me have that information. Because I certainly think that is something that could be transferred into the pool and I think that for us as a school it would be quite useful because at the moment we are only using Tac-Pac in a Land-based session and I would be interested to see how we could develop it for working ...

A Yes. And [REDACTED] said the pool had not yet – or ever before – been used as a listening experience.

R No we haven't, so that was new.

A A whole new ball game. The speakers in the first place are not very much.

R [REDACTED] and I – he used to look after the pool but since he has qualified as a teacher he is trying to (gestured putting it away)...

He has a great interest in the pool and a lot of the work that we do in water ... and I have talked several times about actually putting speakers in ... We invested a lot of money into putting sensory ... and we got lots of positive feedback from parents about that. But I think our next stage of development is to look at putting speakers ...

A [REDACTED] would be able to give assistance with that.

R Yes, that would be great. But I mean like I've said I haven't got an ongoing stream of money but there are ways and means that we can try to find some money (moving hands in circles).

A Well, to speak plainly this lot came to £5,000 but that's very skinny. That doesn't give any money at all for the report-back.

R No, I appreciate that.

A So a generous budget would be more like £8,500. So, but that is generous. ([REDACTED] nodding.) That pays for travel stuff and reporting, and careful monitoring – careful camera work because we were very lucky to have [REDACTED].

R We appreciate that.

A. And thank God, because I do think people needed that re-assurance through the early stages

R Yes

A and some people took to it brilliantly of course – the physios know already how to hold children – but not in that particularly way from a listening point of view but they did need, didn't they, more confidence.

R Well it was a new venture for them and when something's new you do need to feel that actually you are doing that right or try it like this or what-have-you and people here are reflective

A Oh very. I tell you that was very valuable because I've got another school in London, in Lewisham, who ... the Head said: 'Well if you've got some material showing that physios would be accepting of the way that children are being held, then we'll look at it.'

R Tell them to ring [REDACTED] and talk to [REDACTED]. Because [REDACTED] and [REDACTED] were very receptive.

A Marvellous.

R I mean they are a good team.

