

“These are the things, the little things, that make a big difference”:
Engaging young children with additional needs in story and nursery rhymes
through an arts-based multi-sensory experience

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Acknowledgements

This evaluation was jointly funded by Impact 100 WA (a sub-fund of the Australian Communities Foundation), The Spinifex Foundation and Edith Cowan University (ECU). The ECU team would like to thank the children, families and performing artists for their involvement in this evaluation. Their engagement, enjoyment and passion for the work made it a memorable experience for the researchers. We would also like to thank the Autism Association of Western Australia and Therapy Focus for supporting this evaluation project. Finally, the research team would like to thank Ms Leah Ciancio-Maund for her support and expertise with bringing this research to fruition.



Executive summary

Overview

Sensorium Theatre devises, develops and produces live performances for school age students with additional needs. With the *Sensory Storytelling Project* the company sought to target younger 0 – 6 age children with additional needs for the first time, and thus developed and extensively trialled a sensory storytelling program inspired by the State Library of Western Australia's *Better Beginnings Rhyme and Story Time*. Sensorium Theatre's professionally trained drama/music/education performers adopt a multi-sensory arts-based pedagogy approach to their work, centred on the creation of stimulating settings and featuring engaging aural (live music and singing), visual, scent, taste and tactile elements. For sensory storytelling, this approach is applied to selected texts to produce multi-sensory presentations.

This report captures the independent evaluation of two programs delivered as part of the *Sensory Storytelling Project*; one *Sensory Rhymetime* program delivered to 3 – 4 year old children with autism in an early intervention provider group therapy room, and one *Sensory Storytime* program delivered to 3 – 7 year old children with additional needs, including autism, in an Education Support School multipurpose room. Data from a second *Sensory Rhymetime* program, run with children with Down Syndrome within the context of their pre-existing community-based playgroup, was also gathered and analysed for the evaluation. The majority of the children attending this program were in the 0 - 4 age group.

Well known stories and nursery rhymes were used as the basis of the two programs. In the case of *Sensory Storytime*, one text was used per program and a single page became the focus of each week's session. In *Sensory Rhymetime*, a single nursery rhyme became the weekly focus. The programs were presented by two performing artists to small groups of children and their parents, and in some cases their siblings, once a week for 6 weeks, with sessions running for 45 minutes to an hour. The number of attendees fluctuated from week to week.

Both programs included the following components:

1. Selection of texts with attention to their capacity for multi-sensory interpretation.
2. Establishment of an elaborate set that created a stimulating environment.
3. A constant conveying of narrative via chanted word, song and rhythms music.
4. Activities involving all five senses, with a focus on tactile and kinaesthetic experiences.

1.1 Evaluation

The evaluation was led by a research team at ECU's School of Education and was conducted over one school term in late 2017. Both quantitative and qualitative data was collected in response to three research questions (see 1.2). Use and analysis of the Individual Engagement Record – Revised (ICER-R) (Kishida, Kemp & Carter, 2009), allowed identification and quantitative measurement of children's engagement. Researchers' observation notes, along with parent focus-group and performing artists' interview responses, formed the qualitative data, providing insight into researcher, parent and performing artist perspectives and together allowing for validation and cross-referencing of data.

1.2 Key findings

1.2.1 In what ways do children with additional needs engage with storytelling through an arts-based multi-sensory experience?

Evidence from the analysis of the ICER-R observations and the parent interviews suggest that children with additional needs engaged with the storytelling experience through both passive and active means. In terms of active versus passive engagement, the *Sensory Storytime* children (3 - 7 years of age, mixed disability types) were found to engage more actively than the *Sensory Rhymetime* children (0 - 4 years of age, grouped according to primary diagnosis). Across both active and passive forms of engagement, both groups showed engagement more than 70% of the time observed, with the *Sensory Storytime* group engaged 79.6% of the time.

According to parent and performing artist feedback, children showed engagement in a variety of ways; through trusting interaction and joint attention with storytellers, peer-based social interaction, broad-ranging exploratory behaviour, increased focus, language development and general signs of enjoyment.

1.2.2 What key arts-based pedagogies are most conducive to engaging children with additional needs in story?

Parents said that the music was key to the children's engagement in, and enjoyment of, the programs. In addition, they felt the music supported their child's language development. Evidence from the researchers' observation notes suggests that the performing artists' style, skills and arts-based multi-sensory techniques were most important. The flexibility afforded in their methods allowed for spontaneous adjustment to meet the needs and responses of the children. The performing artists' repetition of words, phrases, songs and rhymes and the elaborate sensory environment that they established for each session were integral pedagogical components. In addition, their vocal and movement skills ensured that the children were guided gently and sensitively through the activities.

The researchers also noted opportunities for value-adding application of techniques relating to the communication/language and literacy needs of children with additional needs. This finding was supported by the performing artists' expression of interest in undertaking professional development in alternative and augmentative communication.

1.2.3 In what ways does the multi-sensory arts experience impact on families of children with additional needs?

The program was found to have a positive impact on families, with participation proving enjoyable and stimulating for all members. Parents and performing artists acknowledged the family capacity building design and parents reported coming away with new ways in which they could engage their children at home. In addition, the inclusion of siblings was seen as beneficial for the family, with parents describing their delight in seeing their child and their sibling(s) interact so positively. Parents also appreciated the inclusive non-judgmental attitude of the performing artists and cited being amongst families with children with similar needs as enabling them to relax and enjoy themselves. Finally, the considerate scheduling of the sessions made participation easy.

1.3 Conclusion

Sensorium Theatre's *Sensory Rhyme and Storytime* program met all of the pilot project aims and appears, at this early stage of development and corresponding evaluation, to be a highly engaging and stimulating program for children with additional needs and their families. The elaborate settings, the music, and the performing artists' skills and sensitive approach, facilitated engagement in, and enjoyment of story and brought about a range of positive child and family outcomes. Over all, this highlights the value of a multi-sensory arts-based pedagogy for children with additional needs. Greater knowledge and use of alternative and augmentative communication, and more consistent display and reference to print sources, may have further enhanced these positive results and allowed for better interface with *Better Beginnings Rhyme and Storytime*.

1.4 Recommendations

The storytelling component of the program appeared to have a profound impact on children with additional needs and their families. In order to value add to this highly beneficial experience, the following recommendations are suggested:

Recommendation 1: Ensure that the text is consistently visible and accessible for children to support print concept development.

Recommendation 2: Provide opportunities for the performing artists to undertake professional development in alternative and augmentative communication (AAC).

Recommendation 3: Provide opportunities for the performing artists to undertake professional development in language and early literacy development for children with additional needs.



Introduction

Sensorium Theatre is a not-for-profit company focussed on producing original immersive theatre works for school age students with additional needs. Over the last five years, they have performed to over 3,500 students over 40 locations around Australia and internationally. The company uses a multi-sensory approach in its work, to cater for the needs of children with additional needs. Recently, Sensorium Theatre diversified, using their multi-sensory method to create storytelling presentations for younger early intervention age children with additional needs. The presentations are conducted by trained drama/music/education professionals and are delivered to partner organisations (i.e. early intervention providers, schools and libraries), and family support groups.

Sensorium Theatre invited ECU researchers to evaluate the *Sensory Storytime* and *Sensory Rhymetime* programs. Sensorium Theatre believe that consistent program evaluation is important, not only as a means of documenting the program's efficacy, but also for sharing these findings with the wider education, arts and disability communities. The advent of the National Disability Insurance Scheme (NDIS) in Australia has resulted in the emergence of a number of new service providers for individuals with complex needs, and as such, it is critical that a rigorous appraisal of such services is undertaken. This evaluation report, conducted by a research team from the ECU School of Education, is a result of a series of observations of *Sensory Storytime* and *Sensory Rhymetime* sessions conducted at three locations in the second half of 2017. Additionally, parents of participants in the sessions and performing artists were interviewed to provide a rich data set. In order to preserve school, organisation and student/parent identity, pseudonyms are used for all schools, parent organisations and participants in this report.

The *Better Beginnings Rhyme and Storytime* program was developed in 2005 in Western Australia (WA), in an attempt to bridge the literacy gap between the home and school environment. While this program has been a successful early literacy intervention in WA (Barratt-Pugh & Rohl, 2016), there is no specific encouragement for young children with additional needs to participate. Through their sensory storytelling program, Sensorium Theatre seeks to fill this gap for children with additional needs in WA.

The stated aims of the program, as articulated for the *Sensory Storytelling Project*, were:

- To enhance children's lives by stimulating and engaging their imaginations;
- To strengthen families by inspiring them to connect with their children in new and enjoyable ways;
- To support parents to positively adapt to their child's disability through skills transfer;
- To strengthen community by providing a safe supportive environment for parents to enjoy time with their children and meet other parents in similar situations;
- To stimulate exchange between arts and disability professionals;
- To support interagency collaboration by bringing client groups together and multisite delivery;
- To support children and families to transition into the school environment by linking strongly with the national Early Years Learning Framework, *Belonging, Being & Becoming* (Australian Government Department of Education and Training, 2009).

Sensorium Theatre's approach extends from an upsurge in thought about the learning potentials of individuals with complex needs, and renewed attention to supporting their development of (at the very least) emergent literacy. Within this changing paradigm, a variety of story-telling strategies have been utilised for individuals with complex needs, including: interactive story-telling (with a strong focus on prose and the rhythm of language) (Park, 2004), story-sharing (techniques for developing personal stories) (Grove, 2010), sensitive stories (individualised stories on sensitive matters) (Young, Fenwick, Lambe, & Hogg, 2011) and multi-sensory story-telling (MSST) (stories that include a variety of individualised sensory-stimuli) (Fuller, 1990; Park, 1998). The *Sensory Storytime* and *Sensory Rhymetime* sessions observed by ECU researchers followed a multi-sensory approach that included a variety of stimulating settings, aural (music and singing), visual, scent, taste, text (the storybook) and tactile elements and use of performing artist skills, such as vocal and movement skills.

The research team observed a full six-session program of each of the company's sensory storytelling programs, *Sensory Storytime* and *Sensory Rhymetime*. The *Sensory Storytime* sessions involved two performers presenting a well-known children's story and, in the case of *Sensory Rhymetime*, a selection of four rhymes, to a small group of children with complex needs and their parents. The venue for *Sensory Storytime* was an education support school multi-purpose room and, for *Sensory Rhymetime*, an early intervention provider group therapy room. The performers arrived approximately 45 minutes before each session and were granted independent access to the venue so that they could construct the set with minimal distraction to school/ organisation staff and other children. The presentations involved elaborate set production and a variety of related props to reinforce elements of the story via

tactile and kinaesthetic experiences, along with specific scents and a constant narrative via spoken word, rhyme, song and rhythms. The *Sensory Storytime* sessions were guided by popular early childhood text *We're Going on a Bear Hunt* by Michael Rosen and Helen Oxenbury and each session related to a specific page from the original storybook. The *Sensory Rhymetime* sessions, likewise, involved a combination of multi-sensory experiences. Each week, the performance was guided by a different nursery rhyme with the performers creating opportunities for participant engagement using a variety of resources and strategies. The individual children in attendance, all of whom had additional needs, were encouraged to participate at their own level of confidence, and this varied from active engagement to non-participation.

The methodology undertaken for this evaluation is presented in the proceeding section, along with a rationale for the data collection instruments used, and protocols employed by the ECU research team. Following this, data collected via observations and interviews with parents and performing artists will be presented, along with analysis of this data and recommendations for future practice.



Research methodology

This research utilised a case study methodology, enabling the researchers to explore specific contexts in great detail (Lincoln & Guba, 2002; Merriam, 1988; Yin, 2009). The ‘thick description’ necessary for a case study was provided through *Sensory Storytime* and *Sensory Rhymetime* observations and interviews. Researchers gathered data on the engagement of children in the *Sensory Storytime* and *Sensory Rhymetime* experience using a range of qualitative and quantitative methods. These methods enabled researchers to capture the experience of participants in authentic ways.

First, researchers observed participants (children, families and performing artists) during the six-week *Sensory Storytime* and *Sensory Rhymetime* programs using the Individual Child Engagement Record (ICER) – Revised (Kishida, Kemp, & Carter, 2009). Second, at the conclusion of the programs, a semi-structured interview was conducted with performing artists to explore their experiences and perceptions of the programs. Third, focus-groups were conducted with parents to gain their perceptions of the program and to determine the potential benefits for their child and family. One further interview was conducted with a parent over the phone as she was unable to attend the focus-group interview.

Data sources, collection procedures and analysis

To answer the research questions, both quantitative and qualitative data were collected from multiple sources, an approach that is well supported in the literature (Punch, 2005; Thomas, 2003). This section provides a summary of the data collection procedures in relation to each of the research questions. Table 1 describes the methods and tools used to gather data from different sources. A number of sources provided data relating to more than one research question, affording the opportunity to triangulate findings.

Table 1: Data collection in relation to the research questions

Research question	Data sources
1. In what ways do children with additional needs engage with storytelling through an arts-based multi-sensory experience?	Focus-group discussions with parents. Individual parent interview via phone. Interview with performing artists. Session observation notes.
2. What key arts-based pedagogies are most conducive to engaging children with additional needs in story?	Focus-group discussions with parents. Individual parent interview via phone. Interview with performing artists. Session observation notes.
3. In what ways does the multi-sensory arts experience impact on families of children with additional needs?	Focus-group discussions with parents. Individual parent interview via phone. Interview with performing artists.

Ethics

Ethics approval was obtained from the ECU Human Research Ethics Committee. Parents were introduced to the research requirements through an email sent to them by Sensorium Theatre. All participants received an information letter outlining the purpose of the research, their contribution, confidentiality and security, the right to withdraw, and where research outcomes will be published. Participants were then asked to sign a consent form.

Participants

Three target groups were involved in this research: performing artists delivering the *Sensory Storytime* and *Sensory Rhymetime* programs, children taking part in the *Sensory Storytime* and *Sensory Rhymetime* programs, and families of the children. Specifically: 1) children were observed as they participated in the *Sensory Storytime* and *Sensory Rhymetime* experience; 2) two performing artists involved in the programs were interviewed by a member of the research team at the conclusion of the programs; and, 3) family members of children were invited to take part in a focus-group interview at the conclusion of the programs.

Participants were drawn from the parent and child groups of three programs during the Term 4, 2017 *Sensory Storytime* and *Sensory Rhymetime* delivery schedule. Two parent-child groups were observed in full, for all six sessions, a third group - receiving *Sensory Rhymetime* within the context of their family-led playgroup for young children with additional needs and their siblings - was observed for the final session only. The programs were run by Sensorium Theatre in partnership with NDIS service providers, an education support school and a family support group. One program

was conducted within a school setting and the other an NDIS early intervention setting. The third was conducted at a local community centre, the usual site of the playgroup.

Instruments and data analysis

Three instruments were used to provide information on key evaluation measures for the *Sensory Storytime* and *Sensory Rhymetime* programs: 1) enjoyment; 2) engagement; 3) sensory stimulation/play; 4) positive responses and behaviours; 5) independence/autonomy; 6) peer interactions; 7) communication; 8) engagement in adult directed activities. The measures were based on: a) the ICER-R observation criteria used during *Sensory Storytime* and *Sensory Rhymetime* sessions; b) semi-structured interview questions with the performing artists; and, c) semi-structured interview questions used in parent focus-groups.

The children's engagement was prioritised as an area of focus for this study given that meaningful engagement is widely recognised as an essential foundation for successful learning and skill development in children, including those with additional needs (Carpenter et al., 2018; Keen, 2009; Steinbrenner & Watson, 2015). Following an audit of possible engagement tools, the ICER-R (Kishida et al, 2009) was selected because its reliability and validity for use with children with a range of types and severity of disability has been established (Kishida, et al, 2009).

Engagement observations using ICER-R (Kishida et al., 2009)

An advantage of ICER-R is that it combines both quantitative data, through time sampling, and qualitative data, through observers' recorded perceptions (see Appendix A). Time sampling involved recording the types of engagement children were exhibiting and the interactions they were engaged in at the end of specified intervals. This was converted into a percentage score for each type of engagement and interaction to provide information on the level of overall engagement during the sessions. The engagement types were: active engagement, passive engagement, active non-engagement, and passive non-engagement. The ICER-R also allowed for observation notes and these notes were subjected to detailed analysis to identify the way that children engaged with *Sensory Storytime* and *Sensory Rhymetime* experiences and the types of activities that children found most engaging.

Interview with performing artists

The interview with performing artists at the conclusion of the programs, in November 2017, provided an important source of data. The interview focused on their experiences and perceptions of the programs (see Appendix B – Performance Artist Interview Questions). Performing artists brought important insights regarding the programs implementation and the ways in which the children engaged with it.

Focus-group discussions with parents

Parents participated in focus-group discussions in October and November of 2017. Since parents participated in the programs, their views and perceptions were key sources of data. One focus-group comprised two parents and the other focus-group comprised seven parents. The parents were asked about their perceptions of the programs and what they believed their children gained from the experience. The guiding questions for the two focus-group discussions are attached (see Appendix C – Parent Focus-Group Questions).

Interviews with performing artists and parents were recorded, transcribed and then analysed using NVivo software in order to identify categories to describe the participants' experience and perceptions of the project. Transcripts were initially organised in relation to the guiding questions and then in relation to the emerging themes. They were further analysed by repeated readings and consideration with the research questions of this study.



Findings

Research Question 1: In what ways do children with additional needs engage with storytelling through an arts-based multi-sensory experience?

Evidence from parent interviews and the ICER-R observations suggests that children with additional needs engaged in the storytelling experience through interaction with their peers and performing artists and through the stimulus materials provided. Data from the ICER-R indicated that, on average, children were engaged with the *Sensory Rhymetime* experiences for nearly 72% of the time with 34.5% of that time being active engagement and 37.2% being passive engagement. Engagement in *Sensory Storytime* was slightly higher with an average of 79.6% of time in which children were engaged. Active engagement in this activity was also higher with children being actively engaged 54.4% of the time. Table 2 describes the average percentages for the four types of engagement.

Table 2: Average percentage for engagement types

<i>Sensory Rhymetime</i>				<i>Sensory Storytime</i>			
Active Engagement %	Passive Engagement %	Active Non-Engagement %	Passive Non-Engagement %	Active Engagement %	Passive Engagement %	Active Non-Engagement %	Passive Non-Engagement %
34.5	37.2	15.4	12.1	54.4	25.2	11.7	8.2
71.7		27.5		79.6		19.9	

The ICER manual (Kishida & Kemp, 2009) provides definitions of active engagement, passive engagement, active non-engagement, and passive non-engagement.

- *Active engagement* is defined as the child actively participating in the learning environment by manipulating materials or vocalising in response to the activities presented. The types of active engagement in the *Sensory Storytime* and *Sensory Rhymetime* programs included interacting with the performers, interacting with the materials as part of the performance and engaging in the activities with parental support.
- *Passive engagement* is defined as the child interacting with the environment without manipulation or vocalisation. Passive engagement in the *Sensory Storytime* and *Sensory Rhymetime* programs included children watching the performers and/or looking at the sensory materials being presented.

- *Active non-engagement* was recorded when children interacted with the environment in an inappropriate manner by manipulation, movement and/or vocalisation. This included continuing to play with sensory materials after the performers had moved onto a different sensory experience or engaging in activities not related to the performance.
- *Passive non-engagement* is defined as the child not interacting with the environment or participating in the activities in a way that would be expected. In the *Sensory Storytime* and *Sensory Rhymetime* programs this was recorded when children were not attending to the performers and the activities being presented.

The majority of the children with varying needs engaged in the arts-based multi-sensory experience most of the time. Researchers' observation notes from the ICER-R suggests that the design of the programs supported this engagement, both through the content and through the scheduling. Furthermore, evidence from interviews suggests that parents saw an increase in focus as well as interaction and language development. These findings are described in the following sections.

Opportunities for interaction

Parents explained the ways they saw their children engage in the sessions, particularly the communication and interaction with the performing artists. Parents described how the performing artists encouraged their children to sing, dance and ask questions. One parent described how her child was usually shy with strangers yet would interact with the performing artists and play their musical instruments. She described this interaction as “amazing” and an experience her family would happily do again.

Parents also noted the interaction their child was having with other children participating in the *Sensory Storytime* and *Sensory Rhymetime* sessions. This interaction was deemed most rewarding as, for some children, social interaction was difficult. A parent described watching her child splashing and interacting with other children:

To see how they're splashing in the water or throwing porridge or whatever with each other and that interaction with the other kids is remarkable and so rewarding. It's also something different to the daily routine.

A father who attended one of the sessions similarly noted the interaction between children in the *Sensory Storytime* activities. While the father did not attend the focus-group interview, his wife explained:

My husband really enjoyed watching all the kids interact. He said, “They get so excited.” He sees the kids at the end of the day when they’re tired and they’re having fun with him but not ... I don’t know, he just really enjoyed seeing all the kids interacting and having fun together.

Some parents also commented on the interaction that had improved between parents and their own children and parents interacting with other children. One parent explained:

It’s enjoyable because sometimes a playgroup becomes ... I don’t know, adults sit on the couch, talk, the kids on the floor and are doing things separate. But this was something different ... something we all did together.

A fun and comprehensive multi-sensory experience

Parents agreed that their children engaged in the programs because they were having fun, enjoyed participating and found the multi-sensory stimulus materials intriguing. A parent explained:

I just wanted her to have an enjoyable, fun experience through the senses which all of them clearly had because they were so happy touching everything, listening to the music and I just think it’s a lot of fun. It stimulates all the different senses so you can imagine those neuro transmitters all connecting.

While parents had some expectation as to the kinds of sensory experiences that would be provided for the children, namely touch and sight, they were surprised and appreciative of the efforts performers went to in order to engage the children in the experience using all of their senses. One parent explained:

I had thought that it would include visual and touch. I hadn’t expected the taste. I thought that was great actually, the porridge that day. And the water. It was fantastic they covered all the senses.

Another parent said:

He [child] was so engaged, it’s like totally not just on the performance but on each other and the things around. It’s like they’re using all their senses rather than just their sight or just their hearing. It’s just everything.

Parents believed the programs enabled their children to experience story in new and engaging ways. One parent explained:

I found that it activated a lot of his senses. I wanted to make it to every session so he could see everything, feel everything, hear everything and I just feel like he's really taken it all in and it's just tapped into all of those senses.

Further to children engaging in the sessions, they were motivated to sing some of the songs and role-play with their teddy bears at home. Parents described their children mimicking what the performing artists had modelled in the sessions. One parent described, "He's been doing lots of extra singing at home and also role-playing the songs with teddies."

Improved focus

As the programs progressed, parents noticed their child generally concentrating for longer periods of time and on particular props used by the performing artists. One parent described her child's improved focus that she believed was developing with each *Sensory Storytime* session. She said:

It's just really wonderful seeing the kids light up. Especially my son, I could see him focussing more and more which is something that's new as well for him and he's not focussing for a few seconds, he's really concentrating. These are little milestones that the sessions really, really helped with. I think it's encouraging. These are the things, the little things that make a big difference.

Language development

Parents were appreciative of the opportunity the *Sensory Storytime* and *Sensory Rhymetime* sessions provided to target language development. One parent said, "My son has learnt some new sounds and repeats the sounds at home." Another parent explained, "I think it's great that it includes as many senses as possible so it's really enriching for the kids and they learn new words to express themselves." Another parent similarly explained her daughter's improved vocabulary:

She's picked up on more words. She sings "It's Raining, It's Pouring" at home now and says 'raining' and 'wet' and 'snoring'. She often will sing songs with us but she would just stop and listen to us. Now she's starting to input herself more.

Parents believed that the performing artists' practice of revisiting songs and parts of the story from previous weeks was beneficial in reinforcing ideas and language for their children. One parent said, "They would repeat songs but also adding different things in. And it's good because it reinforces the language for the kids." Another parent explained:

I think the repetition helped the language development but we were already singing and she already loves books and stuff like that at home. But, yeah, I think the repetition really helped and the actions and the sensory stuff just locks it into the brain more. When they say you want students to remember something in class, stand on a chair and they'll remember it because I remember the day you stood on a chair. So the more you do something silly, the more a child's going to remember it. So the sensory stuff is silly stuff for the kids so they'll remember things.

It was evident that, for some children, their interest in stories and books increased because of their involvement in the *Sensory Storytime* and *Sensory Rhymetime* programs. One parent described her son's lack of interest in books prior to the program and then the change she witnessed through the program as he'd initiate looking through a book.

Understanding the story narrative

Data from the performing artist interview suggests that the aim of the sessions was to increase the children's understanding of story narrative. Furthermore, performers believed that participation in this arts-based multi-sensory storytelling experience fostered in children the ability to develop a deeper connection with the story narrative. As one performer explained:

Sometimes I feel like when we're doing the story time, when we're working with the same story, then it feels like we're wading deeper and deeper into the story until they're totally in the world, that's what it feels like. It's a progression.

A shared engagement

The performers stated that the majority of children demonstrated some engagement during the programs. When asked how they would measure the success of sessions in achieving the programs' goals, one performer cited the children's reluctance to leave or that they would indicate they did not want the session to finish. In the ensuing sessions, success is measured by the fact that the children return and are eager to start the process again. As one performer stated, "Success is engagement and you just feel it actually. You can feel when you've got them."

The duration of the programs consists of several weeks and during this time the performers work with the same children. Consequently, relationships are formed and a sense of trust developed between children and performers. The performers assert the importance of building these positive relationships as a contributing factor in the success of the programs.

Key Finding 1

Some parents believed that the opportunity for children to interact with other children and performing artists contributed significantly to the experience.

Key Finding 2

Some parents believed that the *Sensory Storytime* and *Sensory Rhymetime* programs supported their children's language development.

Key Finding 3

Some parents reported that their child's focus improved as a result of their engagement in the *Sensory Storytime* and *Sensory Rhymetime* programs.

Key Finding 4

Performers believed that the design of the programs supported the children's understanding of story narrative.

Key Finding 5

Performers believed that the programs fostered the development of positive relationships between the children and the performers.



Research Question 2: What key arts-based pedagogies are most conducive to engaging children with additional needs in story?

Evidence from parent interviews suggests that the inclusion of music in the storytelling experience was most conducive to their child's engagement. Evidence also suggests that music supported the children's language development. Further insights provided by the interview with the performing artists and observations of their presentations highlights the appeal of the programs' purposely-designed material to the children with additional needs. The use of well-known texts was evident and the flexible approach adopted when facilitating the sessions ensured that performers adapted to the moods and needs of the children. Further evidence indicates that information and knowledge about specific children's needs was not essential in the planning process. These findings are described in the following section.

Music to support language development

Parents felt the inclusion of music was particularly effective in encouraging and stimulating their children's language development. One parent stated, "Language development is huge especially in the early years. And music is an even better way to get it [language development] across and, especially for our kids, the sensory input has been brilliant." Another parent described her daughter's engagement from the very beginning of the program. She said:

I know my little girl learned "Twinkle Twinkle" in the first session. She always brings her hand up straight away now so it was something that she really picked up on from the first session. I think it's been beneficial. She's loved it.

Music for enjoyment

Further to language development, parents felt that music played an important part in the children's experience and enjoyment of *Sensory Storytime* and *Sensory Rhymetime*. One parent stated, "The music was the best. There's a lot of music in our lives. He loves music because we do capoeira." It is evident that the use of music was deemed appealing and beneficial for children by their parents. One parent described the impact of the program on her young seven-month old child:

I find it an absolutely awesome program. Andrew's only seven months old but he's so engaged in it, he loves it. All the different textures, shapes, colours, everything. He just loves it. Music is his thing, too, just like the other kids and I just think it's good even from that young age being able to do this type of thing. I think it's really helping him a lot.

Another parent described how music helped to keep her son focused and engaged in the experience. She said, “He doesn’t like to stand still. But if there’s music it helps ... the drums, he likes”

Performing artist style and technique

The programs were solely developed by the members of the company using well-known texts. The storytelling sessions were designed to maximise opportunities to develop imaginative thought; consequently, the strategies were chosen to engage the children in imaginative play.

The flexible arts-based pedagogy allows the performers to spontaneously adjust the content and structure of the sessions according to the children’s needs and responses. As experienced performing artists, they were adept at improvising when necessary. As one performer explained:

We always have a basic structure but within the structure there’s always a lot of room to move and improvise and respond to the kids and what they’re enjoying so we can continue something longer, if something’s not working we wrap it up.

The researchers observed performers facilitating children’s engagement through a range of interactive arts-based elements as well as through different interaction strategies and styles. These can be categorised as:

- a) facilitation through the sensory environment, where the performers created engaging settings and props and provided opportunities for children to interact with these.

Researchers’ observation notes:

Simple but effective backdrop used again as a mini-set for *Sensory Rhymetime* creating a welcoming and inviting space (as every week). The smell in the space is beautiful too (though not overpowering) due to the use of essential oils.

Billy appears to really enjoy *Sensory Storytime* - he has followed the narrative throughout and was very excited about the cave. This appeared to be a really engaging set-up and hence high engagement.

The ride on rocking horse (soft furry fabric) created a fun, vestibular experience and also made a neighing sound when the button was pressed – enhancing interactivity. Long lengths of fabric were used to wrap up children and enabled them to feel the silky smooth material. This was a lovely way to bring alive the fine ladies.

- b) facilitation through modelling and guiding, where performers modelled actions and guided children in how to engage with the presentation.

Researchers' observation notes:

Teddy prop was used as a peer model as well as for teddy/doll play. Using a teddy as a peer model in the absence of actual peers this week was a great idea. Teddies and dolls can also be great models for augmentative or alternative communication (AAC) use if available.

The atmosphere in the room was alive, buzzing, a real play-group feel with very relaxed families. The performers took a more 'wandering minstrel' approach to their performance rather than being the focus of the attention at the front with parents watching alongside their children. Here, the parents were highly engaged with their own children, highly interactive, supporting them to engage with the varied props as the actors moved around them tying the activities together, guiding and supporting where needed.

- c) The performers used their vocal and movement skills to create the mood for the activities and encourage children to engage with the sessions.

Researchers' observation notes:

Performers spoke quietly and in encouraging tones creating a sense of curiosity and inquiry.

Performers had a warm, calm and engaging manner.

Mum commented that Kyle has been singing the *Hello* song all week. Kyle has become more verbal in these sessions. He is clapping and dancing to the songs. The performers have found some gentle ways to encourage him into the story experience.

Plenty of joy and enthusiasm present again from the actors this week as usual creating a happy atmosphere.

- d) facilitation through communication with children engaged through questioning as well as the use of signs and gestures.

Researchers' observation notes:

Performers were sensitive to non-verbal communication used by the children, they provided wait time and offered prompts to participate.

Repetition encouraged to repeat words and phrases. Reinforced word association with touch – hot and cold.

Some Key Word Signs (KWS) used by the performers this week. KWS for hello and how are you? were used.

Forms of communication

When asked about the forms of communication, other than speech, that supported the facilitation of *Sensory Storytime* and *Sensory Rhymetime*, the performing artists explained that they use singing, body language, basic signing, eye-contact and gesture. However, the performers explained that they would like the opportunity to engage in professional learning to improve their understanding of the communication needs of the children. As one performer explained:

It was on our agenda to actually put in a grant for professional learning for our team. Some of it was performance-based and the other stuff was around upskilling -whether it's communication, using the PODD book [Pragmatically Organised Dynamic Display – a robust augmentative or alternative communication system] or improving our Makaton [Key Word Sign Australia].

Researchers' observation notes supported the performers' interest in professional learning particularly around communication and early literacy development. Researchers identified opportunities where increased communication accessibility would allow for greater engagement, participation and development of the children's emerging language, literacy and communication skills. These skills support the transition to school. Researchers' observation notes:

Performers were enthusiastic and encouraged participation in each activity – could perhaps have used more wait time? Performers responded to children's efforts to participate but could do more to support their participation through greater communication accessibility.

This week was a repeat of *Twinkle Twinkle Little Star*. This time, there was a nursery rhyme specific Aided Language Display (ALD) in the room. It was lying on the floor in front of the backdrop though it was not used during the session to model language.

The session provided lots of opportunities to repeatedly model the use of key words with signs or symbols.

A small visual picture schedule strip was on display at the start of the session but not used by the performers during the session.

The performers were enthusiastic in their delivery in a way that fostered joy in the rhymes – would be wonderful to see them connect this enthusiasm for the rhymes with the texts to incidentally build concepts about print and joy of shared reading activities.

Prior knowledge

The performing artists had limited prior knowledge of the children who would attend the sessions. Parents completed a registration form and the key information on this would indicate whether the child was mobile or vision impaired. Sometimes this information would affect the planning of the session, for example, one performing artist explained that in the case of vision-impaired participants they adjusted the structure of the session to start with sound instead of visual clues. In general, however, the information provided did not impact on how the sessions were structured.

Key Finding 6

Some parents believed that music plays a significant role in supporting children's engagement in rhymes and storytelling, which facilitated learning.

Key Finding 7

The programs were planned in detail; however, adopting a flexible approach ensured that the content could be adapted according to the children's responses.

Key Finding 8

Performance skills and styles used by performers created an engaging environment for all children.

Key Finding 9

The performing artists intuitive sensitivity, gentleness and empathy for the children in which they work with, is an exemplary feature of the *Sensory Storytime* and *Sensory Rhymetime* programs.

Key Finding 10

Performing artists would appreciate and benefit from professional development aimed at upskilling them on the communication, language and literacy needs of their prospective audience.



Research Question 3: In what ways does the multi-sensory arts experience impact on families of children with additional needs?

Evidence from parent and performing artist interviews suggest the *Sensory Storytime* and *Sensory Rhymetime* programs had a positive impact on the families of children with additional needs. Evidence also suggests that the opportunity for parents to learn new ways of engaging their children in rhymes and stories and the positive interaction with siblings were beneficial outcomes of the programs. The convenience of the programs operating in the regular playgroup context was deemed a favourable feature of the programs for parents. Researchers also observed the positive effects of the programs when conducted in an existing playgroup setting. These findings are described in the following section:

Parents learning new ways to engage with children in language experiences

Evidence from the performing artists' interview suggests that storytelling sessions were specifically designed to incorporate the parents in the planned multi-sensory arts experience. The performing artists explained that by sharing the experience with parents, they anticipated that similar activities could be replicated at home. When asked about her personal expectations of the programs, one performer said, "That we would help the parents to recognise the variety of stuff that they can do with their children regardless of their perceived inabilities."

Indeed, parents described how they had learned new ideas and ways to play with their children due to the *Sensory Storytime* and *Sensory Rhymetime* experience. A parent explained, "He's touching things. That water one is the best. I can do that at home." Another parent described her enjoyment of seeing her child having fun and the opportunity to gain new ideas. She said:

It's so hard to come up with something creative every day for these two and I feel sometimes I'm neglecting them by giving them the iPhone or having the TV on. So getting some ideas and doing something quite different, I think it's wonderful.

The opportunity the programs provided to develop new ideas to implement at home was widely discussed amongst parents. Three parents explained:

Parent 1:

I've seen what ignites his interest so I'm now singing to him while I'm playing rather than just doing the rattle thing or playing with little toys.

Parent 2:

Yes and I'm trying to remember songs and get him involved and try and be involved in a bit of messy play because it seems to ignite something in him so, yeah, he's doing really well. And he loves it. He loves the sensory group so if there was more we'd be a part of it.

Parent 3:

Yes me too. Actually the memories of the activities that I've done here with Samuel, I've taken home over the last six weeks. If I didn't have that, he wouldn't be engaged in all of these things because I wouldn't be doing it with them and I wouldn't have all these great ideas.

Other parents appreciated the opportunity their children had to experience a range of activities and different senses that they didn't have time or capacity to do at home. A parent commented:

So all these different things are good for him that I don't do at home either because I don't have time or the energy and I don't want to clean up the mess so to have that here and you know how beneficial it is, which is great and he loved it.

Positive impact on siblings

Parents described their delight in seeing their child and their siblings interact in positive ways. One parent explained, "Being interactive with her little brother is so good. I can see her light up even more and learning new games to play with him." The parent went on to describe the excitement the siblings also felt and their enthusiasm to try some of the activities at home. She said, "Her sister was asking to get some pom-poms and cut them all up and scatter them on the carpet. Yeah, that's awesome to see that interaction."

Parental enjoyment

Further to the benefits gained by the siblings, parents also enjoyed themselves throughout the programs. One parent said, "I enjoy the songs myself very much." Parents appreciated the inclusive nature of the work and were able to relax knowing they were not being judged or worried about their child's behaviour. A parent stated, "It's all inclusive which is great." Another parent described how she had previously felt excluded due to her language barrier. She said:

I enjoyed myself as well not just Kristian. I liked singing the songs. I've learned new songs and not just from Brazil, all these nursery rhymes. Sometimes I feel left out because I don't know those songs. This was different. I enjoyed myself. It was fun even playing with the other kids.

Some of the families had experienced *Rhyme Time* as part of the Better Beginnings project operated through community libraries and discussed their impressions of both programs:

Most Wednesdays we go down to *Story Time* [Better Beginnings program] at the library and they normally start with a couple of songs and basic nursery rhymes then read a story, do a couple more songs and do a craft. So there is that little bit of sensory input into it but it's not like this. If you were to compare them, this [*Sensory Storytime* and *Sensory Rhymetime*] is so much more in depth and you've got so many more perceptions. Like with *Twinkle Twinkle*, the performers put stars over them and let the kids feel tinsel. This [*Sensory Storytime* and *Sensory Rhymetime*] is much more beneficial for our kids.

Another parent described her experience of *Story Time* at the library as "way too stressful" as her son received too much negative attention. The parent said:

These guys [performers] know how to engage our kids and they know what he needs to do. They know he needs to move around and can't be made to sit still. The other kids in these sessions are similar and so you feel more relaxed. When you take them to the other things you get the judgemental looks – like "control your child" sort of thing.

Parents agreed that experiencing the programs with families and children with similar needs was important and enabled them to relax and feel comfortable throughout the programs. Furthermore, the skills and expertise of the performing artists to manage the environment and engage their children was appreciated. Indeed, parents thoroughly appreciated the efforts Sensorium Theatre had gone to in providing the *Sensory Storytime* and *Sensory Rhymetime* experience for their children. One parent was surprised to see the size of the company truck and quantity of resources the performers would set up for each session. She said:

There's a lot of thought put into it. I can see what's involved in coming up with these creative plays. We're enjoying the after process but to get to that point of having so much enjoyment, I'm sure it took many months to come up with the right formula so I appreciate it.

Convenience

It was evident that the convenience for families with children attending *Sensory Storytime* and *Sensory Rhymetime* as part of their regular playgroup (both time and location) was most appealing and appreciated. This is particularly beneficial for families having to manage additional appointments and therapies for their children. A mother explained:

For me, the fact that it [*Sensory Storytime* and *Sensory Rhymetime*] was happening within playgroup, that was a lot easier for us to manage. If it was maybe something separate from playgroup, maybe I would still come but maybe not because of all the other commitments that we have.

Key Finding 11

Parents and siblings of children with additional needs found the programs stimulating and enjoyable.

Key Finding 12

Parents acquired new ideas and skills to implement with their child outside of the programs.

Key Finding 13

Incorporating *Sensory Storytime* and *Sensory Rhymetime* in regular playgroup time is convenient and appealing to families.

Key Finding 14

The programs are intentionally designed to incorporate parent input and strives to introduce activities that can be replicated at home.

In closing, the parents participating in focus-group interviews were most positive about *Sensory Storytime* and *Sensory Rhymetime* programs and the benefits for themselves and their families. Parents indicated their willingness for ongoing participation in the programs. As a parent explained:

We did this program as a one off but if they [Sensorium Theatre] offer to come back next year, I'd put my hand up and say yes, yes, yes... do it again! It's definitely something I'd like my son to experience on a regular basis.



Conclusion and recommendations

The evaluation of Sensorium Theatre's *Sensory Storytime* and *Sensory Rhymetime* programs found that its delivery in 2017 contributed to all of the program's aims. Their arts-based multi-sensory approach to engaging children with additional needs in rhyme and story was shown to be enjoyable and engaging for both parents and children. Furthermore, the knowledge and strategies modelled by performing artists effectively encouraged parents to implement similar ideas at home.

Observations and anecdotes reported by performers and parents provided evidence that children's engagement was enhanced, with improvements in focus, increased interaction with other children and performers, language development and increased understanding of story narrative. Evidence also revealed the power of music in supporting children's engagement as well as key performance skills including improvisation, vocal and non-verbal communication skills. These findings highlight the skills and expertise exhibited by performers to create an engaging environment for all children.

For parents, the programs allowed them to relax and enjoy the process without fear of judgement from others, while acquiring new ideas and skills to implement activities with their child outside of the programs. Given their other therapy commitments, some parents appreciated the convenience of having the program as part of their regular playgroup schedule.

The storytelling component of the program appeared to have a profound impact on children with additional needs and their families. In order to value add to this highly beneficial experience, the following recommendations are suggested:

Recommendation 1: Ensure that the text is consistently visible and accessible for children to support print concept development.

Recommendation 2: Provide opportunities for the performing artists to undertake professional development in alternative and augmentative communication (AAC).

Recommendation 3: Provide opportunities for the performing artists to undertake professional development in language and early literacy development for children with additional needs.



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APPENDICES

Appendix A

ICER-R: Individual Child Engagement Record-Revised (Kishida & Kemp, 2009)

A.

Coder's Name: Yuriko Child's Name: _____ Date: 31/5/2012
Time: 9:00 - 9:10 Activity Type: Free play Group Size: 5-6 Number of Adults: 1
Teacher Directiveness: ☐ low ☒ medium ☐ high

B.

Int.#	Engagement Type	Interaction		Physical Prompts	Observer's Notes
		Occurrence	Partner		
1	AE PE AN PN	Yes No	X P	Yes No	shape sorter, w/ teacher & chn with the lid
2	AE PE AN PN	Yes No	A P	Yes No	
3	AE PE AN PN	Yes No	A P	Yes No	
4	AE PE AN PN	Yes No	A P	Yes No	
5	AE PE AN PN	Yes No	A P	Yes No	
6	AE PE AN PN	Yes No	X P	Yes No	
7	AE PE AN PN	Yes No	X P	Yes No	
8	AE PE AN PN	Yes No	X P	Yes No	
9	AE PE AN PN	Yes No	A P	Yes No	
10	AE PE AN PN	Yes No	A P	Yes No	
11	AE PE AN PN	Yes No	A P	Yes No	
12	AE PE AN PN	Yes No	A P	Yes No	
13	AE PE AN PN	Yes No	A P	Yes No	
14	AE PE AN PN	Yes No	A P	Yes No	
15	AE PE AN PN	Yes No	A P	Yes No	
16	AE PE AN PN	Yes No	A P	Yes No	
17	AE PE AN PN	Yes No	A P	Yes No	
18	AE PE AN PN	Yes No	A P	Yes No	
19	AE PE AN PN	Yes No	A P	Yes No	
20	AE PE AN PN	Yes No	A P	Yes No	
21	AE PE AN PN	Yes No	A P	Yes No	
22	AE PE AN PN	Yes No	A P	Yes No	
23	AE PE AN PN	Yes No	A P	Yes No	
24	AE PE AN PN	Yes No	A P	Yes No	
25	AE PE AN PN	Yes No	A P	Yes No	
26	AE PE AN PN	Yes No	A P	Yes No	
27	AE PE AN PN	Yes No	A P	Yes No	
28	AE PE AN PN	Yes No	A P	Yes No	
29	AE PE AN PN	Yes No	A P	Yes No	
30	AE PE AN PN	Yes No	A P	Yes No	
31	AE PE AN PN	Yes No	A P	Yes No	
32	AE PE AN PN	Yes No	A P	Yes No	
33	AE PE AN PN	Yes No	A P	Yes No	
34	AE PE AN PN	Yes No	A P	Yes No	
35	AE PE AN PN	Yes No	A P	Yes No	
36	AE PE AN PN	Yes No	A P	Yes No	
37	AE PE AN PN	Yes No	A P	Yes No	
38	AE PE AN PN	Yes No	A P	Yes No	
39	AE PE AN PN	Yes No	A P	Yes No	
40	AE PE AN PN	Yes No	A P	Yes No	

C. Comment on this observation (e.g., child's, peers', adults' behaviours or activities).

Please turn over.

Appendix B

Performance Artist Guiding Questions

1. Can you tell me about your prior experiences/training of working in The Arts?
2. Can you describe your previous performance experiences?
3. What experience/training, if any, have you had working with children with additional needs?
4. What experience/training, if any, have you had with early language, literacy and communication development?
5. What were your personal expectations of being involved in the *Sensory Storytime and Sensory Rhymetime* program?
6. In what ways were you involved in the development of this program?
7. Before the program started, how well did you know the children and their sensitivities to sensory input, movement, wait time etc.?
8. What forms of communication other than speech do you use that may support children during *Sensory Storytime and Sensory Rhymetime*?
9. What professional support do you receive in regard to catering for communication needs of these children?
10. What are you aiming to achieve with each performance and the program as a whole?
11. How do you measure whether your performances are successful in achieving these goals?
12. What do you feel are the expectations of the organisations that you work with, in respect to the outcomes for the children?
13. What do you think the children gained from the *Sensory Storytime and Sensory Rhymetime* experience?
14. In what ways do you think this programme engaged or challenged the children?
15. What do you think the parents gained from the *Sensory Storytime and Sensory Rhymetime* experience?
16. Was there anything unexpected from the experience? If so, what was it? Can you explain?
17. Is there anything that you think you would change/do differently given your experiences?
18. Is there anything else you would like to share about this experience?

Appendix C

Parent Guiding Questions

1. Can you tell me your reasons for choosing to allow your child to take part in this *Sensory Storytime and Sensory Rhymetime* program?
2. What were your expectations of the *Sensory Storytime and Sensory Rhymetime* program?
3. What were you hoping your child would gain from the experience?
4. Has the *Sensory Storytime and Sensory Rhymetime* program: met, not met, or surpassed your expectations? Can you explain your response?
5. What do you think your child gained from the *Sensory Storytime and Sensory Rhymetime* experience?
6. What did you (as parent) gain from the *Sensory Storytime and Sensory Rhymetime* experience?
7. Did this program engage your child? Can you explain in which ways?
8. Was there anything unexpected from the experience? If so, what was it? Can you explain?
9. Is there anything you saw in the *Sensory Storytime and Sensory Rhymetime* experience that you would be able to use with your child at home?
10. Do you think your child's interest in rhymes/books/words has changed during this program? If yes, what have you noticed?
11. Have you experienced any other 'storytime' programs for young children? If yes, how does this program compare?
12. Is there anything else you would like to share about this experience?

