A different view of talking
How children with speech impairment picture their speech

Jane McCormack, Sharynne McLeod, Linda J. Harrison, Lindy McAllister, and Erin L. Holliday

The views of children with speech impairment are often unheard during speech pathology assessments and intervention due to concerns about the children's age and level of intelligibility. This paper presents the views of 13 preschool children with speech impairment who participated in the Sound Effects Study. Children drew pictures of themselves “talking to somebody” as part of a comprehensive communication assessment, and were interviewed about their talking. Drawings and interview transcripts were analysed to investigate the way in which children view their speech. Findings indicate that drawings and interviews are valuable modes for accessing the views of children, which is an important aspect of truly child-centred clinical practice.

Three recent large-scale Australian studies have found that approximately one in five preschool children is identified by their parents or teachers as having difficulty “talking and making speech sounds” (McLeod & Harrison, 2009; McLeod, Harrison, & McAllister, 2009; Ttofari Eecen, Reilly, & Eadie, 2008), and the most commonly identified difficulty is speech that is “unclear to others” (McLeod & Harrison, 2009). Many children with speech difficulties are referred to speech pathology clinics for assessment and intervention. Increasingly, speech pathologists aim for a “family-friendly” approach to the clinical management of these children (Watts Pappas, McLeod, McAllister, & McKinnon, 2008), encouraging the input of caregivers in the management process. They have not, however, routinely investigated the views of the children with speech impairment regarding their speech and their goals for intervention.

Since the United Nations Convention on the Rights of the Child (UNICEF, 1989) was ratified, there has been a growing awareness of the need to include the views of children in issues that affect them. However, accessing the views of preschool children with speech impairment has typically been considered a difficult task, due to their age and their level of intelligibility (Markham, van Laar, Gibbard, & Dean, 2008). The use of drawings has been recommended by early childhood researchers as a way of enabling children to express themselves and facilitating researchers’ access to children’s views (Einarsdottir, Dockett, & Perry, 2009; Holliday, Harrison, & McLeod, 2009). For children with speech impairment, activities such as drawing provide a means by which they can express their thoughts and feelings in a non-verbal manner.

Investigating and understanding the views of children with speech impairment has important clinical implications. The decision to seek and receive intervention for young children with speech impairment is typically made by parents or teachers on behalf of these children. The children themselves have not sought intervention and may not perceive anything wrong with their speech (McCormack, McLeod, McAllister, & Harrison, 2009). For speech pathologists, understanding the views of both the child with speech impairment and their family is necessary in order to develop intervention that addresses the problems perceived and experienced by both in communication interactions.

The aim of this study was to explore the views of children with speech impairment about their speech and difficulties associated with talking using three methods: drawings, yes/no questionnaires, and interviews.
speech skills were assessed using the Diagnostic Evaluation of Articulation and Phonology (DEAP; Dodd, Hua, Crosbie, Holm, & Ozanne, 2002). The communication assessment also included screening of receptive and expressive language, hearing, oromusculature, nonword repetition, pre-literacy skills, voice, and fluency.

Three tasks were then undertaken to determine children's views of speech. First, the Kiddy-Communication and Attitude Test (KiddyCAT; Vanryckeghem & Brutten, 2007) was administered to investigate the children's perceptions of their speech ability and difficulties they had with talking. The KiddyCAT is a standardised assessment for children aged 3–6 years. The test comprises 12 yes/no questions, including “Is talking hard for you?” and “Do you think that people need to help you talk?”

Upon completion of the KiddyCAT, the children were given a blank piece of white A4 paper and 10 coloured textas and invited to draw a picture of themselves talking (see Holliday, 2008 for the protocol). As the child drew, the speech pathologist transcribed verbatim comments from the children. She also drew a replica of the picture and added a note about how the child felt about talking and their recognised facial expression.

Table 1. Participant characteristics and results from KiddyCAT, drawing and interviews

<table>
<thead>
<tr>
<th>Name*</th>
<th>Sex</th>
<th>Age</th>
<th>PCC</th>
<th>Do you like to talk?</th>
<th>Is talking hard for you?</th>
<th>Do you think people need to help you talk?</th>
<th>Total KiddyCAT score (/12)</th>
<th>Focal points</th>
<th>Faces – how I feel about talking</th>
<th>Faces – how I feel about drawing</th>
<th>Faces – how I feel when not understood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wade</td>
<td>M</td>
<td>4;1</td>
<td>42.1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7 (outside normal range)</td>
<td>Accentuated body features</td>
<td>Happy, sad</td>
<td>Happy</td>
<td>In middle</td>
</tr>
<tr>
<td>Grace</td>
<td>F</td>
<td>4;3</td>
<td>53.2</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>0 (WNL)</td>
<td>Sense of self</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Patrick</td>
<td>M</td>
<td>4;3</td>
<td>34.3</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>6 (outside normal range)</td>
<td>Did not draw self</td>
<td>All, happy</td>
<td>Don’t know</td>
<td>In middle</td>
</tr>
<tr>
<td>Gus</td>
<td>M</td>
<td>4;3</td>
<td>47.8</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>3 (WNL)</td>
<td>No partner; facial expression</td>
<td>Sad</td>
<td>Happy</td>
<td>Happy</td>
</tr>
<tr>
<td>Ewan</td>
<td>M</td>
<td>4;3</td>
<td>40.3</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>6 (outside normal range)</td>
<td>No partner; colour</td>
<td>Sad, happy</td>
<td>Happy</td>
<td>Sad</td>
</tr>
<tr>
<td>Kara</td>
<td>F</td>
<td>4;4</td>
<td>78.4</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>4 (WNL)</td>
<td>Colour</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
</tr>
<tr>
<td>Owen</td>
<td>M</td>
<td>4;6</td>
<td>17.9</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>3 (WNL)</td>
<td>No partner; facial expression</td>
<td>Don’t know</td>
<td>In middle</td>
<td>Sad</td>
</tr>
<tr>
<td>Matt</td>
<td>M</td>
<td>4;6</td>
<td>51.8</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>2 (WNL)</td>
<td>No partner; facial expression</td>
<td>Happy</td>
<td>Happy</td>
<td>In middle</td>
</tr>
<tr>
<td>Zac</td>
<td>M</td>
<td>4;9</td>
<td>67.1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>5 (outside normal range)</td>
<td>Sense of self</td>
<td>Happy</td>
<td>Happy</td>
<td>Sad</td>
</tr>
<tr>
<td>Fenn</td>
<td>M</td>
<td>4;11</td>
<td>55.7</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>3 (WNL)</td>
<td>Sense of self; accentuated body features</td>
<td>Happy</td>
<td>Happy</td>
<td>Happy</td>
</tr>
<tr>
<td>Evelyn</td>
<td>F</td>
<td>4;11</td>
<td>56.8</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>3 (WNL)</td>
<td>Sense of self</td>
<td>In middle</td>
<td>Happy</td>
<td>Happy</td>
</tr>
<tr>
<td>Jamie</td>
<td>M</td>
<td>5;0</td>
<td>74.1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>4 (WNL)</td>
<td>Sense of self</td>
<td>In middle</td>
<td>In middle</td>
<td>In middle</td>
</tr>
<tr>
<td>Lilah</td>
<td>F</td>
<td>5;9</td>
<td>74.1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Sense of self</td>
<td>Happy</td>
<td>Don’t know</td>
<td></td>
</tr>
</tbody>
</table>

*Pseudonyms have been used to protect the identity of participants, WNL = within normal limits, PCC = percent consonants correct, Y = yes, N = no, N/A = not available.
child's drawing and labelled it accordingly. The children were then asked questions about their drawing (e.g., “Who is in the drawing?”, “Do you like talking to this person?”) and were asked to identify how they felt about talking. Children were provided with visual prompts (e.g., faces showing a range of emotions: ☻☹☹, a blank face for “other feelings” and a question mark signifying “don’t know”) to assist in answering.

On another occasion, 13 children were interviewed. Twelve of the interviews were conducted by the same speech pathologist who conducted the communication assessments. A teacher with special education training conducted the remaining interview. Interviews were conducted face-to-face in a location that was familiar to the child (e.g., home or early childhood centre) with a familiar person nearby. Interviews followed a semi-structured format (Minichiello, Aroni, & Hays, 2008). Questions were based on the Speech Participation and Activity Assessment—Children (SPAA-C) “Questions for children” (McLeod, 2004). Children were again requested to identify how they felt about the way they talk, and how they felt when talking in specific contexts (e.g., to parents, siblings, friends and teachers).

All assessments and interviews were audio-recorded with the consent of both child and adult participants using a Sony MP3 digital recorder (ICD-UX80), and were transcribed and checked by the interviewer.

**Data analysis**

**Drawings**

A meaning-making approach was used to determine how children perceive “talking.” This approach recognises the importance of consulting children and having them explain their drawings. Each child’s drawing and their explanation of the drawing was examined in terms of the meaning they conveyed, particularly in relation to how the child conceptualised their talking. Holliday et al. (2009) identified six potential key features or focal points that may be present in the drawings of children with communication impairment. These included: talking and listening, accentuated body features (mouth, eyes, ears), facial expressions, colour and vitality, sense of self, and negativity (e.g., no conversational partner, scribbling). These focal points were noted in the drawings completed by children in this study and were used to develop themes across the children’s drawings.

**Interviews**

A phenomenological approach (Minichielo et al., 2008) was used to analyse the interview transcripts. Using this approach, the researchers attempted to understand the meaning of the phenomenon (living with childhood speech impairment) from the children’s descriptions of the experience. Techniques used to ensure rigour in the analysis include:

- **Qualitative data analysis**
  - Coding
  - Thematic analysis
  - Validation

This approach allowed the researchers to gain a deeper understanding of the children’s experiences and to identify key themes and findings. The data analysis process was iterative, with ongoing refinement of the themes and concepts as new data were collected and analysed.

---

**Figure 1.** Wade’s (4;1) drawing of himself with his brother (eyes coloured and mouth on left). Wade’s description of this picture was not intelligible [PCC = 42.1].

**Figure 2.** Grace’s (4;3) drawing of herself (right) talking to her mum about “going across to the park” [PCC = 53.2].

**Figure 3.** Patrick’s (4;3) drawing of Henry the Octopus [PCC = 34.3].

**Figure 4.** Gus’ (4;3) drawing of himself talking to his dog (not pictured) at home [PCC = 47.8].

**Figure 5.** Ewan’s (4;3) drawing of himself. When asked who he liked talking to he replied “Mummy and Daddy…and my dog”. Ewan felt sad about talking to others because “they don’t let me play” [PCC = 40.3].

**Figure 6.** Kara’s (4;4) drawing of herself (right) with her cousin. Kara is “hula-hooping with my new sparkly hula hoop” [PCC = 78.4].
included immersion in the data (e.g., re-reading of transcripts), constant comparative analysis (e.g., checking analysis of one transcript with another), and triangulation of methods (e.g., comparing data obtained from assessments with drawings, observations and verbal responses during interviews). Key words and content in the interview transcripts were used to identify themes, which were independently checked by two of the other authors.

Results
Speech assessment
Twelve of the 13 children presented with a percentage of consonants correct (PCC) that was below the normal range (i.e., standard score less than 7) on the DEAP Phonology subtest, and one child was within the normal range (standard score of 7). The PCC produced by the 13 children in this study ranged from 17.9 to 78.4 (mean 53.4).

KiddyCAT assessment
The KiddyCAT was administered with 12 of the 13 children, as it had not been included in the protocol when the other child (Lilah) was assessed. Children’s scores ranged between 0 and 7 (see Table 1), with eight children obtaining scores that placed them within the normal range (0–5 out of 12), indicating positive feelings about communication.

Drawings
One child (Patrick) chose to draw a picture of Henry the Octopus. His drawing was excluded from the analysis because he did not draw himself talking. Four focal points were identified to be consistent across the other 12 drawings (see Figures 1–12).

Focal point 1 – Accentuated body features
The children’s drawings showed their awareness that features such as the mouth and ears are important in communication. In Fenn’s drawing of himself talking to his friend he accentuated his friend’s ears, highlighting the importance of listening when conversing (see Figure 10). In Wade’s drawing of himself and his brother, he accentuated their mouths, eyes (coloured in) and ears (above eyes) (see Figure 1).

Focal point 2 – Facial expressions
The children also indicated that communicating can be a happy, sad or neutral process. Owen, Gus, and Matt all drew pictures of themselves talking without conversation partners, and the different facial expressions they portrayed as well as their descriptions of the drawings suggest their feelings about talking. Matt drew a happy face and stated that he was talking to his “best friend” (not pictured) about “going to Nan and Pop’s house” (see Figure 8). In contrast, Owen drew a neutral expression and stated that he was talking to...
the speech pathologist about “nothing” (see Figure 7). When asked who he liked talking to Owen said “no one.” Gus drew himself talking with his dog at home (see Figure 4). The absence of a second figure and his negative facial expression may suggest Gus does not feel happy about talking.

**Focal point 3 – Colour**

There was a great degree of individuality regarding the use of colours. Kara’s drawing of herself with her cousin reflects happiness with talking, which is evoked through the smiling faces, vibrant colours and background detail (see Figure 6). Kara explained that she is “playing outside … whirling in my new hula hoop that I got for my birthday.” In contrast, Ewan, who liked talking to “Mummy, Daddy and to my dog” drew only himself, and used only a black texta (Figure 5).

**Focal point 4 – Sense of self**

Most children portrayed a positive sense of self in their drawings, through drawing themselves a similar size and in similar detail to their conversation partner. They portrayed themselves as happy when talking to family and friends, with the inclusion of smiles, colour and by drawing people close together. Grace drew herself talking with her mother about “going across the road to the park” (see Figure 2). Grace drew the figures with similar features and standing close together.

**Faces – “How do you feel about talking?”**

Eight children indicated they felt “happy” about talking and one (Gus) indicated that he felt “sad.” One child (Owen) responded that he “didn’t know” how he felt about talking, and three indicated more than one response (e.g., happy and sad). Data were unavailable for Grace.

**Interviews**

Phenomenological analysis of the interviews revealed two themes. First, the children were aware of “problems” when communication breaks down, and second, they used strategies to “solve” the problems. When asked to colour in a face in response to the question “How do you feel when other people don’t understand you?”, Owen, Zac, and Ewan coloured the “sad” face, while Wade, Patrick, Matt, and Jamie coloured “in the middle”. This suggested they perceived a problem when they weren’t understood. However, children did not identify their speech as the cause of communication problems. When asked to colour in a face in response to the question “How do you feel about the way you talk?” most children coloured the “happy” face, except Jamie and Owen (“in the middle”) and Patrick (“don’t know”). No children indicated that they felt “sad”. Kara alone identified she had a speech problem during the interview, stating “I can’t say Tara. I say Tara when I’m saying my name.” Furthermore, Kara identified the role of the listener in communication breakdowns, stating “I keep say … and they don’t know what’s my … they keep saying they think my name’s Tara.” For Kara, part of the problem she perceived was that the listener did not understand her. Other children implied that listeners may have problems “hearing” and suggested solutions. For instance, when asked what they do when others don’t understand them, Gus responded, “Speak up a bit” and Evelyn said, “Say it another time.” During the interviews, Fenn and Wade were observed to repeat their utterances to help the interviewer hear (and understand). Additional analyses of these children’s interviews can be found in McCormack et al. (2009).

**Discussion**

The results from this study showed that preschool children with speech impairment can express views about their speech in non-verbal (drawings) and verbal tasks (yes/no questions, interviews with visual prompts). Analysis of these tasks revealed common themes. First, children were generally happy about talking and about the way they talk. This was evident through their use of colour and facial expressions in the drawings, and their responses to interview and KiddyCAT questions. In the latter, all except Patrick reported that they “liked to talk”.

Second, despite being identified as having speech difficulties by their parents and teachers, and despite confirmation on the formal speech assessment (for all except Kara), most of the children did not perceive themselves as having speech difficulties. In the KiddyCAT assessment, they reported talking was not “hard” for them. A positive sense of self was also evident in their drawings, where children drew themselves as similar to their conversation partners.

Finally, children showed awareness of the need for both the mouth (talking) and ears (listening) when communicating. Fenn and Wade drew and identified both these facial features in their drawings, while Kara identified the need for the mouth and ears by identifying faults in the speaker and listener when communication breaks down.

Traditional speech pathology practice focuses on “correcting” speech skills (Van Riper & Erickson, 1996). However, young children who do not perceive a problem with their speech skills (but rather with their communication partner’s listening) may be reluctant to participate in intervention that focuses on themselves as the speaker. In this study, five children indicated that they did not think people needed to help them talk. Three of these children (Grace, Patrick, and Evelyn) also indicated that talking was not difficult for them, despite obtaining PCC scores of 53.2, 34.3 and 56.8 respectively. Increasing children’s awareness of speech errors through metacognitive strategies as in Metaphon (Dean & Howell, 1986) and Parents and Children Together (PACT; Bowen & Cupples, 1998) may motivate participation in intervention. However, two children (Owen and Fenn) who identified talking was “hard” did not think people needed to help them talk. Thus, making children aware of the speech problem will not guarantee their motivation to visit the speech pathologist.

Furthermore, increasing children’s awareness of their speech problem does not address the problem of listeners needing to understand the child’s message while the speech problem is being resolved, or the child’s frustration when he/she is not understood. A more holistic intervention approach could incorporate strategies that enabled others to understand and to minimise frustration (e.g., creating and using available cues such as a diary to share knowledge of events, or a list of child’s typical productions of words), alongside strategies that aimed to improve the child’s speech (Most, 2002; Pretty, 1995).

**Limitations**

The themes described in this study emerged from across the participant sample; however, triangulation of methods revealed inconsistency for some individual participants. For instance, Gus obtained a KiddyCAT score which suggested a positive attitude towards talking, but after drawing his picture, he circled a “sad” face in response to the question about how he felt about talking. Dockett and Perry (2007) suggested that different data obtained from the same children should be considered valid, and researchers should accept that children, like adults, may have many different perspectives on the same issue “rather than seeking ‘one truthful perspective’ from children” (p. 49). Accordingly, rather than perceiving inconsistencies in the data as a limitation of this study, the authors accept that the data reflect the way children’s views develop and change, and are
influenced at all times by contextual factors (Daniel & McLeod, 2006). Furthermore, the authors recognise the importance of multi-method approaches when researching with young children, in order for the research to reflect the different perspectives of those children.

Conclusions
The findings from this research exemplify the valuable information that children can provide and support the inclusion of children in research about them. The findings also support the use of a range of methods to understand children's views, when verbal communication may be difficult. This study revealed that children perceive talking as a happy experience and may hold different views from their parents, teachers and speech pathologists regarding their speech impairment.

Acknowledgment
The Sound Effects Study was supported by Australian Research Council Discovery Grant (DP0773978). Drawings from the 143 children were displayed at the Speech Pathology Australia National Conference in Adelaide in 2009 and will be published in a book titled Children Draw Talking.

References

The Sound Effects Study research team (L-R): Prof. Sharynne McLeod, Jane McCormack, A/Prof. Lindy McAllister and A/Prof. Linda Harrison.

Jane McCormack is completing her PhD at Charles Sturt University, investigating the experience and impact of childhood speech impairment. She is also the project officer for the Sound Effects Study.

Sharynne McLeod, PhD, is professor of speech and language acquisition at Charles Sturt University and is a primary researcher (with A/Profs Harrison and McAllister) conducting the Sound Effects Study.

Linda J. Harrison, PhD, is the Associate Professor of Early Childhood at Charles Sturt University.

Lindy McAllister, PhD, is the Deputy Head (Teaching and Learning) of the Medical School at the University of Queensland, and past president of Speech Pathology Australia.

Erin L. Holliday is a school teacher who completed her Bachelor of Education (Primary) at Charles Sturt University in 2008 with Class 1 Honours. Her honours project incorporated the analysis of drawings collected for the Sound Effects Study.