

Can the use of TACPAC interventions make a positive impact on parent/child communication and interaction for children with a vision impairment?

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Introduction

This project has set out to investigate the question: 'Can the use of TACPAC interventions make a positive impact on parent/child communication and interaction for children with a vision impairment?' TACPAC (Touch and Communication Pac) is a commercial product designed to develop communication skills through the combined use of touch and music. For children with a sensory impairment touch is a primary form of communication; the pack aims to stimulate awareness, anticipation of routines, use of symbols as well as communication (McLinden and McCall 2002 p167). It consists of a range of household items such as a mop, scourer, spatula which are used in time with specially developed music to tap/stroke systematically on the receiver's body. It is marketed towards children and adults who have 'sensory impairment, developmental delay, learning difficulties, tactile defensiveness and limited or pre-verbal levels of communication' (www.tacpac.co.uk). Initially the aim of the project was to carry out the TACPAC sessions during a group run each week usually attended by several families. However, during the trial it became apparent that this would be difficult to run as a group project as the numbers of children attending each week varied dramatically and it wasn't always the same families attending. The design of the project was changed so that weekly TACPAC sessions were run at home with parents and their child over a period of six weeks.

Discussions were held at the beginning of the project with each family; talking through their feelings around their child's communication and interactions, how their child communicated and interacted with them and what they would like to see as a result of the project. The author and parents also used the Developmental Journal for Babies and Young Children with a Vision Impairment (Council for Disabled Children, 2017) as a tool to look at and assess their child's current developmental stage in communication

and personal and social emotional development. The Author has a particular interest in working with children in the Early Years age group and having previously used TACPAC in another role as an Early Years Area SENCO (Special Needs Co-ordinator), was keen to investigate if TACPAC could be a useful tool specifically for children with a Vision Impairment. The aim of the project was to trial an intervention which parents and families could be introduced to at an early stage after their child's diagnosis of a vision impairment to use at home. The project took place in an inner city setting at the family homes. The pupils selected were between 0 and 3.5 years with a range of vision needs. The number of children available to take part in the project was restrained by caseload designation; the challenges with this will be discussed later in the paper.

Literature Review

To the authors knowledge there has only been one article written about TACPAC and vision impairment by a Low Vision Clinic in New Zealand (Ward 2002) however, the author has been unable to gain access to the article. There is a research article which discusses the use of TACPAC on adults with profound and multiple learning difficulties (PMLD) (Hellal 2012). In this article, Hellal discusses the use of TACPAC as a tool to encourage making choices, showing likes and dislikes and also becoming used to a repetitive routine as well as the rhythm of the music. (Hellal 2012 p19). Hellal also argues that there is research which shows that rhythm is important for developing hand co-ordination (Aldridge 1993 in Hellal 2012 p19).

Hilary Wainer the creator of TACPAC has co-written an article on the efficacy of TACPAC in children with profound and multiple disabilities arguing that TACPAC can bring the 'world to the child'. (Murray et al 2004). Murray et al argue that by providing a structured and predictable approach, children with severe learning disabilities can start to develop reciprocal interactions and communications. TACPAC is mentioned in many books as a resource used for supporting the development of communication and touch in children with profound learning difficulties (McLinden and McCall 2002, p167). In a chapter about creating a communication environment (Laura Pease in Aitken et al 2000 p47) TACPAC is described as a package of music which is linked to a 'range of tactile sensations. Pease describes how one of the most effective ways of

making contact with a child who is deafblind is by sharing an activity that has a range of physical contacts and 'pleasant sensations'; it is through 'touch' that communication responses can be created. McLinden and McCall (2002 p25) discuss how important touch is in order to not only create sensations but also to gain information; this function is described as 'haptic touch'. Developing an effective 'tactile function' is vital for children with a severe vision impairment as they will need to be able to recognise and compare objects using their sense of touch which will later on support their learning of braille. (Smith in Allman and Lewis 2014 p121).

Panter (2004) describes how TACPAC was a useful resource for staff in a special school in Oxford to develop relationships between staff and children. She states that it helped staff to understand the children more – their likes and dislikes and also it 'increased their awareness of each other – each session was a journey of discovery'. TACPAC is used both as a communication tool and also a 'sensory integration method' which enables the giver and receiver to develop a relationship in a set and structured way. Sensory integration theory has been researched as a way of improving sensory processing difficulties. (Ayres 2005) and TACPAC has been devised to use some of the theories of integrating the senses through touch and music. Ravenswood school - a special school in North Somerset has produced a document detailing more about how to use TACPAC and the possible outcome of using it:

'Reactive – Child becomes aware of tactile and auditory stimuli, begins to show pre-intentional and affective communication, shows physical, facial, or vocal responses that you can interpret as like, dislike, want, reject, known, unknown. Proactive- Child shows more deliberate responses to stimuli; wishes and intentions are easier to interpret'.

This particular description of TACPAC being a resource that can produce both reactive and proactive responses including intentional responses to stimuli and communicating their needs- likes and dislikes are of particular relevance to this project. As there is limited research specifically on using TACPAC for children with a vision impairment, it was necessary to look at a wider area of research.

Webster and Roe (1998, p15) discuss the importance of 'inter-personal' contexts for children with a vision impairment to be able to develop language skills. Children with

a vision impairment's language development can be delayed due to the change in interactions between parent/adults and child. In a fully sighted baby, eye contact and reciprocal interactions in those first few weeks and months are vital to encourage and develop social communication and bonding between adult and child. Communication through eye gazing, smiling, crying, and reaching out all supports these early interactions. (Pereira and Conti-Ramsden 2012, p38). Webster and Roe (1998, p17) argue that all sensory impairments disturb adult-child interactions. Pereira and Conti-Ramsden (2012, p37) however, argue that parents and children develop 'alternative forms of social interaction and early communication'. Rather than a deficit model which describes children with a vision impairment as potentially presenting as autistic, children with a vision impairment can find different ways of interacting and communicating with their parents which then 'play a compensatory role' in their language development. (Pereira and Conti-Ramsden 2012, p37).

Bruner (1975) in Moore and McConachie (1994 p1), talks of the 'inherently social nature of early child language'; that children develop language through their early play experiences which are shared with parents and or siblings. It is these interactions which help a child makes sense of their world. Motor development is also involved; by reaching out to parents and objects children begin to understand the world around them, while also becoming motivated to communicate that they want something – whether food or an object. Moore and McConachie (1994 p1) suggest that it is inevitable that there will be some kind of 'disruption to the communicative framework' between a parent and a child with a vision impairment and therefore a delay in a child developing language. Mosca et al (2015) discuss the impact of vision impairment on the development of communication and language in young children found in research carried out in South Africa. They argue that often communication delay in children with a vision impairment is attributed to general delay or to ASD (Autism Spectrum Disorder). Mosca et al (2015) suggest that speech and language therapists working with children in South Africa are less used to or aware of communication delay due to a vision impairment. (James and Stojanovik 2007 in Mosca et al 2015 p1). Mosca et al found that a lot of research about early years children with a vision impairment, focused on general developmental delay rather than how communication in children is impacted by a vision impairment. They argue that there is a lack of research in this area particularly in developing countries and that it is needed in order to improve

understanding about how language and communication development is impacted in young children by a vision impairment. It is a vital area of research therefore to continue in order to reduce the potential communication delay caused by a vision impairment. Moore and McConachie (1994 p500) argue that parents need more support and advice in order to reduce the potential impact of a vision impairment on a child's communication development and also on their social and emotional development. The author's experience of working with parents in the early years has shown this is the most difficult time for parents as they begin the journey of understanding their child's needs. Supporting parents in the early years therefore is vital to ensure they are fully equipped to make those important early interactions with their child with a vision impairment to ensure any potential delay is reduced.

Project Design and Methodology

The purpose of the study was to investigate if TACPAC as an intervention for parents to use with their child with a vision impairment, could make a positive impact on their communication and interactions. The author's longer-term aim was to trial an intervention that could be used within the author's vision service as an early year's intervention for parents to use at home with their child – with the support of their Vision Impairment Teacher. Research carried out by Funnell and Wilding (in Mosca et al 2015 p6) suggests that parents who are able to become confident and able communication partners with their child with a vision impairment can support their communication development. Peltokorpi and Huttunen in Mosca et al (2015 p5) suggested that early interventions are most effective between parent and child. Having used TACPAC before in a different role, the author anticipated that TACPAC had the potential to make a positive impact on communication and interactions between children and parents. The pupils and number of pupils chosen for the study were restricted by the service policies in place which meant that the children although all in the early years, varied in age from between 1 to 3.5 years. The children had a range of vision needs and some children also had other developmental needs. The pupil profiles are as follows:

Pupil A – Age: 1year 7 months. Cerebral Vision Impairment (CVI). Very reduced awareness- unable to track, fix or follow. Other needs including developmental delay.

Pupil B – Age: 2 years 3 months. Cerebral Vision Impairment (CVI) – little response to lights or objects. No formal assessment has been achieved. Developmental delay.

Pupil C – Age: 3.5 years. Profound vision impairment; registered blind. Talks in clear sentences, communication is developing well however has an aversion to touch- this has been affecting interactions with parents and also siblings.

Pupil D – Age: 2 years: Profound Vision Impairment; registered blind. Developing well with no developmental concerns. Slightly tactile defensive.

Pupil E – Age: 3.5 years: Severely reduced vision (6/48 Snellen: Natsip 2012). Additional needs.

After the project re-design as mentioned in the introduction, the initial visit consisted of introducing the family to the TACPAC materials, looking at the Developmental Journal for Babies and Children with a Vision Impairment (2017) together – focusing on the communication learning area. We discussed the parent's initial interest in TACPAC and feelings around their child's current communication and interactions with them and their family. The author then demonstrated how to use TACPAC objects with the music. (The author has attended training on how to use TACPAC). The parents were then invited to take over while the author noted observations of the child's reactions, communicative sounds or gestures and interactions between parent and child. During future sessions parents used TACPAC with the author making notes. After each session, the author and parents discussed how they felt the session went and talked through the observations made. A survey was sent out at the end of the six weeks to gather information about how parents felt about TACPAC - this will be discussed in detail further in the paper.

There were various issues with the methodology – the initial change in project design delayed the start of the project. There were restrictions on the author's time – ideally the project would have run for months rather than weeks. Another constraint of the project was the number of children the author was able to include in the project; ideally this would have been a much larger group in order to assess the use of TACPAC in more detail and with more accuracy. There are also potential bias issues with the question responses – the parents responding are generally very positive about their

child's communication and progress. This might not accurately reflect an objective view of a child's progress. However, as the project was based on how the parents felt about TACPAC as a tool, this is possibly of less relevance due to its inherently subjective nature. The author was also aware of potential bias when discussing parent's views of their child's progress. (Bell 2005). The author stipulated there should only be one session a week (which is a minimum set out by TACPAC) to try and maintain consistency, however some parents did do more than one a week and one parent missed some sessions due to appointments; therefore, the children didn't receive exactly the same exposure to TACPAC.

Results and Discussion

The literature review discusses a variety of themes around the potential uses of TACPAC; as a tool to support communication, to encourage interactions and build relationships with parents and staff, and also as a tool to develop increased tactile function. The research shows that a vision impairment can affect the interactions between a parent and child, especially in the very early months where these interactions are vital to develop communication and interactions. (Webster and Roe 1998) (Pereira and Conti-Ramsden (2012). Mosca et al (2015) suggest that there is a lack of understanding about the impact of reduced vision on communication development. Moore and McConachie (1998) discuss the importance of strategies to support early interactions between parents and a child with a vision impairment. In order to collate information about the impact of TACPAC during this project, parents were sent out a survey via email (using Microsoft Forms) at the end of the project which asked 6 questions about their experience of using TACPAC and included an opportunity to make further comments about their experiences using TACPAC. The results were completed anonymously. The results showed that 4 out of the 5 parents felt that TACPAC had been effective in improving their child's communication and interaction and 3 out of 5 agreed that their child communicated more during a TACPAC session than at other times – with one parent strongly agreeing with the statement. The notes during observations also supported this result; that 4 out of 5 children did show more communication – whether through sounds words or gesture. A common occurrence was also increased eye contact between parent and child.

Most children enjoyed the sessions (4 out of 5) with one not enjoying TACPAC. The results showed that 3 out of 5 parents felt that their child made progress in their communication and interactions during the project time with 1 parent feeling their progress was very successful, and 1 remained neutral. Finally, 4 out of 5 parents said they be very likely to use TACPAC in the future with one parent answering this would be unlikely. Another aspect of the project was the impact on the children's tactile function; 4 out of the 5 children showed more interest in the objects used, grasping for them and feeling them. One out of the five showed a marked difference in tactile sensitivity – using a range of different textures not previously tolerated. Child C (with a profound vision impairment) responded to the range of textures, and also liked using the objects on himself – he tapped in time with the music and also liked to ask what each object was called. TACPAC positively impacted child D's relationship not only with his Mum but also with his sibling. He also took ownership of TACPAC – using it on himself to explore his own body and by reaching out to his sister and also letting her use TACPAC with him.

Overall, the results showed that most parents felt that TACPAC was enjoyable, helped their child to progress in their communication and interactions and that they would use it again in the future. One parent commented;

'I have been happy using TACPAC and would like to continue to use it in the future with my child'.

It is clear from the results that 4 out of 5 parents and children experienced a positive impact on their communication and interactions from using TACPAC. They found it an easy to use resource which enabled them some 'special time' to spend with their child. One parent (child E) said it had helped her '*focus more on my child's communication*'. Another parent (child A) said he has really enjoyed using TACPAC – he particularly liked the combination of music and touch and could see it had helped his daughter to become more aware. Mum of child C said she was amazed at the difference in her child's ability to cope with textures, and also how much he enjoyed TACPAC with his sister. She said nursery had also noticed he was much more interested in sand and textured play opportunities. Although one child (child D) didn't like TACPAC, the parents used the idea and linked some of their child's own objects to music she already liked and used it in a less structured way. Four out of the five parents said they thought

the regular use of TACPAC every week helped their child to anticipate what was coming next and that they would like to continue to use it in the future.

The key themes across 4 out of 5 children and parents were that children did enjoy TACPAC after the initial sessions; they quickly got used to the routine. They showed particular likes and dislikes – with the objects and music and started to communicate this – either by sound, words, gestures or expression. Children were responsive to the different textures and it often encouraged them to reach out for the objects. In 4 out of the 5 families all the family enjoyed joining in – with one family noting the improved interactions between their child and sibling. Visual awareness also increased particularly in one of the children, who prior to TACPAC wasn't fixing or following objects. She responded to the different objects which had also been chosen specifically for their high colour contrast to work with children with a vision impairment.

The results showed that in this small-scale project, TACPAC interventions can have a positive impact on communication and interactions between parents and children with a vision impairment. It also demonstrated that TACPAC can be effective in encouraging tactile interest in objects, and potentially encouraging visual awareness. However, it is important to remember that TACPAC will not suit all children; one child in the group didn't respond so well. She is a young child who is developing well in all areas and has a profound vision impairment (child D). She didn't like the music or the tactile objects. Her communication had progressed in the same amount of time which also shows the constraints of the project – there are so many variables which can lead to a child's development it is difficult to attribute it only to one strategy. However, striving to find strategies that work to reduce potential delay in a child's communication is vital. The project highlighted that TACPAC isn't suitable for all children – and that children with a vision impairment are a 'heterogeneous group' with a range of needs and abilities. (McLinden et al 2016). It is important to remember that TACPAC may not be appropriate for all children with a vision impairment but from the results it appears that TACPAC can be enjoyed by children and parents alike as well as supporting communication and tactile function. It could certainly be used effectively as part of a range of strategies for young children with a vision impairment to support those early interactions which are so vital for effective communication development. (Mosca et al 2015).

Conclusion

The author set out to investigate the question: 'Can the use of TACPAC interventions make a positive impact on parent/child communication and interaction?' (for children with a vision impairment). The results suggest that TACPAC used as an intervention for parents and children with a vision impairment can make a positive impact on their communication, interactions and potentially also with their tactile function and visual awareness. However, this was a very small-scale study with 5 participants with a range of needs and different ages. If the author was to repeat the study, the following would need to be considered:

- A larger group of children would need to be involved in the project to give a more accurate result.
- The study would need to consider the ages of the children – whether to focus on a more specific age range e.g. under 1 year's old or 3-year olds.
- The study could also consider whether to focus on children with no additional needs other than vision impairment or a range of children's needs.
- The study would need to be carried out over a longer time frame- several months rather than weeks.

The author would like to share the findings from the project with colleagues and continue to develop the use of TACPAC within the service the author works. The author will also liaise with nursery's and schools to encourage them to look into training to support their children with a vision impairment, as it is also a useful tool for staff. Panter (2004) described how well TACPAC supported the relationships between staff and children. The project has been very interesting and has illustrated to the author the impact of a vision impairment on communication development and how vital it is to support parents in the early years as soon as possible with strategies which help them develop relationships with their child and build a 'communication framework' (Moore and McConachie 1994 p1). TACPAC is an intervention, which can be very successful, and if this can reduce potential delay in a child's communication this is something that should be used across services as well as at home. During the project, the author was observed by colleagues in other services such as portage and occupational therapy. They also found it interesting to observe the effects on children

they have been working with and were keen to try TACAPC in their own services. As Mosca et al (2015) discussed, it is important that all therapists working with a child understand the effect a vision impairment can have on a child's communication development. The more people are aware of the potential delay in communication, the more likely any delay will be reduced for a child with a vision impairment during this crucial time of development.

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