

Intervention – why does it work and how do we know?



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FROM THE EDITORS

Do you wonder how things work? Is it clear to you how your interventions work? Or why they sometimes don't work? These were the type of questions which brought us to the theme for this issue of *ACQ*.

One of the tasks for the editors of *ACQ* (with much help from Filomena Scott at National Office, without whom this publication would never appear) is to plan/describe/map out the front and back covers for each issue. This is a very daunting task. So what were the options for this issue? Would we suggest a microscope, suggesting consideration at the cellular level, juxtaposed with a telescope, representing a long distance overall view? Would we depict an individual successfully negotiating communicative challenges in different settings or looking comfortable and satisfied after an enjoyable meal? What about a stack of journals or researchers completing yet another ethics application? And so, the cover took shape. We hope the cover in some way illustrates our professional responsibility to question when and why our interventions work and how we know they do.

One of the key problems in developing a shared understanding of how and when our interventions are effective is the use of inconsistent terminology. This complex and

pervasive issue is addressed in the paper reporting on aspects of the Framework for Speech Pathology Terminology. There are also papers addressing attitudes of clinicians to working with telehealth as well as an exploration of the success of interactions for people with severe intellectual disability and complex communication needs.

This is the last issue that we will edit and we want to thank all those who have contributed to the *ACQ* over the last two years. We have been privileged to work with regular, reliable and fascinating contributors such as Caroline Bowen, Cori Williams, Lindy McAllister and Marie Atherton. We are also grateful for the contributions of the members of the two editorial committees who have supported the production of *ACQ*. We are delighted to hand over the role to Marleen Westerveld and Nicole Watts Pappas. They are already well underway with the first edition for 2009 and we wish them well with the stimulation, satisfaction (and occasional frustrations) ahead. Finally we would like to applaud the members of the Association who contribute and share their successes and discuss the reasons for some less successful ventures in the pages of *ACQ*.

Louise Brown and Chyrisse Heine
Co-editors

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FROM THE PRESIDENT

Intervention is a vital part of what speech pathologists do, so it is entirely fitting that we ask whether it works, and how we know. These questions are, of course, crucial to the gathering of evidence to support our practice.

Evidence is an interesting thing. You may know the story of the six blind men and the elephant – all of whom felt a different part of the elephant, and all of whom therefore compared the elephant to something different (a tree, a rope, a fan...). If you don't know the story, you can read a version of it at http://www.noogenesis.com/pineapple/blind_men_elephant.html.

The moral of the story for us? We need to be careful with how we approach the questions "does it work?" and "how do we know?". The way we do this will shape the answers to the questions. As consumers of research in the search for evidence, we also need to be aware of this – and Speech Pathology Australia has made a commitment, in our strategic plan, to support this. Under KRA 2 (Professional and Quality Standards of Practice), you will find the key objective "Evidence based practice is viewed by members as integral to the practice of speech pathology". Jade Cartwright, in her capacity as CPD and Scientific Affairs portfolio coordinator, is working with Scientific Affairs portfolio leaders, interested members and Council to identify ways to assist members to incorporate the evidence base into their clinical practice.

The push towards evidence based practice currently drives thinking, not just in our discipline, but across the health and education sectors, and also in the political arena. Gail Mulcair and I, in our interactions with politicians in the lead up to the federal election last year, were asked a number of "evidence" questions ("how many unfilled vacancies are there?", "how many speech pathologists are there in Australia?", "what

would be the best model for a school based service?"). We were not always able to answer these adequately. As a result, Council has made such issues a focus in our strategic planning, and in our budget discussions, and has instigated a project – "Data mapping to support lobbying" – which aims to provide evidence based statements which can be used in our lobbying efforts. The project has been designed to take place in three stages. The first stage will provide information on the prevalence of communication, voice, dysphagia and hearing impairment in child and adult populations. The second will summarise available data regarding recommended caseload sizes, ratios of therapists to population or service coverage per population for adult and child client groups, and the final stage will identify gaps in the data and develop proposals/strategies to address these gaps. The first phase is currently under way. Progression to stages 2 and 3 will depend on the successful completion of stage 1.

Another exciting development is SpeechBITE™, which was launched in Sydney early this year. This important initiative was initiated by Dr Leanne Togher from the University of Sydney and is partly funded by Speech Pathology Australia. We are proud that it is now available to interested people, not just in Australia, but internationally. The site allows users to search for research of interest to speech pathologists, and provides guidelines about rating the evidence. If you haven't yet tried it out, you can find it at www.speechbite.com.au.

We may not yet have all the answers to the questions about whether intervention works, and how we know, but the evidence is clear – your professional association is looking for ways to help you find the answers to the questions that are important to you in your clinical practice.

Cori Williams

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A FRAMEWORK FOR EFFECTIVE SPEECH PATHOLOGY TERMS

Regina Walsh

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Due to the complex evolution and diverse parentage of speech pathology, the terminology in the area is sometimes vague, inappropriately defined and used inconsistently. Numerous terminology projects have attempted to develop consensus scientific definitions for speech pathology terms, but have failed to have a sustained measurable impact. The *Dynamic Terminology Framework* represents a new approach to terminology which involves the development of criteria for terms, rather than a list of standard terms. The framework provides the conceptual basis for identifying all the relevant parameters that influence terms, subsequently leading to a set of criteria for the analysis of speech pathology terms.

Keywords:

framework,
human communication,
speech pathology,
terminology

Introduction

Speech Pathology Australia's Terminology Frameworks Project (2005 to 2007) set out to explore the complex issues presented by terminology. It resulted in an extensive publication entitled *Criteria for the Analysis of Speech Pathology Terms: Challenges and a Methodology* (Speech Pathology Australia, 2008). The aim of that publication is to provide speech pathologists with a methodology to select and use effective terms for a range of purposes in their daily practice by employing a theoretical framework as the basis for making decisions regarding: the selection of appropriate terms; and criteria for terms and definitions.

Criteria for the Analysis of Speech Pathology Terms does not present a simple answer to the problems of terminology. Rather, it presents a tool (a framework) for professionals to use as they explore terms and think about the issues; thus it requires readers to engage with new concepts, to take a new perspective on terminology, and to be willing to reflect on their own use of terms in practice. It explores:

- issues and assumptions about terminology;
- a dynamic view of terms and terminology;
- a new conceptual model of human communication;
- the wide range of purposes for which terms are used in the profession;
- the analysis of terms through the application of criteria;
- some common problems with terms used for particular purposes.

This article is derived from the complete report which is available on the Association website at <http://www.speechpathologyaustralia.org.au/Content.aspx?p=191>. Readers are invited to access the original document for a fuller exploration of the issues and concepts presented in this article.

Why is terminology such a problem?

The terminology in the field of speech pathology has been described as inconsistent, variable, inadequate, a mess and in a state of chaos (Rockey, 1980; Schindler, 1990; Wollock, 1997; Kamhi, 1998). One term may have several different meanings, while several terms can be used with the same meaning. Think of the enormous range of terms to label children's language problems including *language disorder*, *language impairment*, *language delay*, *specific language impairment*, *semantic-pragmatic disorder*, etc. Many authors have proposed definitions of these terms, but these also vary. This inconsistency leads to many questions: How do professionals select from this range of terms? What makes one term "better" than another? What makes a "good" definition? How does the profession create appropriate new terms when they are needed?

The broad question is: Can the appropriateness and consistency of terms in speech pathology be improved? Many respected writers in the field have bemoaned the lack of consistency and suitability of terms. Kamhi (1998, p. 35) suggested that "it is unrealistic to expect ... consistent terminology" but then appealed for at least some "logic to the inconsistency" (p. 36). Professionals have devoted extensive time and energy attempting to improve terminology in the past, but this does not seem to have had a sustained or significant impact on the situation (Walsh & IGOTF-CSD, 2006).

Wollock (1997) has explored the earliest documented studies of communication disorders in great detail. Aristotle's classification system was based on observable communicative behaviours while Galen's classification system was based on the putative underlying causes of the communication problems (Wollock, 1997). However these two incompatible systems were amalgamated over time and, with mistranslations from the original Greek and Latin compounding the problem, evolved into a terminology which Rockey (1980) described as in state of chaos. Modern-day speech pathology has inherited a terminology "mess" that has developed over 3000 years (Rockey, 1980; Wollock, 1997).

Contemporary speech pathology sits at the interface of linguistics, psychology and medicine and its development has been influenced by trends in these disciplines over the last 100 years (Sonninen & Damsté, 1971; Tanner, 2006). Each of these is a separate discipline, based on differing fields of study. As a result of its diverse "professional" parentage, contemporary speech pathology has derived terms from a range of different disciplines, rather than from a unified science of human communication.

Due to this complex evolution and diverse parentage, the terminology of speech pathology is sometimes vague, inappropriately defined and used inconsistently (AIHW, 2003). Over the last 40 years numerous classification projects, standardisation projects and translation projects have attempted to develop consensus scientific definitions for speech pathology terms (Schindler, 2005). However, no projects have come to light which have attempted to address the underlying causes



Regina Walsh

of inconsistency and lack of appropriateness in terms, and no projects seem to have considered the wide range of different purposes for which professionals need suitable terms.

Standard terms versus standards for terms

The belief that a standardised list of terms will address the terminology issue is widespread. While professionals might believe a list of terms will “sort out the mess”, such lists have been developed and implemented without measurable impact on the profession (Kjaer, 2005). Bain (2005) pointed out that while it may seem intuitively appealing or logical to address a terminology problem with a list of better defined terms, this approach fails to connect in any real way with the users of terms in their everyday professional practice, and may in fact merely result in terminology proliferation.

An alternative approach to finding a solution to the field’s terminology problems is to establish “standards” or criteria for terms and definitions. Such criteria should be based on a thorough understanding of the professional practice schema of speech pathology, and need to support both consistency in the underlying meaning of the term and flexibility in how a term is actualised in different contexts. To achieve this, the profession needs:

- to articulate an accurate representation of how terms work within the professional practice schema (Bain, 2005);
- to ensure that terms and definitions meet agreed criteria (Rockey, 1969);
- to be able to use terms appropriate for the various purposes needed and the various contexts of practice (Walsh, 2005);
- to refer to a robust mechanism to share the underlying meaning of the varying terms across these contexts and purposes (Madden & Hogan, 1997).

Developing criteria for terms is completely different from developing a list of standard terms. Criteria refer to information *about* terms: they set the parameters for the analysis and discussion of terms among professionals. They would provide the basis for professionals to adopt the most appropriate term according to criteria that are agreed to across the profession, thus promoting consistency. Establishing and implementing criteria for terms is an approach which closely involves the professionals, aiming to improve their knowledge and understanding about the principles and criteria for effective terminology.

A dynamic view of terminology

The prevailing view of terminology could be called a “static” view. A static view of terminology holds that a term refers to a thing or an idea, the Referent, which has a single “correct” definition determined by a process of scientific investigation and professional consensus about “the essence” of this Referent. This view, illustrated in figure 1, has dominated terminology literature and project work for decades.

However, this view does not necessarily represent how terms work in practice (Bain, 2005). It ignores a number of other influences on terms, such as the various purposes for referring to human communication and the contexts and cultures within which speech pathologists practice. These all influence the features of an appropriate term and effective definition.

Taking such parameters into account allows the development of a more realistic and dynamic view of terminology. In a “dynamic” view of terminology the *Referent* remains a key parameter with other parameters also acknowledged: each term is used for a *Purpose* by *Users*, within a *Culture* and in a

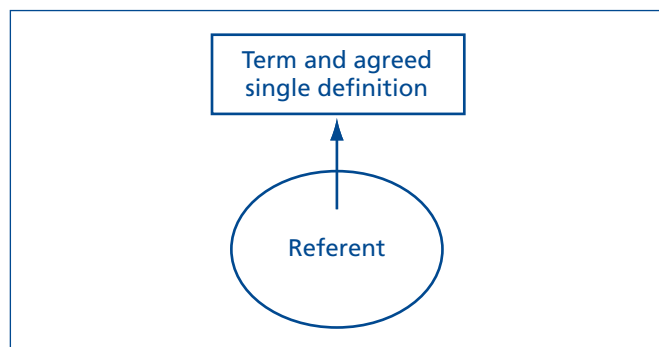


Figure 1: A static view of terminology

Context. Thus, an appropriate term with an effective definition reflects the influence of the five parameters of:

- the *Referent* – the thing or idea within communication to which a term refers;
- the *Purpose* – the reasons for using the term in various roles and activities;
- the *Users* – all the people who need to use and understand the term;
- the *Culture* – the (pertinent) value system of the people who use the term; this can relate to the broader culture of a geographical region or country, or to the subculture of a group of users, such as the subculture of speech pathology;
- the *Context* – the environment in which a role or activity takes place; this can relate to the workplace or to the legislative or policy context.

Therefore, a dynamic view of terminology links a term to the “system” within which it functions, as in figure 2. Each of the five parameters requires specific criteria for terms and definitions. For example, a term must be *accessible to all identified Users* and a term must be *relevant to the Context*. Within a dynamic view of terminology, terms are viewed as appropriate or inappropriate, i.e., they do or do not meet the criteria for terms for that purpose.

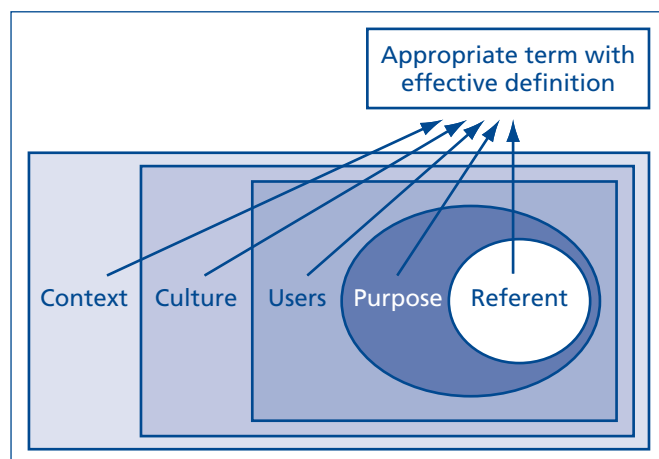


Figure 2: A dynamic view of terminology

A Dynamic Terminology Framework

A dynamic view is the basis for a unifying framework for terminology that recognises and integrates all the parameters. The *Dynamic Terminology Framework*, presented in figure 3, illustrates the synergy between all the relevant parameters:

- on the left-hand-side of the Framework is a *conceptual model of human communication* which provides the basis for the Referent for each term. A preliminary conceptual model for human communication is presented in the full document;

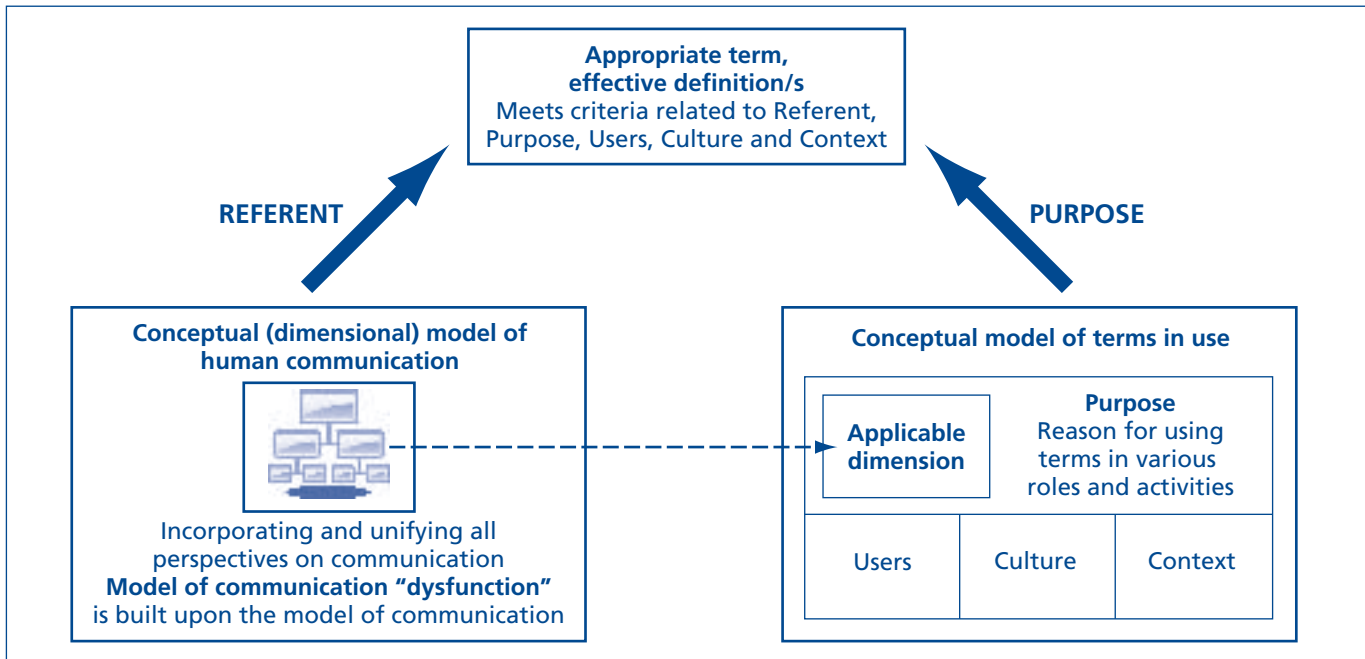


Figure 3. Dynamic Terminology Framework

■ on the right-hand-side of the Framework is a *conceptual model of terms in use*. Each term can be considered according to the Purpose, the Users, Culture and Context. These parameters are discussed further in the full document.

The Framework highlights the importance of the range of different Purposes for terms within the speech pathology professional practice schema. The Purpose for which a term is used represents a previously overlooked but critical aspect of the appropriateness and effectiveness of terms, and a central aspect of making progress in improving terminology for the field.

The *Dynamic Terminology Framework* provides the basis for the application of a logical and rigorous methodology for projects and activities seeking solutions to current terminology issues. The Framework therefore provides a tool for the analysis of terms; it does not provide simple answers or the actual terms for speech pathologists to use. The Framework:

- provides the profession with a comprehensive tool with which to begin the journey through the terminology “mess”;
- assists professionals to work methodically through the numerous and complex issues which surround terms;
- supports the development of a mature profession through a firm conceptual basis for the scope and development of its terminology.

Before there can be real improvement in terminology, professionals must change their own thinking and behaviour regarding terms and terminology. The Framework provides the basis for reflecting upon and analysing the way that terms are used, and presents some challenges to the views that professionals may hold about terms.

Essential conditions and criteria

The *Dynamic Terminology Framework* leads to a methodology for the analysis of terms which entails applying an essential condition and several criteria for each of the five parameters. The essential conditions refer to the beliefs or principles of the professionals regarding terminology, while the criteria relate to the qualities and features of the terms. The essential conditions are critical for effective terminology work, as without them, professionals may approach terminology

projects from different or even conflicting perspectives. The criteria for terms related to the parameters of the Referent, the Purpose, the Users, the Culture and the Context are explained in the full document. Many of the criteria refer to concepts which may be unfamiliar to speech pathologists (such as the importance of the distinction between “entities” and “constructs”); therefore an in-depth exploration of the criteria is beyond the scope of this brief article.

Table 1 presents a matrix of the five essential conditions and the 16 criteria for analysing terms related to the five parameters of the *Dynamic Terminology Framework*. Refer to the full document for a detailed explanation.

Application

The *Dynamic Terminology Framework* and the matrix in Table 1 can be applied to identify the features and criteria of terms for a particular Purpose so as:

- to decide if a term under analysis is suitable for the Purpose;
- to identify/select available appropriate terms (and definitions) for this Purpose;
- to craft new terms (and/or definitions) for this Purpose if needed (with the benefit of a rationale shared by the profession);
- to explore the features and criteria for terms for a particular Purpose for discussion about these features and criteria amongst colleagues;
- to analyse a controversial term to investigate the source of the issue;
- to analyse a particular Purpose to identify the challenges for the profession, and clarify why certain terms may or may not be appropriate;
- to explain a particular Purpose of a term to those unfamiliar with this Purpose.

Once the Purpose for which a term is to be used is identified (for example, the Purpose might be public relations or making a diagnosis), the available terms can be analysed to determine if they do or do not meet the criteria for terms for this Purpose. Several worked examples are presented in the full document.

The analysis of terms according to the *Dynamic Terminology Framework* presents a challenge to many current beliefs and

Table 1. Matrix of essential conditions and criteria for analysing terms

A term ... Has a Referent	For a Purpose	Of Users	Within a Culture	In a Context
<i>Essential condition</i>	<i>Essential condition</i>	<i>Essential condition</i>	<i>Essential condition</i>	<i>Essential condition</i>
The Referent is derived from a shared model of communication	Purposes are representative of the range of activities/roles in professional practice schema	Identified Users are considered as being of equal status	Culture is linked to the identified Users and considered at between cultures, broad culture or sub-culture level	Context is identified as central (not an add-on) to the appropriateness of terms
<i>Criteria related to Referent</i>	<i>Criteria related to Purpose</i>	<i>Criteria related to Users</i>	<i>Criteria related to Culture</i>	<i>Criteria related to Context</i>
The definition is concise and predictable	The Referent comes from the applicable dimension for the Purpose	The term and definition are accessible to all identified users	The term and definition are acceptable within the broad culture, particularly to those who are labelled by them	The term and definition are relevant to the context
The definition is a positive affirmative statement of the Referent	The definition is suitable for the nature of the phenomenon, which itself must be appropriate for the Purpose		The term and definition have appropriate features for the culture or subculture	The term and definition take into account the impact of influences outside speech pathology
The definition is linear and clarifying ; it avoids circularity (self-reference)	The definition reflects the directness of observation , which itself must be appropriate for the Purpose			
The definition provides new information ; it avoids tautology	The type of definition is suitable for the purpose			
The definition is precise and coextensive with the Referent	The role of the definition is suitable for the purpose			
Part of speech parity exists between the term and the first key word of the definition				

practices. Working on terms and terminology entails exploring one’s own professional values, beliefs and practices.

Conclusion

Developing a unifying framework for the analysis of terms which is shared across the profession is an important step in addressing the problems around terms in the field. Through establishing principles and criteria for terminology to which the profession agrees, the aim is to make a positive impact, over time, on the normal dynamic processes of the evolution of terms within the professional practice schema.

The implications of the *Dynamic Terminology Framework* include:

- Everyone “owns” the terminology of the profession; everyone is likewise responsible for its improvement;
- The challenge is for professionals to change their behaviour with terms (it is not necessarily the terms that need to change);
- Terminology analysis is extremely complex and demands attention to more than “what” is being labelled by terms (the Referent);

- Terms and definitions should be assessed according to specific criteria which are agreed to by the professional community;
- Terms can be viewed as appropriate or inappropriate for a particular Purpose, i.e., meeting or not meeting the criteria for that Purpose;
- Terms for some Purposes must vary across Contexts and Cultures even when referring to the same thing; attempting to standardise the actual terms or to use a single set of terms for the field ignores the dynamic synergy involved in the professional practice schema;
- Terminology problems can stem from numerous sources; the *Dynamic Terminology Framework* leads the profession to look at the many sources of terminology problems more broadly than previously;
- Appropriate and consistently-used terms will be developed through the normal processes of professional analysis and discourse *when* professionals apply knowledge of the dynamic nature of terms in practice and think about the important criteria for terms and definitions.

Almost 40 years ago, Rockey (1969, p. 175) urged the profession to consider terminology "as a specialised field of study requiring as much research and thought as other specialities". This call has remained largely unanswered, but it is as insightful and urgent today as it was then. Some authors (e.g., Tanner, 2006) have explored the contribution of philosophical enquiry to the development and future advancement of the field, including its terminology. The profession needs to "step outside itself" to reflect on its values and its choices related to terminology to foster the development of a mature profession.

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ATTITUDES OF SPEECH PATHOLOGISTS TOWARDS ICTs FOR SERVICE DELIVERY

Lindy McAllister, Carolyn Dunkley, and Linda Wilson

This article has been peer-reviewed

Information and communication technologies (ICT) have the potential to increase access of Australians, particularly those in rural and remote areas, to speech pathology services. Although telehealth infrastructure has been rolled out over the last decade or so across Australia, speech pathologists have generally been slow to use it for service delivery. This paper reports on qualitative research exploring factors influencing the attitudes of rural speech pathologists in New South Wales towards the use of ICT in their work. Personal and system factors were identified as barriers to the uptake of ICT and suggestions are offered to overcome these barriers.

Keywords:

attitudes,
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telespeech pathology



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Access to health services, including speech pathology (Wilson, Lincoln, & Onslow, 2002), is perceived to be less equitable in rural than in metropolitan Australia (Dixon & Welch, 2000). A range of socioeconomic, geographical, service provision, physical and cultural barriers interact to impact on equity in health care for rural and remote populations (National Rural Health Alliance, 2002). The use of information and communication technologies (ICT) to deliver services via telehealth offers a potential solution to inequity in healthcare (Theodoros, 2008).

Clinical applications of telehealth in medicine include electronic health records, transmission of diagnostic images, telesurgery and robotics, and the use of call centres and decision-support software (Stanberry, 2000). In speech pathology, research has supported the efficacy of telehealth for consultation, assessment and intervention in a range of communication disorders, including voice disorders (Constantinescu, Theodoros, Russell, Ward, & Wootten, 2007; Mashima et al., 2003), motor speech disorders (Hill et al., 2006), child speech and language disorders (Fairweather, Parkin & Rosa, 2004; Hornsby & Hudson, 1997; Jessiman, 2003; Waite, Cahill, Theodoros, Busuttin, & Russell, 2006; Wilson, Atkinson, & McAllister, 2008) and stuttering (Wilson, Onslow, & Lincoln, 2004; Lewis, 2007).

Australian state governments have made significant investment in the last decade in the roll-out of videoconferencing suites for telehealth services. However, adoption of telehealth for speech pathology service delivery has been slow in some areas (McCulloch & Stirling, 2006). Parsons (1997) suggested that factors contributing to this slow uptake may be ICT illiteracy and apprehension regarding technology

among families and professionals. Baur (2008) cautioned on the impact of this digital divide; that "the same population groups that have poorer health status also have less access to the internet and health information" (p. 417). It is unclear what access to, attitudes towards and levels of confidence with ICT speech pathologists have, and whether those attitudes affect the uptake of ICT as a method of service delivery. McCulloch and Stirling (2006) found a lack of use of ICT support for speech pathology services in schools. Research by Dunkley, Pattie, Wilson and McAllister (2008) revealed that rural New South Wales (NSW) residents had better access, more confidence in using ICT and more positive attitudes to telehealth delivery of speech pathology services than rural NSW speech pathologists assumed they had. The speech pathologists generally had less access and less confidence with ICT and held less favourable attitudes to telehealth for their clients. The attitudes held by these speech

pathologists were influenced by numerous factors including beliefs, values, training and experiences. This paper describes the interaction of these influences and the implications for education and support for speech pathologists to enable better uptake of telehealth.

Method

The data reported in this paper are drawn from a larger research study which used a mixed methodology (Creswell & Plano Clark, 2007) to investigate access and attitudes of rural NSW residents and speech pathologists towards the use of ICT for telespeech pathology. Data for the larger research program was collected using questionnaires which elicited both quantitative and qualitative data, and qualitative, semi-structured interviews. This paper reports on the methods used to collect and analyse interview data from four speech pathologists. Details on other aspects of the data collection and analysis are reported elsewhere (Dunkley, Pattie, Wilson & McAllister, 2008).

Data collection

Eight speech pathologists indicated a willingness to be interviewed on returned questionnaires used in the first part of the research program. Four suitable participants were selected using the principles of purposive sampling (Patton, 2002) to obtain a mix of levels of accessibility to ICT, professional experience, and positive and negative attitudes towards ICT, as expressed on the questionnaires. An information sheet was sent to the 4 participants, reiterating the purpose of the study and detailing the interview process. The 4 candidates then signed a consent form to participate in a telephone interview and returned it to the principal investigator by fax. All 4 agreed to be interviewed. Two of the participants were 40–45 years old and had worked as speech pathologists for over 15 years. The other two were aged 20–24 years and had worked as speech pathologists for less than 3 years. All 4 were female and from an Anglo Saxon/Anglo Celtic background, consistent with the demographics of the

Australian speech pathology profession (Lambier & Atherton, 2003).

Semi-structured telephone interviews of about 30 minutes duration took place at a time and date mutually convenient to the chief investigator and participants. The interviews explored participants' experiences with using ICT and perceptions about its use for service delivery. The interviews were audiotape recorded (with verbal consent) and later transcribed verbatim by the chief investigator. Consistent with ethical requirements, participant anonymity was protected by removing or disguising all identifying information on the interview transcripts. For example, names of participants, workplaces and their towns were changed.

Data analysis

The interview data were analysed using a simple thematic analysis (Patton, 2002). After transcribing the recorded interviews the chief investigator read two transcripts and developed preliminary codes to account for the opinions expressed by the interview participants. The other investigators were then asked to apply these codes to the other two transcripts to test their utility. After discussion between the investigators, the codes were refined and all four transcripts were reanalysed. The major themes in each interview were identified and synthesised into vignettes which appear below.

Results

To capture the range of interview information, four vignettes were developed by selecting pertinent quotes from each participant's interview transcript to illustrate the recurring themes for that participant. These appear as Vignettes 1 to 4 below. Participants' words appear in italics; the device [...] has been used to indicate glossing of excerpts, to aid flow and ease of understanding for readers.

Data analysis showed that the 4 participants expressed a continuum of attitudes regarding the capacity of ICT to enhance speech pathology services. At the positive end of the continuum of attitudes is Participant 1 who believed that the quality of speech pathology service would be significantly enhanced by ICT. Participant 2 was unsure: she believed that the quality of telespeech pathology services could be significantly enhanced "as it would provide a regular service to those clients with no or little access to services or regular services", or they could be compromised as "some assessments cannot be done well over technology, for example swallowing and some complex communication cases". At the negative end of the continuum of attitudes are Participants 3 and 4 who believed that the quality of speech pathology services would be significantly compromised.

Vignette 1. *It's sort of like a circle: services would be enhanced by ICT*

Participant 1 was in the age range of 20–24 years. She had been in the workforce for less than 2 years and serviced a paediatric caseload. On the questionnaire, she recorded that ICT would significantly enhance speech pathology services. The use of ICT would increase available client contact time as *the better you are at administration, the more effective you can be therapeutically because you can have more time to spend one on one with your client base*. In other words, ICT streamlines administration, thus increasing time available for clients.

This participant was using ICT within therapy sessions (e.g., using computer language and phonological programs,

as a reinforcer), but not as a means for delivering therapy over distance. She stated that *our area isn't really that big... so we can go out in person*. Thus use of ICT as a service delivery option for rural clients was not considered. She perceived the need for speech pathology to accommodate for the general shift towards ICT as it makes *[therapy] more effective if [the clients] are being given those [ICT] skills in intervention*. However, there were also perceived limitations of ICT within speech pathology practice: for example, assessing and treating feeding or swallowing disorders.

Participant 1 believed that for the speech pathology profession, ICT for telehealth purposes was *looked at as scary* regardless of when clinicians graduated. She believed that speech pathologists were *finding it hard, other than admin, to realise [ICT] potential for therapy*. She suggested that professional development and undergraduate subjects on applications of ICT for service delivery would give clinicians a *healthier attitude about technology*. If the opportunity to be trained in ICT use for telehealth is not available then, *[clinicians] are not going to use it and then they're not going to be able to do their job as effectively*.

Vignette 2. *The funding dollar: quality of service not altered by ICT*

Participant 2 was within the 40–44 year age bracket and had a total of 17 years professional experience. She serviced a 95% paediatric, 5% adult caseload. She rated the impact of ICT on service delivery as potentially either significantly enhanced or compromised. She feels that *ICT would provide a regular service to those clients with no or little access to services or regular services* (e.g., rural and remote areas where there are service gaps or vacancies). The use of ICT could *provide much better quality documents and much more professional looking communication aids*, as well as efficient caseload management. However, this participant believed services delivered using ICT could be compromised, stating: *some assessments cannot be done well over technology* (e.g., swallowing and some complex communication cases), and that *technology cannot replace face-to-face personal assessment and personal contact*.

ICT had not yet been a therapy option for this participant at the time of data collection, as she had assumed that *[clients] don't have access to [ICT] facilities*. She also assumed that requests for ICT resources would not be granted, stating *anything that costs money the department won't come at*. However, *if we could minimise our travelling and still provide an effective service, [ICT] would be a very desirable thing*.

Vignette 3. *It takes away client time: services would be compromised by ICT*

Participant 3 was a 40–44 year old speech pathologist of 18 years experience. Her caseload consisted of 75% adults and 25% paediatrics. On the questionnaire she stated that ICT significantly compromised speech pathology service delivery and was adamant that the use of ICT was *intrusive* on clinical time. She believed that *use of technology, whether it be mechanical or IT, depends on a person's attitude...and generally [speech pathologists] are not willing*. She believed the more ICT is used, the less clinicians will see their clients face to face, and that is

totally unacceptable. She believes that to really treat a client properly, you need to be there.

Although this participant believed ICT would compromise client care, she saw the value of it for other aspects of professional practice. Although she would drive up to 2 hours to see a client, she would not be prepared to drive 2 hours to access professional development. She used video-conferencing as a means to access professional development and meetings. She believed that ICT not only has the potential to overcome distances for accessing professional development, but also to decrease wasted meeting time. Increased access to ICT decreases travel time to professional development and meetings. However, Participant 3 stated that ICT *takes time to use in the first place.*

Vignette 4. A matter of willingness: services would be compromised by ICT.

Participant 4 was in the 22–24 year age group and had been in the workforce for 2 years. She worked with a paediatric caseload and believed that with current access and support to use ICT, speech pathology services via this medium would be significantly compromised were she to attempt telehealth.

Participant 4 was beginning to incorporate the use of ICT in service delivery. However, she viewed this as a result of a departmental initiative rather than an individual clinician's choice. *She feels really stressed and like you're not doing your job properly ... as management are not providing extra time or resources.* The implementation of ICT is not a reasonable ask as she feels she didn't have adequate time to learn the skills necessary for ICT uptake.

This participant believed clients were *surprised that we don't have better access to computers and that it was not unreasonable in expecting that I'll have a computer to access most of the time.* She also felt that ICT was not typically included in consumers' perspectives of what a speech pathologist is. She assumed that clients see [ICT] *as something a bit more advanced than the health system is capable of at the moment.* As a clinician, she believed that the uptake of ICT *was inevitable; however its effectiveness needs to be proven.*

Participant 4 believed that ICT improved access to professional networks. However, those relationships were standoffish and impersonal. As a professional, she felt apprehensive towards non-visual ICT as she wouldn't *have face-to-face contact with who I'm speaking to.*

Discussion

This discussion draws on both material contained in the vignettes above and other material in participants' interviews which was not included in the vignettes for reasons of space and succinctness. The data revealed both positive and negative attitudes to the use of ICT for telespeech pathology. In keeping with the traditions of qualitative research (Patton, 2002), we interviewed only a small number of participants. However, our findings support those of the larger quantitative study (Dunkley, Pattie, Wilson, & McAllister, 2008) and in addition illustrate the interplay of factors found in that larger study.

Positive attitudes to ICT for telespeech pathology

The data presented above demonstrate that while the rural NSW speech pathologists we interviewed held somewhat

negative attitudes about the use of ICT for telespeech pathology, they were also able to identify potential positive impacts of ICT. Some participants could see that ICT has the potential to overcome distance, time, and cost obstacles for both clinicians and clients in rural areas. They believed that ICT could *provide much better quality of documents* including client communication aids (Participant 2), *open up a whole new avenue for service delivery* (Participant 4), and improve speech pathologists' administration abilities: *the better you are at [clinic] administration the more effective you can be therapeutically because you can have more time to spend one on one with your client base* (Participant 1). Finally, the use of ICT potentially provides *magnificent support* for speech pathologists in rural areas (Participant 3). These positive perceptions of ICT accord with those reported in the literature (Charles, 2000; Currell, Urquhart, Wainwright, & Lewis, 2002; Evans & Hornsby, 1998; Hodgson, 1997; Sheppard & Mackintosh, 1998).

Personal factors influencing negative attitudes to ICT for telespeech pathology

The vignettes revealed a range of personal factors influencing negative attitudes to uptake of ICT by rural NSW speech pathologists. These factors include limited confidence and willingness to use ICT, lack of knowledge about clients' access and attitudes to ICT and telespeech pathology, lack of familiarity with the research base demonstrating efficacy of telespeech pathology, and a belief in the necessity and superiority of face-to-face treatment of clients.

The data from our interviews supports Parsons' (1997) contention that ICT illiteracy among professionals may be one reason why telehealth is not widely used as a method of service delivery for speech pathology. As Dunkley, Pattie, Wilson, and McAllister (2008) found, rural NSW speech pathologists had limited workplace access to ICT. This influenced their comfort in using ICT: *being comfortable to take [ICT] on is a huge thing* (Participant 4), and their confidence. In addition, this study revealed rural NSW speech pathologists know little about synchronous ICT (that, is technologies that allow real time two-way interaction) as opposed to asynchronous ICT, as summarised in the views of Participant 4: *once you move outside of computers and email ...that's the limit of my abilities.* Age does not appear to be a factor in improved confidence; Participant 4 stated *even with new graduates, [ICT] is looked at as a scary thing.* These factors all influence willingness to adopt ICT: *if you're not willing or wanting to [use ICT], then that's a barrier as well* (Participant 1). As Participant 1 commented, *it's sort of like a circle: lack of access, comfort, willingness and confidence become barriers, feeding into the "vicious cycle" described by Nykodym, Miners, Simonetti, and Christen (1989), who found that there was a significant correlation between the amount of computer usage and the level of computer apprehension.*

Participants' assumptions regarding client access and attitudes to use of ICT also impact on speech pathologists' use of ICT for service delivery. Participants typically believed that clients do not have access to ICT. For example, Participant 2 believed that clients in remote settings were often *not in good financial situations and don't have [access to ICT].* This belief is not supported by findings from Pattie, McAllister, and Wilson (2005), O'Callaghan, McAllister, and Wilson (2005), and Dunkley, Pattie, Wilson, and McAllister (2008), who discovered that remote families have an unexpectedly high level of confidence and access to ICT due in part to government schemes such as the Higher Bandwidth Incentive Scheme (Department of Communications, Information Technology and the Arts, n.d.) for provision of ICT access to remote Australians.

An additional influence on uptake of ICT for telespeech pathology is beliefs about what a speech pathology service should entail. Participant 2 firmly believed that *technology cannot replace face-to-face personal assessment and personal contact*, a view shared by Participant 3 who stated: *nobody wants to give up their face-to-face visits*. This preference for direct over indirect models of service delivery was also noted in a study of speech pathologists servicing children with communication disorders in rural Queensland schools (McCulloch & Stirling, 2006). This belief that face-to-face services are superior has been reinforced by speech pathologists' apparent lack of familiarity with the growing evidence demonstrating the efficacy of telespeech pathology (Constantinescu et al., 2007; Fairweather, Parkin & Rosa, 2004; Hill et al., 2006; Hornsby & Hudson, 1997; Lewis, 2007; Mashima et al., 2003; Waite et al., 2006; Wilson, Atkinson, & McAllister, 2008; Wilson, Lincoln, & Onslow, 2002). Clients also are ambivalent about receiving speech pathology services via telehealth. A study of the perceived needs and barriers experienced by isolated families when accessing speech pathology services in rural and remote NSW (O'Callaghan, McAllister, & Wilson, 2005) revealed that consumers believed services delivered via ICT would be less effective than clinic-based service, school-based service, home programs with speech pathologist support, or intensive periods of speech pathology. Likewise, Hornsby and Hudson (1997) reported client views that videoconferencing will never replace face-to-face contact with the speech pathologist. However, Pattie, McAllister, and Wilson (2005), in a study of rural and remote NSW families, reported that some prospective consumers held quite positive beliefs that ICT could increase their access to speech pathology services while allowing them to continue living rurally. This view was based on their experience of using ICT for a range of educational purposes requiring high fidelity visual and auditory signals, such as guitar lessons and technical and further education classes.

Even if the evidence base supports the efficacy of telespeech pathology, concerns remain about the need for direct interpersonal contact. The view of Participant 3 was not uncommon in our research data: *that to treat a client properly, you need to be [face to face]*. Some literature shares these concerns about telehealth's potential impact on what Stanberry (2000) refers to as the "traditional clinician-patient relationships" (p. 615). Cornford and Klecun-Dabrowska (2001) caution against "substitution of care with treatment" (p. 161). There is, as Ellis (2004) notes, little research on patient satisfaction with the quality of interactions in telehealth relationships. It is possible that the impersonal nature of telehealth may increase the sense of alienation experienced by some clients, as well as clinicians.

Systemic factors influencing ICT uptake

As well as personal influences on attitudes to the use of ICT for telespeech pathology, a number of systemic barriers were identified in the interviews. These included lack of infrastructure and provision of appropriate ICT training and support, and the already recognised limitations of ICT technology. System constraints influencing negative attitudes to ICT were mentioned far less frequently in interviews than personal factors, perhaps reflecting limited awareness, availability and experience with ICT. Dunkley, Pattie, Wilson and McAllister (2008) noted the lack of workplace access to ICT for rural NSW speech pathologists. Participant 4 commented on her poor ICT access, *thinking it not unreasonable [to expect] that I'll have a computer to access most of the time*. Even if access is provided, speech pathologists appear to *lack time to*

use [ICT] in the first place (Participant 3). Extra time and resources for speech pathologists to learn to use ICT effectively were reported not to be provided by management (Participant 4). There are also inherent limitations in the ICT currently available for telespeech pathology which means that *some assessments cannot be done well over technology* (Participant 2).

Summary and recommendations

The vignettes presented in the paper synthesise and summarise key themes from interview data, revealing some positively influencing factors but mainly a range of factors which negatively influence rural speech pathologists' attitudes towards use of ICT for telespeech pathology. Systemic factors of lack of access to ICT, and lack of training and support to use ICT where it is available, lead to personal factors of lack of comfort, confidence and willingness to use ICT for telespeech pathology. Recency of graduation was not related to attitudes to ICT; the new graduates in our study experienced similar knowledge and skills gaps regarding ICT as the more experienced clinicians. Personal attitudes are further reinforced by misperceptions about client access and preferences for the use of ICT and lack of knowledge about efficacy of telespeech pathology. Legitimate concerns about the impact of technology on the interpersonal dimensions of care also influence their attitudes. This finding highlights the need for more research into the impact of telehealth on interpersonal as well as clinical outcomes, in addition to exposure in professional entry programs to telehealth concepts and use.

Our results have implications for the development of telespeech pathology in Australia. Much work needs to be done to overcome personal and systemic barriers to its uptake. Speech pathologists in their interviews themselves identified first steps to overcoming these barriers. They suggested increased ICT infrastructure, provision of adequate ICT education and support, and further research into the efficacy of service delivery via ICT. Increased knowledge and skills in the use of ICT for service delivery will be needed to help address health inequities in Australia.

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ADULTS WITH SEVERE INTELLECTUAL DISABILITY: COMMUNICATION PARTNERS AND MODES

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Communication for people with severe intellectual disabilities (ID) varies according to their communication partners and the modalities used. Until recently, there has been no systematic way of documenting that variation as part of the assessment process. In this small-scale study we aimed to explore communication modalities and strategies used by three adults with ID according to family and paid support worker informants, using the Social Networks inventory, before and after an intervention. This inventory offers promise as a means of understanding differences in communication across partners and situations, and in documenting change.

research addressing its utility is still emerging (Blackstone, Hunt Berg, Thunstand, & Wilkins, 2004).

The aim of this pilot study was to examine the usefulness of the Social Networks inventory to explore (a) the modalities used by three adults with severe intellectual disability during interactions as determined by different communication partners, and (b) the potential usefulness of the inventory to document change before and after a communication intervention as determined by independent raters (hence a preliminary indication of the reliability of the tool).

Methodology

Participants

Adults with intellectual disability. Three adult males participated in the study: James (29 years), Craig (26 years) and Mark (22

Keywords:

AAC,
communication partners,
intervention,
outcomes,
severe intellectual disability

People with severe intellectual disability (ID) and complex communication needs lack speech skills to meet their daily needs. They often rely on informal modes of communication, such as gestures, facial expression and idiosyncratic behaviours (Iacono, Carter, & Hook, 1998), and sometimes simple forms of augmentative and alternative communication AAC; (Beukelman & Mirenda, 2005; Mirenda, Iacono, & Williams, 1990). The success of any communication interaction with an individual with severe ID will depend, at least to some extent, on the skills of communication partners in reading their signals (Light, Binger, Agate, & Ramsay, 1999). There is a danger, however, that partners of people with severe ID will fail to recognise or value non-symbolic forms of communication, such as facial expressions, vocalisations and gestures, as communicative (Mirenda et al., 1990).

Until recently, there has been a lack of assessment tools to document the use of different forms of communication across partners. To address this need, Blackstone and Hunt Berg (2003) provided a systematic strategy for describing the communication of people with complex communication needs during interactions with different types of communication partners. Using an inventory format, Blackstone and Hunt Berg extended the concept of "circles of friendships" to include the use of various modalities across different communication partners. Use of their Social Networks inventory facilitates the identification of current and potential communication partners within each of five Circles of Communication Partners (CCP) (ranging from close family to acquaintances), and the communication modalities that are used within each (see appendix). Included in the inventory is information about strategies used by partners to support interaction. This information is useful in helping partners be explicit about existing strategies in addition to exploring potential strategies. Because the inventory has only recently been developed,



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years). They all had ID. James had Down syndrome, and Craig and Mark had autism spectrum disorder. At the beginning of the study, they had recently moved into the same supported accommodation within the community.

Informants. According to the Social Networks guidelines (Blackstone & Hunt Berg, 2003), information is obtained from at least two informants and, in this study, on two separate occasions. Each adult's mother was an informant from the first circle for both interviews; Mark's father was also an informant at the second interview. Interviewees from the fourth CCP were two support workers for each adult.

Speech pathologists. Five speech pathologists were recruited to provide judgements of differences evident in inventories taken on two occasions (Times 1 and 2). They all had at least 12-months experience in working with adults with intellectual disabilities and complex communication needs.

Procedures

Social Networks inventory

Description. The Social Networks inventory (Blackstone & Hunt Berg, 2003) comprises sections addressing the composition of CCPs, communication modalities and their effectiveness (i.e., results in the desired effect) and efficiency (i.e., is recognisable), and partner strategies that support communication (see the appendix). Information collected across informants is collated onto a summary sheet.

Administration. Two inventories were completed for each adult with disability from interviews with parents and support workers, respectively. Interviews were conducted at the beginning and end of a 12-month period (Times 1 and 2) by the first and fourth authors.

Communication support intervention

Over the 12-month period, the first and third authors provided communication support to accommodation staff. The key elements of this support were (a) a staff training session on how to support communication, (b) individual goal-planning sessions for each participant, (c) development or modification of AAC systems, and (d) regular meetings between speech pathologists and key support workers to discuss implementation of strategies.

Judgements by speech pathologists

Copies of inventory summary sheets comprising information collated across informants at both Times 1 and 2 were prepared. All identifying information or indicators of the timing of each inventory was removed. Time 1 versus Time 2 summaries were randomly ordered across participants. Packets were prepared that included a questionnaire in which some summary information was provided about the adults and the study, and questions that related to each section of the inventory. The speech pathologists were asked to indicate if they detected any differences across the two inventories, and if so, to describe them. They were also asked to indicate which inventory they felt was completed at Time 1 versus Time 2. These packets were distributed by mail to each speech pathologist, who returned the completed questionnaires to the second author.

Results

Modes of communication across CCPs

As a first step, the pattern of CCP composition across the three adults was determined through responses from family and support workers. The first CCP (close friends/family) comprised parents and siblings, and sometimes brothers- and sisters-in-law. The second CCP (close friends) tended to comprise extended family and family friends. The third CCP (neighbours and acquaintances) tended to comprise the families' neighbours, and the support workers included others living with the adults in this circle. The fourth CCP (paid to interact) was the most populated, with support workers and a range of primary care professionals. The fifth CCP (unfamiliar partners) included people the adults encountered when in the community (e.g., the shop attendant at the bakery).

Modes of communication were described independently by families and support workers. There tended to be poor agreement across parent versus support workers in terms of modes of communication thought to be effective and efficient, with percentage mean agreement ranging from 34% to 73% across Times 1 and 2 (Mean = 59%). Disagreements for Time 1 included James' and Craig's mothers reporting the use of a communication board with staff, which support workers were unaware of. Disagreements for Time 2 included Mark's support workers reporting his use of a communication book with people in the fourth CCP and of communication cards in the community (fifth CCP), which were not reported by his parents.

Differences were also evident in the communication modes informants reported to be effective and efficient. At Time 2, for example, James' mother felt that his use of signs and communication board was still developing, and hence was ineffective and inefficient, but his support workers felt that his use of both modes was effective and efficient.

Judgements by speech pathologists

Judgements across Time 1 and Time 2 were compared by determining the number of speech pathologists who (a)

detected differences for each area on the inventories, and (b) made correct judgements as to which inventory was completed at Time 1 versus Time 2 (see table 1 for a summary). In terms of overall judgements about when inventories were completed, all were correct for Craig and Mark, but only two were correct for James.

Table 1. Number of speech pathologists judging changes across sections of the Social Networks inventory

Inventory item	James	Craig	Mark
Circles of Communication Partners	5	5	5
Important communication partners	5	4	4
Modes of expression	5	5	2
Primary mode of communication for each circle	4	5	5
Additional information	4	5	5
Representational strategies	5	5	4
Strategies to support interaction	2	5	5
Topics currently used with primary communication partners	3	2	5
Topics would like to talk about with primary communication partners	4	5	3
Correct judgement as to which inventory was pre- versus post-intervention	2	5	5

Speech pathologists' comments indicated that they were confused by James' inventories in terms of knowing which was completed at Time 1 versus Time 2. There was agreement, however, that he had more communication partners in the Time 2 than Time 1 inventory.

Comments about Craig's inventories indicated that from Time 1 to Time 2 (a) he had more communication partners in all circles, but particularly in the second (good friends); (b) he used more communication modes, and these were used more effectively; (c) he made greater use of representational strategies; (d) a broader range and more complex strategies were used to support interaction; and (e) topics changed to reflect Craig's perspective rather than that of his partners.

Comments about Mark's inventories indicated that from Time 1 to Time 2 (a) there was an increase in communication partners, particularly in his fifth CCP (unfamiliar partners) and (b) an increase in the use of various modes in the fifth CCP; (c) more specific representational strategies were being developed and tried; (d) there were more strategies being provided across circles; (e) more topics were being discussed; and (f) topics changed to focus on Mark's needs and wants rather than those of his partners.

Discussion

Differences across parents versus support worker informants were evident in how each perceived each adult with ID's modes of communication, including their effectiveness and efficiency. Responses revealed apparent lack of knowledge about formal AAC systems, probably reflecting the tendency to use them in restricted settings, at least in some cases. Mark, for example, used his communication book with staff, as reported at Time 2, but not at home, and his parents were not

aware of his use of request cards in the community. People with complex communication needs may use informal communication modes with people with whom they are closest, and who know them well, but more formal modes, such as a communication book, with people who are less familiar with their informal modes (e.g., Light et al., 1999). In terms of the effectiveness and efficiency of communication modes, different reports across informants are likely to be indicative of using different criteria: James' mother, for example, unlike the staff, judged his signs and communication board use to be ineffective and inefficient because he had not mastered them.

Given the descriptive nature of the information provided, we chose to use consensus in speech pathologists' judgements to determine changes over time. Craig and Mark were noted to have demonstrated improvements in aspects of their communication, such as using more formal modes of communication. Also, over time, it was evident that the support workers used more strategies to support their own communication, possibly reflecting the communication input received. It was evident that although formal AAC systems were being used more frequently within fourth and fifth CCPs, the informants reported that their use was somewhat limited because of their own failure to develop and use them. Increasing use of AAC systems in everyday environments presents an ongoing challenge (e.g., Murphy, Markova, Collins, & Moodie, 1996). Informants in the present study did not directly question the value of AAC, but further probing may have revealed less overt forms of resistance.

In contrast to the limited use of formal communication (AAC), it was evident that both parent and support worker informants recognised non-symbolic modes of communication at both Times 1 and 2. They also felt that for each adult with ID, two or more non-symbolic modes were effective and efficient across different CCPs. Hence, it was apparent that the support workers, as well as parents, had become more aware of and familiar with each person's behaviours that had communicative potential (Mirenda et al., 1990).

Implications

The Social Networks inventory was found to be a useful tool for exploring the communication of three adults with complex communication needs. Informants with different relationships with the adults with ID contributed to an understanding of their communication modes and strategies used across communication partners. Such differences are indicative of the potential benefit of locating interventions within the contexts that include people who are in positions to support the person's communication through frequent and meaningful interactions.

Furthermore, the consensus judgements provided a means of quantifying changes across a number of dimensions. The findings suggest that the tool may be useful for documenting changes in communication. However, given the small scale and descriptive nature of this study and the lack of a control group, any observed changes cannot be attributable to the communication supports provided, nor was a direct evaluation of such supports a focus of the study. Further larger scale research examining the use of this tool for documenting change is warranted.

Note

Ethics approval for this study was obtained from the Scope Ethics Committee.

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Appendix. Sections of the Social Networks inventory

- I Identifying information
- II Skills and abilities of the individual (e.g., receptive/ expressive language, reading)
- III Circles of communication partners
 - 1 Close family
 - 2 Close friends
 - 3 Neighbours, acquaintances
 - 4 Paid to interact
 - 5 Unfamiliar partners
- IV Modes of expression (e.g., facial expression, signs)
- V Representational strategies (e.g., objects, written words)
- VI Selection techniques
- VII Strategies that support interaction (e.g., gesture dictionaries, prompting)
- VIII Topics of conversation
- IX Type of communicator (e.g., emergent, independent)
- X Summary

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Karen Bloomberg is a speech pathologist with over 25 years experience. She co-ordinates the Education and Training Portfolio and is a speech pathology consultant at the Communication Resource Centre.

Ruth Bryce is currently in Cambodia working with children with disabilities. She will be returning to Australia in the not too distant future.

ETHICAL CONVERSATIONS

Marie Atherton

The purpose of this “Ethical Conversations” column is to promote reflection and discussion on what demonstrates ethical practice in speech pathology, and to encourage us to think about using a framework that considers ethical practice in a proactive way. We may think about the Association’s *Code of Ethics* (2000) as something to turn to when faced with a dilemma, but it can also be a useful guide in our everyday practice, “in thinking and acting ethically within the routine, ordinariness of professional life” (McAllister, 2006).

There is rarely one opinion or right answer when it comes to ethical dilemmas in clinical practice. These dilemmas deal with real people in real life situations which can be complicated and messy. In order to practice speech pathology ethically we must be able to think through and clearly communicate the ethical issues that arise in our daily practice. The following case scenario deals with one of the nine key trends and issues in ethical practice in speech pathology (Atherton, 2007), that is the increased emphasis on evidence-based practice. There will be many different responses to it. It is hoped it also stimulates many conversations.

Case scenario

You are a speech pathologist working in private practice. Julie is a 7-year-old with severe receptive and expressive language impairment and literacy difficulties. You have provided weekly sessions for Julie for several months. Her mother, Geraldine, has done lots of reading about language impairment and is very involved in Julie’s therapy.

Geraldine arrives at this week’s session to tell you she has found information about a “new” therapy on the web. It is a computer-based intervention and requires the outlay of several thousand dollars. The information suggests Julie could make significant improvements in minimal periods of time. Geraldine asks for your opinion about whether she should stretch the family budget and enrol Julie in the treatment.

Response from Karen Walter and Mandy Brent, speech pathologists, Extra Ed, Victoria

This is certainly a familiar scenario for therapists in our practice – questions from parents have arisen in response to a number of “new” therapies. As parents ourselves we certainly appreciate the attraction of the claimed new therapy outcomes and Geraldine’s powerful urge to do everything she possibly can to support and assist her child. However, we have a clear responsibility to Geraldine to help her assess the value of alternate therapies and approaches. The key to giving an ethical answer is to check the research and present the scientific evidence to date.

In seeking to adequately advise Geraldine, most of us would start with the most obvious sources of information and check with trusted work colleagues and associates. The Internet also has become an invaluable resource, at least as a more general orientation to a topic or approach. Of course,

just because an opinion is posted on the web doesn’t mean it’s of high quality or comes from an authoritative source. So it’s important to try and weigh up those issues as you trawl through the literature and web-based material. Sometimes it’s possible to find “responses” to new therapies and approaches by speech pathologists and/or researchers with some authority. This can give you a sense of how the new therapy is being received and viewed by the profession more generally. However, some of what is on the web will be media pieces extolling the new therapy, and so must be treated with caution.

Having learnt as much as we can locally we might seek further counsel and contact researchers or academics at the local children’s hospital or university speech pathology department. They are always most generous with their knowledge and welcome contact with therapists in the community over questions like this one.

Finally though, it’s time to report back to Geraldine. Occasionally, this can be straightforward when your research has yielded conclusive results either for or against the therapy approach in question. However, more often the picture is inconclusive. For example, there may be conflicting views about the new approach. Alternatively, there may be some encouraging early results for some children but it may not be possible currently to say whether the treatment will be of significant value for Julie. Nonetheless, it is important to present what you have learned, the view that you have formed and why.

Of course, it is ultimately Geraldine’s decision whether to proceed, and it may be difficult for the therapist if a parent decides to proceed despite the research results presented to them. However, there is very little that can be done about this and in the end what matters is that you have presented the information in an accurate and unbiased manner and have conducted yourself ethically. Failure to do reflects poorly on our profession.

Response from Kate Short, acting head of Liverpool Hospital Speech Pathology Department, New South Wales

This is not an uncommon scenario for those of us working in a large public hospital and one which we sometimes discuss over lunch and in supervision. We encourage discussion of these issues and often include them in our monthly case presentations. There are a number of ethical dilemmas that require consideration here.

Conflict of interest

If working as a private practitioner, I would benefit financially from Julie continuing to attend weekly sessions with me. However, if Geraldine, chooses for Julie to begin the “new” treatment, it may mean that Julie must attend a different clinic, thereby terminating sessions with me and impacting me financially. As such, I may benefit from Geraldine choosing not to undertake the “new” treatment. Conversely, I may be able to provide this “new” treatment to Julie. It may require the delivery of more intensive services by me; thus I may gain by Geraldine’s decision for her daughter to undertake the “new” treatment.

Evidence base for the treatment

The “new” treatment may not have a strong evidence base. If I know little about the treatment I cannot support nor deny it. I need to provide Geraldine with the information and the means to analyse and understand the treatment. I may assist with identifying questions Geraldine could pose to those promoting the “new” treatment and provide Geraldine with a background regarding the standard, accepted current treatment methods in this area and why they are accepted.

I often speak in generic terms with parents and carers about non-mainstream treatments and the pitfalls of some of these. Parents and carers are alerted to and can be mindful of the pitfalls when making their decision as to whether or not to support a new treatment. It is important to preface any discussion regarding a treatment with an honest disclosure of any bias I may have in relation to a treatment’s validity. This discussion and assessment of validity will (hopefully!) be based on the presence or absence of accepted research and evidence. A discussion may also be required on the unknown and unclear outcomes of treatment techniques that lack research and/or are poorly researched. It is important to keep in mind that both accepted and unaccepted treatments are often poorly researched.

Lack of knowledge/professional learning

If I do not know about the “new” treatment, it may be time to investigate and learn more: literature searches, discussion with peers, contacting the service myself. I have a responsibility to know about such treatments, provide guiding information, know if I am discussing a treatment that may do harm. However, in the prioritisation of time, not all new “fads” can be investigated and I need to make decisions regarding their importance before investing significant time in researching their validity.

Professional role

I feel trusted by Geraldine as she is asking my opinion about this “new” treatment. I need to make it clear that this difficult decision is hers and I will respect the decision she makes, whatever my bias. My role is to provide information empowering her to make a decision. The persuasive power of the “expert” role is a force I am always aware of and aim to limit as much as possible. This scenario has the potential for me to take the “expert” role rather than one that empowers parents/carers to assess the program themselves.

Parents often seek “expert” advice, which is not a bad thing. However, it is important to present the information in such a way that parents/carers can still make informed decisions. Using statements such as “my assessment of this is...”, “this could mean...”, “the risks may be...”, and “the benefits seem to be ...”. In the end parents and carers may make a decision against my advice, yet my aim should always be to respect their decision. Arming our clients with the tools that facilitate autonomous decision-making (“Autonomy”, Principle 4 of our *Code of Ethics*; Speech Pathology Australia, 2000) is the key.

Response from Dr Patricia Eadie, Speech Pathology Australia Ethics Board member

This scenario generates questions around each of the five principles that form our Association’s *Code of Ethics* (2000).

1 *Beneficence* (we bring about good) and *non-maleficence* (we prevent harm). Is there evidence that different interventions improve the well-being of our clients and to the same degree, or do some potentially do harm?

- 2 *Truth* (we tell the truth). What evidence exists regarding the effectiveness of our interventions and what do we discuss with our clients? How do we find information about best practice recommendations?
- 3 *Fairness* (we seek to ensure justice and equity for clients, colleagues and others). If we know the evidence for some interventions is better than others, do we advocate this for all clients equally? Do we consider external factors such as financial hardship when discussing options with clients?
- 4 *Autonomy* (we respect the rights of clients to self-determination and autonomy). Despite our own opinions, do we provide our clients with enough information about alternative interventions and service delivery options so they can make their own informed decisions?
- 5 *Professional integrity* (we demonstrate professional integrity as people would expect). When we present information about different interventions do we do so in an unbiased way and clearly state what our own stake in the choices might be?

Within the scope of this column, it is impossible to answer all of the ethical questions posed above. However, it is important to address the key issue here – that of evidence based practice (EBP). EBP is not just the latest fad; it’s been around too long to be considered that! EBP requires us to integrate all of our clinical experience and expertise with the latest well-conducted research so as to understand whether what we do works. We also have to consider the context for both the family and service provider (which may include finances and geography through to age and motivation).

In order to address Geraldine’s question, the speech pathologist must integrate the results of systematic and peer-reviewed research on language interventions for school-aged children with his/her own experiences in clinical practice. Excellent resources to do this include (but are not limited to): the Cochrane Collaboration (<http://www.cochrane.org/>), *Evidence Based Practice in Speech Pathology* (Reilly, Douglas & Oates, 2004), the new SpeechBITE™ initiative from Speech Pathology Australia and the University of Sydney (<http://www.speechbite.com/>)

It is important to balance clinical expertise with the necessity for evidence from systematic clinical trials of interventions. For example, a randomised control trial recently published by Gillam et al. (2008) draws some important conclusions about different treatment conditions (e.g., computer-assisted language intervention and individualized language intervention) and the variety of activities that can facilitate development. In a recent ASHA forum, Hoffman (2008), a practising speech pathologist and researcher, reflected on her experience of participating in this large clinical trial:

For every child who ate a particular type of treatment up with a proverbial spoon, there was one for whom that treatment was as appealing as dry toast. It was then that I truly understood the necessity of large scale trials ... I could see that clinical expertise is built on individual results, it very clearly shows the trees, but across a large scale that particular compass can’t guide one out of the forest very well.

With the best available evidence on intervention outcomes, a conversation between Geraldine and the speech pathologist can begin to consider:

- the available evidence for each intervention type;
- what improvements Julie might be expected to make;

- what commitments, both time and financial, the family will need to make;
- what language and educational support Julie can expect to get within her school;
- any other information Geraldine would like to help her with her decisions. This might include, for example, research on long-term outcome for children with language impairments.

This conversation must also lay plain the potential conflict of interest for the speech pathologist – if a choice between interventions is made, will the speech pathologist lose a client?

I began by saying real-life is complex and can be messy and in the end, the evidence may or may not be clear about the effectiveness of all our interventions. However, *it IS our ethical responsibility to know what the available evidence tells us*. Every individual client is different and will respond to interventions differently. The best evidence needs to be integrated with clinical reasoning in order to make ethical decisions around service delivery for each of our clients.

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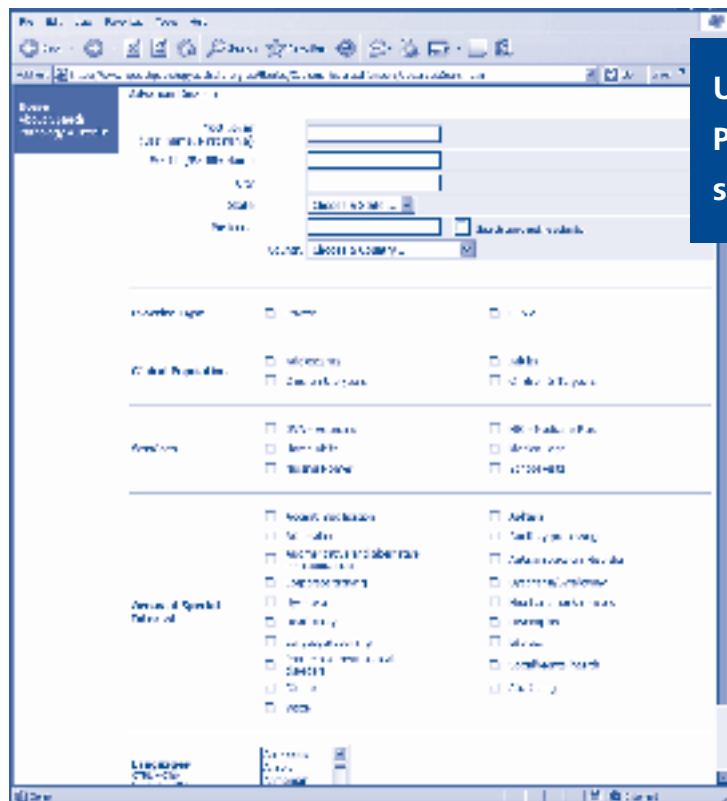
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SPEECH PATHOLOGY IN THE ASIA PACIFIC REGION

The Land of the Long White Cloud: An introduction to the New Zealand speech-language therapy profession

Stella Ward

The indigenous Māori people named New Zealand Aotearoa, which is commonly translated into English as the Land of the Long White Cloud. The treaty of Waitangi, New Zealand's founding document, provides the framework within which Māori and other New Zealanders agree to work together in partnership. More than three-quarters of New Zealand's 4.2 million people are of European descent, with the Māori being the largest minority (14.6% according to the 2006 census). Most European New Zealanders came originally from Great Britain and Ireland, though significant numbers of immigrants also came from other European countries and from Australia, Asia, South Africa, and various countries in North and South America.

The birth-rate in New Zealand is high for a developed country: 2.2 births per woman (as of February 2008), an increase from approximately 2 over the previous 30 years. According to the Ministry of Health, in 2004 the birth-rate among the Māori was three times higher, and among Pacific island immigrants four times higher, than Asian and European New Zealanders. Future service delivery models in health and education will need to cater for these growing populations. Cultural awareness and sensitivity to tikanga Māori (customs and traditions) are essential prerequisites to effective service delivery in New Zealand. For example, the professional responsibilities of a speech-language therapist involve close and frequently long-term relationships with clients and their whānau/significant others. The New Zealand Speech-Language Therapy Association (NZSTA) is committed to the principles of this partnership and takes these principles into account when conducting its affairs (e.g., Formal Welcome "Powhiri" at our biennial conference).

History of the profession

In 1942, the Christchurch Teacher's College established a diploma course designed to prepare speech-language therapists/Kaihaumanu Reo ā-Waha for practice in New Zealand. The training program involved three years of study. The first two years centred on teacher education, with the third year dedicated to training in speech-language therapy. Twenty-five years later, the three-year program was reorganised. The first year of study was dedicated to teacher education with the remaining two years centred on training in speech-language therapy. This reorganisation was necessitated by an expanding scope of practice in the discipline of speech and language therapy.

A critical turning point in the training of speech-language therapists occurred in 1985. At this time, the Minister of Education announced that budget allocations had been made for the establishment of a Bachelor of Education degree in speech-language therapy. The new degree was established at the University of Canterbury, and eventually led to development of a four-year Bachelor of Speech Language Therapy

(BSLT) degree. In 1993, 14 students from the original class of 25 graduated from the new four-year BSLT degree.

During the late 1980s and early 1990s, Ms Jo de Serière was the head of department. During her term, she provided focused leadership and was instrumental in establishing the current structure of the BSLT. Ms de Serière recognised that the field of speech-language therapy had grown tremendously since its early days at the teacher's college. The profession had developed into a clinical science with a strong research and health focus, and she acknowledged that the requisite academic credential for staff in speech-language therapy training programs worldwide had become the PhD. Her goal was to establish a department that was comparable to those found elsewhere. She was successful in doing so.



Stella Ward

In 1996 Professor Ilsa Schwarz was appointed head of department and foundation chair in speech and language therapy. Her appointment was strategic. Her charge was to maintain a high-quality BSLT program, while also developing the postgraduate component of the department. During her tenure from 1996 to 2001, she established the Master of Speech-Language Therapy (MSLT) degree, as well as the PhD program.

During the early 2000s, Auckland University and Massey University each developed additional training programs in response to workforce demands and the need for a training school to be based in Auckland. These programs were accredited by NZSTA – Auckland in 2006 and Massey in 2007.

Training courses

Currently in New Zealand three tertiary institutions offer degrees in speech-language therapy: the University of Canterbury, the University of Auckland, and Massey University. The University of Canterbury offers a Bachelor of Speech-Language Therapy after which graduates may practice. The University of Canterbury also offers a Masters of Speech-Language Therapy which is available to individuals who have a Bachelor of Speech-Language Therapy or equivalent degree that enables them to practice as a speech-language therapist in New Zealand. A PhD in speech-language therapy is also available at the University of Canterbury. The University of Auckland offers a graduate entry level masters qualification in speech-language therapy (Master of Speech Science (Practical)). This enables graduates to work as speech-language therapists in New Zealand. Massey University also offers a Bachelors degree in speech-language therapy which enables graduates to work as speech-language therapists. Approximately 60 speech-language therapists graduate each year in New Zealand.

Professional qualifications

NZSTA has in place an accreditation program for all tertiary institutions engaged in the training of speech-language

therapists. The Programme Accreditation Framework (PAF; NZSTA, 2002) outlines key standards for accreditation of frameworks. These include: the New Zealand Context (programs will demonstrate cognisance of and responsiveness to New Zealand culture and current political and quality initiatives); Programme Structure (programs will meet NZQA and international standards); Programme Curriculum (programs will meet specific curriculum and clinical requirements); and, Competency-Based Practice (programs will ensure that students can achieve competencies outlined in the Competency-Based standard). Currently the University of Canterbury, the University of Auckland and Massey University are NZSTA accredited.

The qualifications, standards, and competencies outlined by NZSTA have been accepted by tertiary institutions and service providers such as district health boards (DHBs) under the Ministry of Health and group special education (GSE) under the Special Education section of the Ministry of Education. Employers such as DHBs and GSE state that their employees must be eligible to be members of NZSTA. Only individuals who have graduated from an accredited NZ program or individuals who have their overseas qualifications approved by the NZSTA Qualifications Approval Committee are eligible to be members of NZSTA.

NZSTA

The New Zealand Speech-Language Therapy Association was established in 1946 and adopted its constitution in May 1982. The Association has an Executive Board and an Executive Committee. The Executive Board consists of twelve members, including the president, four portfolio leaders and seven area

representatives. In addition there are three student members. The Executive Committee is responsible for general supervision of the affairs of the association. It consists of the president and four portfolio leaders. The portfolios are Publications and Area Representative Liaison, Professional Development, Professional Standards and Public Relations. The NZSTA Constitution specifies the rules and regulations of the Association related to requirements for membership, publications, finance, meetings, election of executive board and officers, standing committees and amendments to the constitution. NZSTA has a Code of Ethics to which members must adhere and a formal, documented Ethics Complaint Procedure.

There are 600 current members of NZSTA (NZSTA, 2006). This represents about 60% of the number of speech-language therapists practising in New Zealand. The membership is made up of a majority of full-time members as well as provisional members, non-practising members, student members, associate members, and life and honorary members. In addition to program accreditation and qualification approval, the NZSTA supports its membership with the publication of a quarterly newsletter, an annual academic journal, and position papers; and the development of special interest groups and provision of professional development opportunities including a biennial conference. NZSTA is also the “face” of the profession for the public. NZSTA keeps the public informed of the profession through a website, media activities (e.g., articles in the paper), maintaining representatives on community boards (e.g., Speak Easy), promotional activities (e.g., speech-language therapy awareness day) and publication of educational pamphlets about common communication and swallowing disorders.



Current size and scope of the profession

The nature of activities undertaken by speech-language therapists are broad but can be defined as the prevention, identification, assessment and diagnosis, rehabilitation and management of disorders of communication and swallowing. Speech-language therapists identify and habilitate physical impairments that impede communication and swallowing (e.g., respiratory inefficiency, impaired laryngeal structure and function, impaired oral-nasal structure and function, impaired neurological function such as inability to process language appropriately). The physical impairments may result from various aetiologies including (but not limited to): acquired neurological disorders (e.g., stroke, Alzheimer's disease, Parkinson's disease), developmental neurological disorders (e.g., Down syndrome, autism, cerebral palsy), acquired non-neurological disorders (e.g., laryngeal cancer, accidents), developmental non-neurological disorders (e.g., stuttering, cleft lip and palate), and disorders of unknown aetiology (e.g., specific language impairment). In addition to addressing the physical impairment of an individual, speech-language therapists work with developmental speech and language impairments such as phonological delay and language delay. Speech-language therapists work to maximise the ability of individuals to engage in communication and swallowing activities and to participate in daily life regardless of the level of the communication impairment. In addition, speech-language therapists work within the context of an individual's life (e.g., working with whānau/family) to enhance communication or swallowing ability. The activities of the speech-language therapist with regard to communication and swallowing are consistent with the 2001 *International Classification of Functioning, Disability, and Health* as proposed by the World Health Organization.

The setting and manner in which speech-language therapists conduct their practice varies. There are approximately 1000 speech-language therapists providing services in New Zealand. Speech-language therapy is recognised as a profession by the Ministry of Health, the Ministry of Education and the Accident Compensation Corporation, who employ speech-language therapists. Speech-language therapists are visible in a variety of settings including hospitals, schools, private health care companies, private practices, research centres and academic institutions. They deliver services in these settings and in the community. The largest employers are DHBs and GSE. The method by which speech-language therapists carry out their service may be through direct work with an individual, consultation with an individual or an individual's caregivers, consultation with other professionals, through education programs, or through training and supervision of paraprofessionals such as communication support workers or health care assistants.

A view to the future

At the 2007 annual general meeting, members agreed to restructure the NZSTA Executive Board. This will allow the Association to achieve the objectives set out in the NZSTA Strategic Plan 2007–2011 (NZSTA 2007). NZSTA has a submission with the Ministry of Health to become a registered profession under the *New Zealand Health Practitioners Competency Assurance Act 2003*. Registration is perceived by the profession to be essential in protecting the public and ensuring the profession continues to be held in high regard in terms of delivering safe, ethical and effective services to New Zealanders with communication and swallowing disorders.

NZSTA has been engaged in developing a mutual recognition agreement with the professional bodies in Australia (SPA); the United Kingdom (RCSLT); Canada (CASLPA); the United States of America (ASHA); and the Republic of Ireland's Association (IASLT) – we anticipate that the agreement will be signed at the AHSA Convention in Chicago 2008.

The maturing of the profession has seen the focus move towards producing local solutions to local issues using research that is world class. Many of the academic staff at each of the universities are conducting high-quality and diverse research. The NZSTA supports research by providing scholarships for those engaged in their first PhD research project and by continuing to improve the structure, content and publication availability of the our peer-reviewed journal.

For the clinicians employed in health, Ministry of Health strategic documents indicate a move towards improving population health outcomes and enhancing individual patients/ whānau experience while minimising expenditure. This will require speech language therapy professionals to have up-to-date evidence to support their intervention; develop new and flexible models of service delivery that include health promotion and prevention; as well as enabling the patient and their family to take the lead in their health and well-being.

In education the focus is on the child within the context of their whānau – family and community. There are new clinical areas of practice for New Zealand being developed such as child and maternal mental health, increased input into literacy and an emphasis on social communication competence. This will result in new clinical area of emphasis on communication competence and a new clinical area of increased input into literacy.

The clinical schools within the universities are endeavouring to develop a workforce that is competent for the future. Innovative clinical training opportunities are being trialled by all three programs such as partnerships with GSE and DHBs to provide clinical services; "clinical school" trials using 1:4 and 1:6 supervisor: student ratios, and running regular clinics in disadvantaged schools, aged care residential settings, as well as hospitals and schools.

The future is bright for the speech-language therapy profession and the professional association in New Zealand.

Acknowledgement

The author wishes to thank the NZSTA for information supplied for this article.

Stella Ward has worked as a speech-language therapist for over 15 years. She obtained her BSLT at the University of Canterbury and spent time working in health and disability settings before heading overseas. On return to New Zealand, she worked in education and health prior to setting up her private practice. Stella completed her Masters in Health Science at the University of Otago in 2001 which has led her to take on leadership roles within health. She was the president of NZSTA from 2004 to 2008 and is now the director of allied health at Counties Manukau District Health Board.

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WEBWORDS 31

Evidence based speech-language pathology intervention

Caroline Bowen

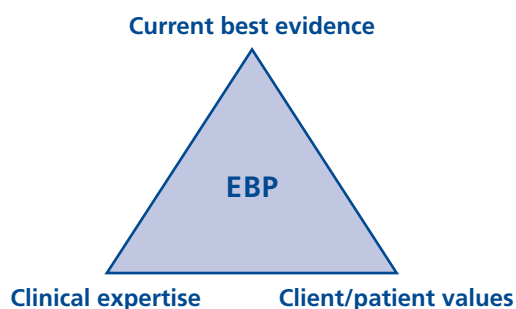
Henri-Frédéric Amiel was the name and **pathography**¹ was his game. Not much is heard about the issue of pathographesis, or the writing out of illness, but it is clear from Amiel's *opus magnum* that writing "out" illness was a complex, melancholy business – part poison, part antidote and part therapy – that makes writing "about" it seem very straightforward.

Scarcely acknowledged in his lifetime, international fame and acclaim came posthumously to this Swiss philosopher and diarist who lived from 1821 to 1881, when his *Journal intime* was published and translated into English. He was outwardly successful as professor of aesthetics, and then as professor of moral philosophy in Geneva, but because his were political appointments he struggled with isolation from the city's rich cultural life. Left with his own ideas in pursuing a lonely quest for truth and values through scrupulous self-observation, his writing both defined and created his ills (Rousseau & Warman, 2002), never exorcising his demons.

Sad to say, this introspective man, intent upon knowing himself, thought of himself as a failure: deficient personally and professionally. Nonetheless, a century and a quarter after his genius was revealed, the oft-quoted Amiel's reflections on the urge to intervene and the need to analyse our motives for, and methods of, doing so resonate in helpful ways with contemporary thought on evidence-based clinical practice.

Truth and values

The processes and responsibilities of clinicians who adopt evidence-based practice are commonly represented diagrammatically as points on an equilateral triangle (ASHA, 2004) in the **Euclidian plane geometry**² tradition. Echoing Amiel, two points of the triangle represent our constant quest for truth: theoretically, empirically and in practice, and the other point, our regard for our clients' values.



At the topmost tip of the triangle is the *clinician's* dynamic engagement with science via refereed and non-juried articles, chapters, proceedings, books and continuing professional development activity. On the left-hand point is the *clinician's* expertise: that blend of knowledge, skill and experience, and the capacity for constructive professional engagement with clients and their worlds. On the right is the *clinician's* respect for clients' beliefs, values, responsibilities and priorities, and an appreciation of the *assets* (Kretzmann & McKnight, 1993) that the people we serve bring to therapeutic encounters. In the middle of the plane is the now-familiar abbreviation, EBP representing the clinician's conduct. Yes, this little triangle is *all* about clinicians.

Best evidence

Unlucky Amiel lived in an age of scepticism. By contrast, we exist in a professional milieu that welcomes accountability, best evidence and exemplary care. In embracing the "three Es" of quality assurance – effectiveness, efficiency and effects (Olswang, 1998) – we understand that "it works for me", or "I don't know why it works but it does" approaches to justifying why we implement particular interventions simply won't wash! Why? Because "professionals should be wary about trusting their own clinical experience as the sole basis for determining the validity of a treatment claim" (Finn, Bothe & Bramlett, 2005, p. 182).

The onus for adopting EBP rests with individual clinicians. It cannot be imposed by professional associations, employers, legislators or policy-makers. It is up to us to constantly gather and objectively view clinical data, reflect, and ask hard questions about our interventions. Are they theoretically sound? Are they supported by evidence? Are they effective and valid? Do they work? Are they efficient? Do they work as well as, or better than other therapies? Can their efficiency be improved? And their effects: what changes do our therapies evoke?

Bernstein Ratner (2006) explains why she believes that EBP is a valuable construct, but cautions that along with those reflections and hard questions come potentially difficult issues. These require us establish robust communication at all points, from laboratory and clinic – that is, between the funding bodies and researchers who develop the evidence, the academics who spread the word, the administrators who regulate change, the employers charged with maintaining conducive workplaces, the practitioners who implement the evidence, and the client, who, in egalitarian practice, may have the last say.

"EBP is a valuable construct in ensuring quality of care. However, bridging between research evidence and clinical *practice* may require us to confront potentially difficult issues and establish thoughtful dialogue about *best practices* in fostering EBP itself (Bernstein Ratner, 2006, p. 257)."

Plane figures

A triangle has three sides and three angles, but it is a plane, and a plane has no depth. The points on a plane have no parts, no width, no length and no breadth. But each point has an indivisible location. Do we accept that EBP is all about truth and values and that it is located at the junctures between clinical SLPs' engagement with scientific theory and research, their clinical expertise and their respectful engagement with their clients and their worlds? Or is it deeper and more complex than that, and is adopting EBP *all* about clinicians and their responsibilities?

Bridges

Bridges have three necessary parts: substructure, superstructure and deck. The substructure is the foundation of a bridge comprising the piers and abutments that carry the superimposed load of the superstructure to the underlying

soil or rock. The superstructure is that portion of a bridge lying above the piers and abutments. The deck is supported on the bridge's superstructure; it carries and is in direct contact with the traffic for which passage is provided.

As a framework for representing EBP, a bridge is as incomplete as a triangle. Sure it is multidimensional and not completely static, but like a triangle it is going nowhere (we hope). But what of the components of the bridge: the activity going on around, near, over, under, on and *because* of the bridge; and the people who construct, are affected by, care about, rely upon, jealously guard and constantly upgrade it? What of the careful multidisciplinary science that conquers difficult construction issues and engenders sound theory and evidence that the bridge, and others like it, will work if it is properly maintained? And the application of that science by competent, committed, self-aware practitioners sensitive to the values, capabilities and vulnerabilities of those who will need the bridge? And the end-users of the bridge, trusting that they, or their parent, sibling, spouse, child or friend are in good hands?

Freedoms

Maintaining, upgrading and modernising a working bridge that has been standing for many decades involves challenges, setbacks, stalemates, triumphs and satisfactions. So too does developing a construct like evidence based practice in a manner consistent with best practice. Amiel said, "conquering any difficulty always gives one a secret joy, for it means pushing back a boundary-line and adding to one's liberty". Then, typically for him, he offset this uncharacteristic flirtation with personal pleasure with wise advice.

"Mutual respect implies discretion and reserve even in love itself; it means preserving as much liberty as possible to those whose life we share. We must distrust our instinct of intervention, for the desire to make one's own will prevail is often disguised under the mask of solicitude. (Amiel, 1892, entry of 7 Nov.)"

Speaking for the moment clinician-to-clinician, where does our *furor therapeuticus* fit? In our enthusiasm for EBP, in our fervour to intervene, in our knowing what to do, why it works, and how to do it, do we give sufficient thought to clients' individual freedoms? Their right to find their own way to conquer difficulties? To choose their own bridges?

Interconnections

Perhaps every one of us – administrators, clinicians, employers, researchers, students, teachers and thinking consumers –

would do well to ask, "Do I have a place on the bridge?" "What should my role be in the conversion of speech-language pathology into an evidence based discipline?" "What is the nature of the gap between research and practice?" "How can I help in closing it?"

Given a choice between a mono-cultural triangle with no depth inhabited only by clinicians, and a cavernous, complex, dynamic well-maintained working bridge that links professional research, academic and clinical cultures, people and ideas, the bridge wins hands down.

We don't need a bridge *between* research evidence and clinical practice. We need interconnected research and practice riveted into the substructure, superstructure and deck of our multidimensional bridge, allowing direct contact with the traffic – in research and practice; theory and therapy – for which passage is provided.

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Links

1. http://www.mja.com.au/public/issues/178_06_170303/letters_170303-9.html

2. <http://www.dform.com/projects/euclid/glossary.html>
Webwords 31 is at <http://speech-language-therapy.com/webwords31.htm> with live links to featured and additional resources.

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OUTSIDE THE SQUARE

Speech pathologist to plain language advisor

John Fisher

When a researcher wants people to participate in a research project, the researcher is required to provide participants with enough information to obtain their informed consent. This includes why they are being asked, what they have to do, confidentiality information, any benefits, risks, discomforts and more. This is a participant information statement. It has to be plain enough for a 12-year-old to read and understand.

It isn't easy to be simple. Most researchers write the information statement at the end of a long slog of writing technical protocols and modules, and find it difficult to shift from academic language to plain English. Also, by the end of the process, the researcher can be too close to the content to read it with fresh eyes, and there is the usual rush to get the whole thing submitted by a deadline.

At some stage between submitting a research project and getting ethics approval, a plain language advisor will see the information statement. At best, this is before the reviewers see it – in time for changes. At worst, it's after the reviewers have been annoyed by typos, spelling mistakes, grammatical bloopers, wrong information, repeated bits, illogical paragraphs, and poor formatting. This can cause a delay in obtaining ethics approval. The researchers are told to see the plain language advisor in order to make the language in the information statement plainer. That's my job – to advise researchers on how to do this.

A plain language advisor looks at only one part of a research project – the participant information statement. It's like oiling, greasing and adjusting rather than major mechanical work. The aim is to write a better information statement with as few changes as necessary.

I got the job as a plain language advisor by being on the receiving end of plain language advice when I was a speech pathologist doing research at the Royal Children's Hospital in Melbourne. I thought my information statement was good – after all, I knew about language. But the plain language advisor made it better because she was a new reader, and she had improved many other information statements. After thanking her, I learnt that her job was going to be advertised, and so I applied for it. After an interview, I became the plain language advisor for a year. Now it's my second time at the job. I work two days a week in the Ethics and Research Office and don't do any speech pathology work.

You don't need to be a speech pathologist to be a plain language advisor, but it helps to be a professional when you work with other professionals – even if you never mention this. It also helps to have been a researcher. It provides common ground with new research assistants who have to write information statements without much help from research teams. I can understand the frustration of the research assistant who is fed-up with paperwork that is delaying her or his research.

A number of skills are necessary to be a plain language advisor. The first is an interest in language and how it helps or clouds communication. Another is some sense of what makes a sentence syntactically complex or simple. The job isn't editing or proofing; you need a good eye for this but hope the research team does it first.

You also need a good ear for identifying when a researcher can say plainly what was so confusing to read – “Great! Why don't you write that?!” You also develop a good nose for clichés that cover confusion. Occasionally, I rewrite a tangled section myself to model how the rest of the information statement can be written but generally, the job is to provide advice on how to make it easier to understand.

My speech pathology experience is valuable. Having worked with language delay and disorder gives me a working knowledge of how language can be simplified. Knowing the normal development of syntax and lexicon also helps – all that LARSPing of language samples has an unexpected payoff! Linguistics gives me a formal way of knowing what makes sentences simple or complex. A speech pathologist working in a large hospital learns from other disciplines – and this helps me understand a researcher's terms and procedures. Explaining things to parents and children in a speech pathology clinic is good practice for expressing complex ideas simply. Speech pathologists learn patience – helpful when you are working with a researcher on the fourth version of an information statement that we both hoped, or believed, was okay at versions one, two and three.

There are skills that speech pathologists share with other professions, such as the skill of settling people, who may be highly experienced, successful researchers, who are affronted by the implied need for remedial work! There's also the ability to see things from another's viewpoint, whether it be an unwell child, normal child, worried parent, or concerned professional. The viewpoint of a target reader who has only a few years of secondary education is important when a researcher's most frequent conversation is with people who have tertiary education. Pretending is also a handy skill – that is, pretending not to understand what has been written to get the writer to express it plainly.

Working as a plain language advisor is an interesting job. I read many information statements and learn new plain language tricks from them. I talk to informed people about things that interest them. I prefer to work face-to-face, but use the track changes option in Word documents, email and the phone. I like working on someone else's task and seeing their satisfaction. I get to know what's happening in a big place that does good research. A plain language advisor also gets spin-off jobs like checking and refining brochures, handouts and letters.

The plain language advisor job meets several needs. Every project deserves the best possible information statement; the researchers need the best chance to sell their project to their prospective participants; the participants need to understand what they are consenting to; and the hospital needs to maintain its ethical standards.

There are also risks. When the research is about something that has speech pathology interest, there is a risk of shifting from language advice to research input, and of not identifying technical terms that a non-speech pathologist might not understand. There's also a risk of over-doing the plain language – polishing to perfection a sentence that is already good enough. And, it has to be admitted, there's a speech pathologist hangover risk of patronising the researcher –

"Good try, now let's try it again!" This violates the pragmatics of working with an expert.

If your research project needs an information statement, my advice would be to do it first. Complete a quick draft in plain language, maybe write it for an uninformed relative who left school young. Then put the draft away and write the research protocol. Come back to the information statement at the end. Hopefully, you will slip back into plain language – Anglo-Saxon words instead of Latin ones, simple phrases to describe multisyllabic words, brief descriptions of medical terms. Imagine telling your relatives about your research project. Watch the faces of your aunt and uncle – smart, successful people who didn't go past year 8 at school. Your aunt might say "What does that actually mean, dear?" Here, they are acting like plain language advisors. They may also need to advise you on how your information statement might make them understand what a good thing it is that you are doing.

And then go and ask the plain language advisor to look at it.

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LETTERS TO THE EDITORS

The evidence for water

Are you giving water or ice chips to your dysphagic patients even though you know they aspirate water?

If you are, you are not alone. Debate in clinical forums suggests the benefits (improved hydration, fewer urinary tract infections) will outweigh the risks (aspiration and potential pneumonia). As a result, many clinicians are changing their dysphagia management practices to permit free access to water. But do you have the evidence to support your change in clinical practice?

If you do *not* allow your dysphagic patients free access to water – why not? Where is the evidence that thickened fluids prevent pneumonia? How do you know that your patients on thickened fluids are adequately hydrated? How do you know that they would be adequately hydrated if you allowed water?

The speech pathologists at the Royal Adelaide Hospital including Hampstead Rehabilitation Centre have been searching for answers to these very questions. Unfortunately, as is so often the case in speech pathology, the search of the literature led to more questions being posed than answered. What influence does oral hygiene have on the likelihood of developing pneumonia if you are allowed to drink and aspirate water? How do you determine that your patients are drinking enough? How much fluid intake is normal for people who have had a stroke?

We designed our own research protocol to look for the answers. In 2006 we commenced a randomised control trial with stroke patients admitted to Hampstead Rehabilitation Centre. We wanted to compare the outcomes of two management methods – allowing dysphagic stroke patients who aspirate water free access to water between meals, versus the traditional treatment of only allowing thickened fluids. We also included a control group of non-dysphagic stroke patients.

Our pilot has now been completed. The plan is to revise the research protocol and invite other inpatient stroke facilities to join us in a multisite randomised control trial. We have found that as a single site we cannot recruit sufficient subjects to give our study the power we need to draw strong conclusions.

Details will be published in the March 2009 edition of *ACQ* including the evidence from the literature, our preliminary results, and the benefits and pitfalls of conducting real-life clinical research. For immediate details, phone Jo Murray, Project Leader, on 08 8222 1815 or email: jo.murray@health.sa.gov.au

Jo Murray

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Easy English

Congratulations to the authors Berens, Laney, Rose and Howe on the publication of *The Australian Aphasia Guide*, which was reviewed in *ACQ* Volume 10, Number 1, 2008.

The review of the publication reflects on the need to present written information that is “aphasia-friendly”, which is admirable.

However, we need to be thinking more broadly than about making written information aphasia-friendly. There is evidence that everyone, in all walks of life, needs information that is written in an accessible manner – the need is not restricted to people with aphasia.

In November 2007 the Australian Bureau of Statistics released the findings of the *Adult Literacy and Life Skills Survey* (cat. no. 4228). This survey highlights that there are many “millions of Australian adults that do not have the literacy skills to cope with the demands of modern life and work”.

The United Nations Convention on the Rights of Persons with Disabilities (2006) states that people need to have “freedom of expression and opinion and access to information” (Article 9) and that “information intended for

the general public needs to be available to persons with disabilities in accessible formats” (Article 21).

The Communication Resource Centre, a service of Scope, has been promoting the need to make written information accessible for a number of years. The term “Easy English” is used. This term has been accepted by a wide range of audiences to mean very simple language, with or without accompanying images. The reader of an “Easy English” document may or may not need assistance to read and interpret the information. Documents using “Easy English” are written for a targeted audience. However, any time a document has been written using “Easy English”, the acceptance by a wider group of people who require support with their literacy has been widespread.

For example, in 2006 a document was written for the Victorian Electoral Commission titled *Voting in Victoria, State Government Elections*. Originally this publication was designed for people with an intellectual disability. However, once published, the range of people who used this information and benefited from it was wide-ranging. This included people with aphasia due to stroke and acquired brain injuries, students in mainstream and special educational settings, staff from the Victorian Electoral Commission, people with psychiatric illnesses and the homeless population. It was reported that this publication was the most requested document prior to the state government elections from the Victorian Electoral Commission.

Making written information accessible is an emerging and developing area. It is important that we work together to develop written information that is accessible for the wide range of Australians who need it. There is also need for collaboration across many fields, not just within speech pathology, in the research that is being done in this area.

Once again, congratulations to the authors on their publication of *The Australian Aphasia Guide*.

Cathy Basterfield

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Note

The Communication Resource Centre has been working in partnership with the Victorian Electoral Commission. Publications in Easy English for Victorian local council elections are now available. For copies please ring the Victorian Electoral Commission on 131832 or download them from <http://www.vec.vic.gov.au>

Note from Editors and Editorial Committee

This provides good food for thought for all speech pathologists when creating written materials for clients and the general public. Scope VIC has made available a document that outlines how to write in “Easy English” – see the Communication Resource Centre at www.scopevic.org.au

Alexander Halliday

SPOTLIGHT ON STUDENTS' WORK

Michelle O'Brien

Given the rate at which knowledge underpinning clinical decision-making is changing, it is critical for clinicians to have strong foundations in the ability to search for, critically evaluate and synthesise research literature, to inform their clinical practice. At La Trobe University, Master of Speech Pathology students enrol in two units aimed at developing their skills in evidence based practice. These units, Evidence Based Practice in Speech Pathology and Critical Evaluation of the Literature in Speech Pathology, have replaced the former unit, Research Clinical Guidelines in Speech Pathology. Within these new units, students develop skills in formulating an answerable question, understanding the strength of evidence from various research designs, and then search for and critically evaluate the literature to determine the level of evidence available to answer a clinical question of their choice. In the RCG unit, students developed a clinical practice guideline based on their critical review of the literature.

Simone Williams and Annelies Tuohy, former Master of Speech Pathology students at La Trobe University, completed their RCGs in their final semester of university in 2006. Since then, motivated by a desire to share the outcomes of their work, they have updated and condensed their original 8000-word clinical practice guidelines for publication. Below are extracts of their work.



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Evaluation of study methodology: Studies investigating characteristics of OME that impact speech and language development

Annelies Tuohy and Michelle O'Brien

Keywords:

characteristics of hearing loss,
 otitis media with effusion,
 speech and language development

Otitis media with effusion (OME), inflammation and presence of fluid in the middle ear, is common in early childhood with 80% of children having at least three episodes before the age of three (Roberts & Hunter, 2002).

There are two positions within the literature concerning the potential impact of OME associated hearing loss on speech-language development. The "no-effects" model states that although OME may cause a speech-language delay, the delay will resolve without intervention (Casby, 2001; Paradise et al., 2003; Roberts, Rosenfeld, & Zeisel, 2004). This cohort of studies included a meta-analysis (Casby, 2001), and a large cohort study of 241 children (Paradise et al., 2003). The "effects" model (Abraham, Wallace, & Gravel, 1996; Nittrouer, 1996; Shriberg, Friel-Patti, Flipsen & Brown, 2000) states that OME does impact speech-language development. Some authors have argued that as a consequence of this fluctuating hearing loss, a child who has repeated and/or lengthy episodes of OME-related hearing loss, may encode information incompletely and/or inaccurately into their working memories, thus building up an inaccurate representation of words. This may affect the child's comprehension and production of phonology, syntax, discourse and vocabulary (Roberts & Hunter, 2002; Roberts, Hunter, et al., 2004; Ptok & Eysholdt, 2005). This cohort of studies included small cohort studies. It is unclear, therefore, whether a speech pathologist should provide intervention to this group of children, given that some authors claim that the child will recover from any delay once their OME resolves.

Within the literature there is greater evidence for the "no-effects" model. However, a potential question arose from previous research (Tuohy, 2005) as to whether particular characteristics of OME hearing loss (such as duration, viscosity of fluid, laterality, severity, age at time of OME) were more likely to have an affect on speech-language development than others.

A literature search was conducted to identify studies published before January 2008 that met the inclusion and exclusion criteria (below). The aim of this paper was to analyse the methodology of the studies located and discuss their limitations. Studies included in this review satisfied the following criteria: they involved preschool children; any measures of expressive and/or receptive language skills; any measures of speech development; they identified and investigated specific characteristics of OME-induced hearing loss, such as duration, laterality, severity, viscosity; and reported in English. Only published studies were included. Studies of children with concomitant disorders such as intellectual disability, physical disability, autism, dysarthria, dyspraxia, sensory impairment and/or behavioural disorders were excluded.

The search yielded 41 studies from which four were identified as meeting the selection criteria. Three studies examined the impact of OME-associated hearing loss on language development (Friel-Patti & Finitzo, 1990; Friel-Patti, Finitzo-Hieber, Conti, & Clinton Brown, 1982; Roberts, 1997) and one study examined the impact of OME-associated hearing loss on language development as well as speech development (Shriberg et al., 2000). Two of these studies investigated the OME characteristic of severity in relation to language development (Friel-Patti et al. 1982; Roberts, 1997), and the other two studies investigated the OME characteristics of 'age of OME' in relation to speech or language development (Friel-Patti & Finitzo, 1990; Shriberg et al., 2000).

Two key limitations arose within the four studies reviewed. First, the frequency of hearing testing was a limitation of all studies reviewed. It was recommended by Rosenfeld et al. (2004) that children who are known to be prone to OME should have hearing assessments three to six monthly as part of their management. When conducting research, it is recommended that hearing assessments be conducted closer to three than six months to increase the validity of the results (Gravel & Nozza, 1997; Gravel & Wallace, 1998). Second, the studies predominantly comprised cohorts that were homogenous in nature. Although a homogeneous population assists in strengthening the robustness of a study, it decreases the ability of the study to be generalized to other populations

(Paradise et al., 2000; Roberts et al., 2004a). A larger number of studies, therefore, are required to ensure the results can be generalized to a wider population.

Several gaps within the current research have become apparent. The most significant one is the inadequate measurement of the duration of OME-associated hearing loss. Duration is known to play an influential role in determining the effect of hearing loss on an infant's speech-language development, as a longer duration results in smaller pockets of time in which children have hearing levels adequate for speech-language development (Rosenfeld et al., 2004; Paradise et al., 2000). Second, it is believed by many researchers that children who are of a low socioeconomic status are more likely to experience the negative consequences of OME and the associated hearing loss; therefore this variable needs to be considered in future studies (Paradise et al., 2000; Roberts, 1997). Third, the fluctuating nature of the hearing loss is a commonly accepted trait of OME, and therefore hearing assessments should be completed with higher frequency than is the current norm in many studies (Friel-Patti & Finitzo, 1990; Friel-Patti et al., 1982; Shriberg et al., 2000).

In addition, the timeframe of the longitudinal studies needs to be extended to ascertain the delayed affects of OME, which may arise later in childhood.

For the research to be relevant and generalizable to Australia, studies need to be completed with Australian children. Currently, much of the research in this field is with American infants. Finally, many studies were focused on multiple characteristics of OME, rather than concentrating on one and generating solid data.

Characteristics of OME hearing loss, such as viscosity of fluid, severity and laterality were investigated. However, through the process of evaluating the current literature, it can be concluded that further research in this area is needed.

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To intervene or not to intervene: Australian Indigenous children with OM-induced language delay

Simone Williams and Michelle O'Brien

Keywords:

children,
conductive hearing loss,
indigenous Australia,
language impairment,
otitis media

Otitis media (OM) is a common medical condition in young children and is particularly prevalent within the

Australian Indigenous population (Morris, 1998). Research in this field suggests that conductive hearing loss (CHL) caused by OM may have an affect on language development in young children (Friel Patti & Finitzo, 1990; Roberts, Rosenfeld & Zeisal, 2004). This remains controversial, with some longitudinal studies indicating that there is no impact of fluctuating hearing loss on long-term language development as a result of OM (Feldman et al., 1999; Paradise et al., 2001). However, these studies focused primarily on children from middle-class socioeconomic groups, despite OM occurrence

being more common and severe in low socioeconomic populations such as Australian Indigenous children (Morris, 1998).

OM and its various forms typically occur more frequently and severely within the Australian Indigenous population than in the general Australian population (Burrow & Thomson, 2006; Morris et al., 2005). Higher prevalence rates (up to 67% of infants) have been attributed to social, medical and environmental factors, such as over-crowded housing and poor living conditions, limited effects of antibiotics, and atypical presentation of OM within the Indigenous Australian population (Williams, 2003).

For non-Indigenous Australian children, OM has an acute onset, whereas in an Australian Indigenous child population, chronic suppurative otitis media (CSOM) has a slow onset, and is often asymptomatic until discharge from the middle ear is evident (Morris, 1998). Non-Indigenous Australians tend to have occasional episodes of OM with effusion (OME) from which they usually spontaneously recover within one month, whereas Australian Indigenous infants tend to have persistent OME, acute OM or CSOM that rarely resolves (Boswell & Neihuys, 1996).

CSOM is the most severe type of OM, causing significantly greater CHL in children due to damage to the tympanic membrane (Neihuys, Boswell & McConnell, 1994), resulting in a loss of up to 60 dB during the acute phase, and ongoing hearing loss due to scarring of the tympanic membrane. This is in contrast to the fluctuating 25 dB hearing loss experienced by the non-Indigenous Australian population with OM (Dugdale, Canty, Lewis, & Lovell, 1978; Neihuys, Boswell, & McConnell, 1994).

There is, therefore, quite possibly a higher risk for Australian Indigenous children who have OM-induced CHL to experience delay in language and listening skills (Lewis, 1976). The impact of CHL on development is thought to be extensive, affecting speech, language, and auditory processing skills due to the increased severity, duration and frequency of OM and induced CHL (Close et al., 1996). For example, due to the fluctuating nature of the hearing loss, the Australian Indigenous children may not be provided with consistent examples of language in which to model their output. These children are further disadvantaged in language development due to the compounding effects of low socioeconomic status, reduced exposure to kindergarten, poor classroom acoustics, and being educated in a bilingual classroom (Close et al., 1996).

For non-Indigenous Australian children, when hearing levels are restored, language skills often recover (Paradise et al., 2001). In more severe cases like those in Australian Indigenous children, some authors suggest that the early onset of auditory deprivation results in auditory processing deficits, and may lead to persistent language learning and social difficulties (Neihuys, 1992). Often the Australian Indigenous children who are experiencing language and auditory deficits are labelled as inattentive, distracted or socially inappropriate (Close et al., 1996; Morris, 1998). However controversy surrounds the theoretical position of a causal relationship between CHL and auditory processing disorders (Debonis & Moncrieff, 2008).

In summary, due to increased severity and frequency of OM and subsequent CHL, Australian Indigenous populations may be at higher risk of developmental delays in language than children in the wider Australian population. The greater severity and duration of OM and associated CHL experienced, the earlier onset, the extreme socioeconomic limitations, and reduced access to early education, exacerbate the possible effects of CHL on language development. There is also suggestion that auditory deprivation occurs due to the severity of hearing losses associated with OM within the Australian Indigenous population, and may lead to auditory processing deficits. However, this remains controversial. In

conclusion, while some authors suggest that OM has little to no impact on language development within a middle-class socioeconomic group, this may not be the case within the Australian Indigenous population due to a greater severity of the disease. Further work is urgently needed within this area.

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FROM A STUDENT'S PERSPECTIVE

Experience of an international student

Hasherah Mohd Ibrahim

It is a big step to decide on furthering one's education at the PhD level, let alone doing it in a foreign country. The length of a Doctor of Philosophy (PhD) candidature varies between three and four years, which makes the PhD process a long and arduous one. In addition, being away in a different country for an extended period of time means missing out on spending time with family and friends and putting your life back at home on hold. However, to an international student, the prospect of travelling to a new country and starting a whole new lifestyle is very exciting.

The opportunity to embark on a PhD presented itself as part of the tutoring program at the National University of Malaysia where I was appointed. That is, I had the opportunity to apply for financial assistance through the university's competitive scholarship process to travel overseas and complete a PhD project. During this period, I also worked with many patients as part of my clinical service. My interest in children born with cleft of the lip and/or palate grew as I was left frustrated with the amount of support I could give to my patients. I aimed to make a real difference, and therefore embarked on my PhD project to develop an assessment protocol for Malay-speaking children with cleft of the lip and/or palate. That is how on 2 April 2005, I arrived to a cold autumn Melbourne from a hot and humid Kuala Lumpur. I was feeling both excited and scared at the same time.

I was fortunate that Professor Sheena Reilly and Associate Professor Nicky Kilpatrick decided to supervise my PhD research. The research experience has been very rewarding. I share an office space with four other PhD students at the Murdoch Children's Research Institute as a member of the Childhood Communication Research Unit (CCRU) team led

by my main supervisor, Professor Sheena Reilly. The unit is based in the Speech Pathology Department at the Royal Children's Hospital. The CCRU is involved in many research projects and the speech pathology clinical team has a number of experienced and dedicated staff providing tertiary care for patients. This unique combination has given me the chance to benefit from both research and clinical expertise.

This is my third year in Melbourne. I have gained invaluable insight into the Australian way of life and its culture. I love the multicultural symbol that Melbourne is known for and have made many friends from many different nationalities. I have also grown accustomed to the unpredictable weather Melbourne is so famous for but I must say, I don't like it one bit.

It can be difficult and emotionally draining being away from family and friends while taking up a big task such as a PhD. Yet, it is possible. It is the support of friends and my supervisors' trust that has seen me through the ups and downs while I have been studying in Australia. At the end of the day, when I picture myself working with a child with cleft of the lip and/or palate and contributing to their care by carrying out systematic research, I find that the hours and hard work I have put into my PhD project have paid off.



Hasherah Mohd Ibrahim

Ms Hasherah Mohd Ibrahim graduated with a Bachelor of Speech Science (HONS) from the National University of Malaysia (UKM) in 2002. Hasherah is a PhD student at the University of Melbourne and Murdoch Children's Research Institute.

The Association's Activities 2008



Launch of the Association's Journal – 2008 National Conference



Welcome Reception at the 2008 National Conference – Traditional Maori 'powhiri' dancing and singing



Launch of the Association's new Corporate Identity at the 2008 National Conference



Mindil Market in Darwin during Speech Pathology Week 2008



Pamela Allen – 2008 Book of the Year Award Ceremony



MY TOP 10 RESOURCES

From a research perspective

Kyriaki Ttofari Eecen

1 *Electronic databases and other search engines*

Having access to journal articles and books is essential to keep up to date with the latest research. There are a number of electronic databases that allow you to search for journal articles, such as PsychInfo, Medline and CINAHL. These electronic databases are usually accessible through university or hospital libraries. Whoever does not have access to these electronic databases, however, is able to search for articles, books or theses by using Google Scholar (www.google.com) or PubMed (www.pubmed.gov), two free services available on the Internet.

2 *Journals*

Most university libraries are open to the public, allowing people who are not enrolled at the university to access journals. It is of course helpful if you can access journals from the comfort and convenience of your home or workplace. Being a member of a university or hospital library often allows you to access journals online.

As members of Speech Pathology Australia we receive copies of the two publications of the Association: *ACQuiring Knowledge in Speech, Language and Hearing (ACQ)* and the *International Journal of Speech-Language Pathology*.

It is also possible to become an affiliate member of ASHA (American Speech Hearing Association) and receive the *ASHA Leader* and subscription to one of the ASHA journals for US\$170 per year. The journals one can choose from are: (a) *Journal of Speech, Language and Hearing Research*, (b) *Language, Speech, and Hearing Services in Schools*, (c) *American Journal of Audiology: A Journal of Clinical Practice*, and (d) *American Journal of Speech-Language Pathology: A journal of Clinical Practice*.

For more information about ASHA affiliation: <http://www.asha.org/about/membership-certification/international/affiliate.htm>

3 *EndNote*

EndNote is an electronic bibliography program, which allows you to manage your references, including journal articles, books, reports, theses, and so on. Information that can be stored in the EndNote program includes the title of the publication, author, page numbers, abstract and key words. The EndNote program allows you to enter your own information or to export information (about journal articles and other sources) directly from databases.

EndNote allows you to display the references in the style that you choose. Many journals in the social and behavioural sciences use the American Psychological Association (APA) style, and this is often the style requirement for university assignments and theses in

speech pathology university courses. You can select for your references to be displayed in APA style and Endnote formats the references for you. Gone are the days when you needed to manually check all the references to make sure they followed the correct format (I wish I had known about EndNote when I was completing my undergraduate degree!).

Another advantage of EndNote is that you can search for references using a variety of terms, including, key words, authors or year of publication.

And finally, EndNote allows you to “cite while you write”, that is, you can insert references into your documents (in Microsoft Word) while you are writing. This places the reference in the correct position in the document (e.g. (Smith, 2000)) and then puts the full reference at the end of the document, so your bibliography is created for you automatically.

For more information: <http://www.crandon.com.au/EndNote/product.html>

4 *EpiData*

EpiData Entry is a free data entry program. It can be used to enter information collected via questionnaires or during face-to-face assessments for quantitative research.

One of the advantages of a program like EpiData (as compared to entering data via a program like Microsoft Excel) is that it allows you to put “checks” in place, such as:

Maximum range of scores. For example: The maximum number you can enter for Question 3 is “10” because that is the maximum possible score one could receive on that test question. If you enter “11” the program will not allow you to do this and will come up with an error message.

Skips. For example: If you answered “no” to Question 5, it skips to Question 7, because Question 6 is only relevant for respondents who answered “yes” to Question 5.

Such checks reduce the number of data entry errors.

The information collected via EpiData can be easily exported into a statistical analysis program to allow you to analyse all the data.

For more information: <http://www.epidata.dk/>

Reference: Lauritsen, J.M. (Ed.). (2000–2006). *EpiData data entry, data management and basic statistical analysis system*. Odense, Denmark: EpiData Association.

5 *Stata*

Stata is statistical analysis software. Stata allows you to perform a number of analyses, such as drawing graphs, determining the mean, standard deviation and confidence intervals of your data set, and performing regression analyses. You can also use Stata to “clean” your data,

that is, find discrepancies and missing data. Stata is regularly updated and it is possible to access these updates from the web if you are a registered user.

You can enter data into the Stata program or can import it from other programs, for example EpiData (mentioned above) or Excel.

For more information: <http://www.stata.com/>

Reference: StataCorp. (1996–2007). *Stata statistical software: Release 10.0*. College Station, TX: StataCorp.

6 Children's Speech Sound Acquisition Summary

Children's Speech Sound Acquisition Summary is a great resource for paediatric speech pathologists. It summarises the research on typical speech acquisition of English-speaking children at yearly age bands, e.g., 0;0–1;0. Relevant headings under each of the age bands are included, for example, "acquired sounds" and "intelligibility". Where there are multiple research studies with normative data for a particular age group, these are all listed so the reader can make comparisons between the studies.

Reference: McLeod, S., & Bleile, K. (2003, November). *Neurological and developmental foundations of speech acquisition* (Invited seminar). Paper presented at the American Speech-Language-Hearing Association Convention, Chicago.

The updated version of this paper will be available as an appendix to McLeod, S. (2009). *Speech sound acquisition*. In J. E. Bernthal, N. W. Bankson & P. Flipsen Jr (Eds.), *Articulation and phonological disorders: Speech sound disorders in children* (6th ed., pp. 63–120). Boston, MA: Pearson Education.

7 Website: www.speech-language-therapy.com

This website includes information on typical communication, communication disorders and the speech pathology profession. The audience includes families, professionals and students. There is a link to a section for speech pathologists, which includes free resources and pictures to use in the clinic. There are also two discussion groups: the first is the Phonological Therapy Discussion Group (which has over 4000 members) and the other is a student and new graduates discussion group. There is also the Speech Files Archive which includes relevant therapy and assessment resources and research articles in the area of children's speech.

Reference: Bowen, C. (1998). *Speech-language-therapy dot com*. Retrieved from speech-language-therapy.com/ on 14 August 2008.

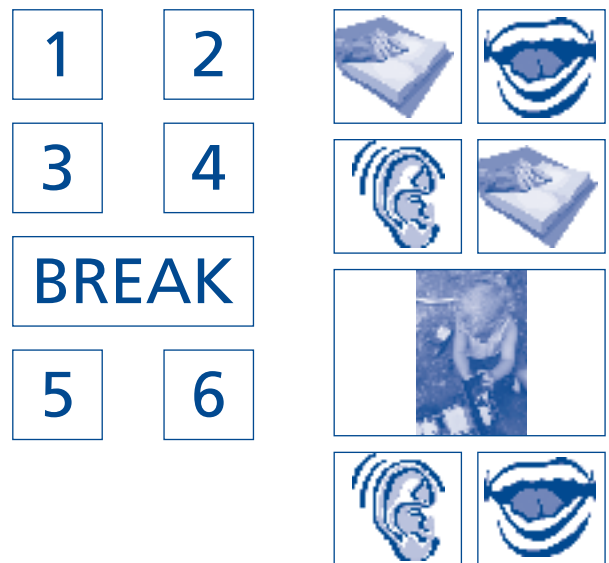
8 Progress Form

The Progress Form is a tool I use when assessing children to keep them motivated and informed about the progress of assessments. It allows me to introduce the assessment process to the child ("We have 5 things to do today") and keep them informed about how many tasks they have completed and how many they have left to do ("Only three more to go"). The Progress Form can also be used in therapy sessions for the same reason: to keep the children motivated and aware of how many tasks they have left to do.

Children are asked to colour in or put a sticker or a stamp in each box after they have completed the activity. Depending on the age of the child, one can write numbers in the boxes to indicate how many tasks

they need to complete or put pictures to show what type of tasks they need to complete.

Two examples:



9 Stickers

Stickers can be expensive; however, school/teacher suppliers can provide cost-effective stickers in bulk. One online supplier is Australian Teaching Aids, which provide merit stamps and stickers for a good price, for example, 800 small stickers for \$9.95.

For more information about Australian Teaching Aids: <http://www.australianteachingaids.com.au/>

10 Doodle

This is a free online service that allows you to schedule meetings or organise events with multiple participants. It allows people to inform you of their availability and you can then select the time and date that suits most people to schedule the meeting or event. All you need to do is set up a poll on the Internet and send the link to all the potential participants, and wait for their responses. You can access more information and set up a poll through: <http://www.doodle.ch/main.html>

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BOOK REVIEWS

Davidson, Liz Ann, Old, Kerrie, Howe, Christina, & Eggett, Alyson. (2007). *Groupwork for children with autism spectrum disorder ages 3–5: An integrated approach*. A Speechmark Practical Photocopy Resource. Brackley, UK: Speechmark Publishing Ltd; ISBN 9780863885945; 184 pages; A\$54.00.

Andrea Murray and Robyn Skerrett

Groupwork for Children with Autism Spectrum is a clinical resource developed by two occupational therapists and two speech pathologists in the UK. Its primary objective is to provide a practical resource for multidisciplinary professionals working with young, preschool children with ASD, using a group framework. It is the first of a series of three such books, with the subsequent books providing an intervention framework for children in primary school (5–11 years) and children in secondary school (11–16 years).



The fundamental philosophy underpinning this resource is a belief that a coordinated, targeted, individualised and integrated approach to early intervention maximises the potential for progress and facilitates the generalisation of newly learned skills into a range of settings. It recommends that intervention programs focus on five key areas of young children's development: communication and language; socialisation; play; sensory issues; and motor skills. The book emphasises, however, that while each of these areas should be strategically targeted in intervention, the significant impact they have on each other must also be taken into account when formulating intervention goals and objectives.

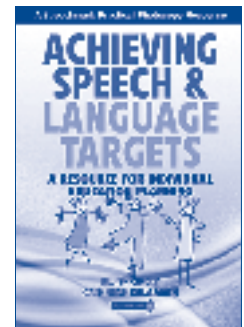
The book is easy to read and use and consistently links theory with practice. It gives specific and practical information on how to set up and run groups and how to formulate individual client objectives. Review processes to be used at the end of each group session are described and a method outlined for keeping accurate and constructive records. General information on each of the key areas is included together with specific activities and how to scaffold these activities to meet each individual child's objectives. Photocopiable checklists, assessment forms and progress note templates are provided. Case examples are used effectively throughout to illustrate how group sessions can be structured to meet an individual child's needs across multiple domains of function. The authors highlight the benefits of trans-disciplinary practice and outline review processes for supporting team members.

Although the resource is designed for group work, many of the strategies and activities could effectively be utilised in individual therapy or incorporated into a home program for use by parents. This resource would be a useful addition to all paediatric clinicians and of benefit to both new graduates and experienced clinicians.

Delamain, C. & Spring, J. (2007). *Achieving speech & language targets*. Brackley, UK: Speechmark Publishing Ltd; ISBN 9780863885792; spiral bound, 268 pages; A\$60.25.

Chyrisse Heine and Rhiannon Beggs

This is a 268-page spiral bound activity book specifically designed to provide teachers and speech pathologists with a share reference. This resource contains information and checklists for formulating individualised educational plans to stimulate speech and language development in school-aged children.



The resource also contains a wide array of differing and detailed games and activities that can take place in the classroom while not interfering with the curriculum, with play being a major focus for the younger children or those who may present with challenging behaviours.

The book is divided into 4 parts:

- Receptive language
- Expressive language
- Speech sound acquisition
- Resources

Within each part, there is a checklist to identify the child's present level of performance so that goals can be set. Activities are then provided for each stage of acquisition. For example, within stage 1 (understanding naming words), activity areas include songs and rhymes, home corner, games, construction and craft, small toy play, and picture books. Vocabulary such as myself (eyes, nose, mouth), clothes (everyday clothes) and people (man, lady, boy, girl, baby) are itemised. This is followed by a short procedure of what to do – e.g., “Work your way through the vocabulary list a few at a time” (p. 10). Eight teaching targets are then provided – e.g., Teaching target 4 is to understand horse, cow, dog and cat. The activity described is “small toy play” such as “join the children in setting out the farm, making the animals walk into and out of the barns and fields”.

Activities for each subset are correlated with developmental stages, e.g., as a child matures picture books and table tasks occur more frequently. The authors use an easily recognisable image that appears next to each activity to inform if any toys, etc., are required; perhaps more beneficial is the use of “tips” within the activity, e.g., “if working in a group choose the 2 most confident children”, demonstrating a strong knowledge of working with children.

Although each section is comprehensively covered, the content is simplistic for the SLP and is more suitable for teachers, teacher aids, parents and carers. The value for the SLP is using this book lies perhaps in providing links between special needs coordinators, teachers and SLPs when working with children with individual special needs and using the content for informational counselling or as a language enhancement program to be followed at home or school to assist with generalisation of learnt concepts.

Palmer, R. & Protopapas, A. (2007). *Lemon & Lime Library*. Brackley, UK: Speechmark Publishing Ltd; ISBN 9780863885488; 303 pages; \$A82.75.

Chyrisse Heine and Rhiannon Beggs

This 303-page photocopiable resource for SLPs primarily targets articulation with materials suitable for clients of all ages. The book is divided into 3 parts including an articulation screening test (consisting of 88 pictures), resources (lists) for sounds and words, and resources for phrases and sentences.

Chapter 1 outlines a theoretical perspective and includes a short discussion about the traditional approach to treatment for articulations disorders and the cognitive-linguistic/phonological approach.

This chapter is followed by the articulation screening test, with the procedure for administration and instructions for analysis. A scoring sheet is provided for profiling responses obtained. It is, however, unclear whether this screening test has been standardised or validated, and normative data is not provided although descriptive coding (e.g., a mild distortion) is suggested. Word transcription is required (according to Gimson, 1980), thus assuming the SLPs knowledge and use of this transcription method. Also included in this resource is a CD-ROM, making this resource useful for the SLP who like to work with computer-generated materials.

The sound, word, phrase and sentence resources consist of word lists grouped into levels of increasing difficulty. For example, level 1 for sounds and words has word lists for single sounds in isolation, while level 6 has multi-syllabic word lists.

All word lists are accompanied by pictorial illustrations, thus making this resource useful for young children who have not yet developed literacy (reading) skills.

This resource is possibly restricted in scope and limited to the SLP adopting this specific approach (phonological approach) to remediation. The materials are however easy to use, suitable for clients of all ages and allow for personalised worksheets to be derived.

Turner, J. (2007). *Riddles, rhyme & alliteration: Listening exercises based on phonics*. Brackley, UK: Speechmark Publishing Ltd; ISBN 978086388603; spiral bound, 194 pages; A\$55.75.

Chyrisse Heine and Rhiannon Beggs

This 194-page soft-cover spiral-bound workbook is filled with rhyme and alliteration activities. The book contains a short introduction followed by 4 pages of concisely written instructions. The activity section is divided according to the phoneme targeted including b, c/k, d, f, g, h, j, l, m, n, p, r, s, t, v, w, y, th (unvoiced), sh and ch.

The sections targeting the *b* sound, for example, spans 10 pages. Ac-



tivities to promote acquisition of the *b* sound include riddles, alliteration, tongue twisters, odd word out, rhymes, sound blending, story telling, puzzles and pictorial illustrations.

For each sound targeted, the same activity procedure is adopted. For example, activities for the *m* sound include:

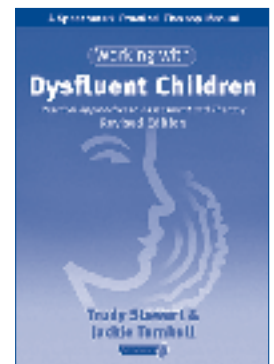
- riddle activity: You might put this in tea or coffee. It comes from a cow (milk).
- alliteration: messy monkey.
- tongue twister: Maddison married Mark in Madrid.
- odd word out: mug, mask, knock.
- word to sound out: m-u-g
- puzzle worksheet: unscramble "mpo"

Overall this activity book is an easy-to-use resource suitable for clients working on vocabulary, word retrieval, articulation, discrimination and phonics. This is a photocopiable resource covering a range of sounds and activities that would be useful for the busy SLP.

Stewart, Trudy, & Turnbull, Jackie. (2007). *Working with dysfluent children: Practical approaches to assessment and therapy* (Rev. ed.). Brackley, UK: Speechmark Publishing Ltd; ISBN 9780863885143; 298 pages; A\$65.75.

Shane Erikson

This revised text (first edition published in 1995) provides a comprehensive analysis of many facets of both assessment and treatment for children who stutter. Targeted at speech pathologists, it seeks to merge aspects of theory with personal clinical experiences of the authors. The focus is undoubtedly on the practical components of working with this population, with various checklists, treatment plans and handouts included.



Yet while a wide range of ideas for treatment reflect the authors' personal accounts of treating children who stutter, little focus is given to evidence based best practice. For example, of the 298 pages in the text, just a handful are dedicated to the Lidcombe Program, the current treatment program with the strongest scientific evidence for preschool children who stutter. Interestingly, the authors' concluding paragraph on "therapy options" appears to oppose evidence based practice principles in stating "therapy has to be the difference which, as a minimum, maintains the status quo and, at best, tips the scales in favour of fluency" (p.132). Further to this, the foreword also acknowledging that the book focuses mainly on the "journeys" specifically made by Stewart and Turnbull.

Nevertheless, the text seeks to take readers from the early development of stuttering, including theoretical models (with particular focus on Starkweather's Demands & Capacities Model), through to "borderline" and, finally, "confirmed" stuttering. Throughout this progression the authors provide personal accounts to illustrate and support a very strong focus on personal construct psychology (PCP). Indeed, clinicians working with children who stutter are encouraged to consider closely the impact stuttering is having on the child, as well as the context and family dynamics of those involved. On top of Yairi's four dimensions of distinguishing

dysfluent speech of early childhood stuttering (quantitative, qualitative, physical and physiological), the authors propose a fifth dimension – psychological. The authors suggest that it is primarily the psychological factor, e.g. “those (children) who construe themselves as stutterers”, which separates “borderline” stuttering from “confirmed” stuttering.

Stewart and Turnball discuss key findings from research into the onset of stuttering, persistence and recovery, and the types and frequency of stuttering. However, it must be said that many of their quoted studies are somewhat outdated. Basic principles of stuttering treatment including assessment are discussed with appropriate detail, with an equal focus on both overt and covert features of stuttering and how to measure these. A strong focus on the family of children who stutter represents the holistic approach to managing stuttering this book has taken. The authors suggest a “collaborative problem-solving approach”. As well as information on discussing stuttering with families, the book also provides for the reader an important understanding of parental concerns and attitudes.

An entire chapter of the book is dedicated to working with schools and kindergardens with a very wide range of considerations including school visits, teacher training sessions and how to educate other children about stuttering. Large sections focus on critical issues such as teasing/bullying and how teachers can assist in managing stuttering.

A wide range of intervention methods are presented throughout the different sections of the book. The authors recommend a “least first” philosophy with an aim to do the minimal amount necessary to facilitate change. However, they raise concerns about addressing children’s stuttering for fear of them construing themselves as children with a speech problem. As such, many of the treatment options focus on aspects of “total communication” including eye contact, gesture, articulation, breathing, rate, etc., none of which have any clinical evidence for reducing stuttering.

The authors appear very keen on group therapy and have included in the text a number of group programs including a 10-session one for 6–8 year olds. Again these programs appear to have been developed based solely on the authors’ ideas and experience without any real scientific evidence base. The aims and goals discussed for the 6–8 year olds group, for example, include no mention of a reduction in stuttering. Instead the focus is on communication skills, positive self-worth and reducing avoidance.

Overall this text attempts to address the complete range of issues in the complex area of treating children who stutter. Unfortunately, in many parts it spreads itself too thin. In particular the book fails to provide a speech pathologist with sufficient detail on evidence based treatment options for treating children who stutter. Despite this, adequate attention is provided to key issues such as supporting families and schools, as well as addressing the significant psychological issues associated with stuttering. Furthermore, the reader is provided with a large number of valuable checklists, treatment plans and handouts. With the above points in mind, many clinicians will find some practical ideas and considerations from this book or at the very least food for thought.

McCurtin, A. (2007). *The fun with food programme: Therapeutic intervention for children with aversion to oral feeding*. Brackley, UK: Speechmark Publishing Ltd; ISBN 13: 978 086388 566 2; ISBN 10: 86388 566 7; 312 pages, A\$72.00. Contributing authors: M. Kennedy, dietitian, Dublin; J. Malone, occupational therapist; A. McCurtin, University of Limerick; G. McGuirk, senior dietitian, Dublin; T. Morrison, senior speech and language therapist, Dublin.

Sarah Starr

The *Fun with Food Programme* provides useful assessment and intervention guidelines for the treatment of children with selective to total feeding aversion. The program has been designed for group intervention but can easily be adapted to individual management. The program has a specific emphasis on developing the carer’s knowledge and skills in understanding the influencing and causative factors underpinning oral and feeding aversion and developing the carer’s skills in managing oral and feeding aversion. The program is adaptable to a range of client groups from isolated sensory processing disorders through to children with physical, learning, congenital disabilities and autism at varying levels. There is significant emphasis on transition to oral feeding from limited oral feeding as well as tube feeding. Clients need to meet inclusion criteria such as medical stability, nutritional stability and oral swallowing and safety. A positive emphasis throughout the manual is carer commitment and integral participation throughout the program levels.



The manual stresses the importance of a multidisciplinary, multimodal and intensive approach to facilitating positive change in oral/feeding behaviours. The speech pathologist, dietician and occupational therapist are incorporated as core personnel with additional health professionals (e.g., paediatrician) required depending on the nature of the child’s aversion.

Chapter 2 provides clear assessment guidelines and an extensive range of photocopyable reporting forms, questionnaires and assessment checklists covering food diaries, feeding behaviours, nutritional intake, tastes and consistencies tolerated, independence, oral motor exam, carer–child interactions, sensory assessment and severity ratings. These formats provide a thorough method of assessing all the influencing areas that need to be incorporated into management and are easy to follow and use. The oral examination is thorough and incorporates the oral musculature at rest and also its function during feeding and speech production.

The structured checklists provide a more formal and uniform method for clinicians to assess and record relevant information. Video assessment and analysis by both clinician and parent is encouraged in both the assessment and management sections.

The management section in chapter 3 focuses on parent/carer education and training over 15 sessions as a precursor to

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intervention with the child. Areas addressed include increasing parents' understanding of nutritional information, particularly on the importance of fluid balance, weight loss/gain, supplements and how they are incorporated into the program.

Developing carers' awareness of how they interact with their child during meals and whether this is conducive to oral feeding is covered. The emphasis is on developing the parents' skills in identifying their child's cues, language and behaviour, and how to respond effectively to them. Mealtime routines and parental expectations and agendas, and mealtime structure and routines and how these impact on their child are explored and discussed. Practical eating/taste sessions are included to improve parental understanding of the child's aversion to food from the child's perspective. Sensory processing difficulties and sensory diet are explained and practical examples are given. The focus is also on developing carer skills in setting goals for their child and discussing these in the context of the team's aims.

Chapter 4 is devoted to preparing the child for oral intake and increasing the child's understanding of food's importance for nutrition and growth, through play activities to explore sensory domains such as handling foods of various textures and equipment, with graded exposure to food types/textures explained. Oral motor sessions are included to develop a child's oral facial awareness through learning about parts of the mouth and their function, oral exploration and desensitisation activities.

The Fun with Food section (chapter 5) outlines daily sessions where carers are engaged in feeding sessions (5

generally per day) where goals are set and adhered to. The emphasis is on the carer engaging in each session with their child with peer and staff support through a carer-support group. The aim is to increase the child's handling and ingesting a greater range of intake of food tastes, types and textures. Clinicians are engaged in direct sessions of oromotor awareness, food preparation and calming activities while carers attend support groups. Videotaping of sessions for carers to rate and then discuss goals and outcomes is encouraged.

The final chapter focuses on a review program beyond the intensive food program/course to monitor the child's progress and develop further eating and drinking skills. This is largely a collection of checklist and feedback forms that may be used by the clinician with carers.

The *Fun with Food Programme* provides an overview for introducing an intensive intervention program for children with oral feeding aversion and their families. Sensory and tactile activities are well explored; however, some experience in managing oromotor and feeding difficulties would be helpful as specific intervention strategies are not well described in some sessions, particularly in the oromotor activities specifically relating to eating activities and feeding sessions. It also a carer-based intervention program to empower and train parents, which is commendable; however, greater support and clinician modelling with eating sessions may be more suitable for some families and children.

I would suggest that the manual is a useful resource but it should be incorporated with other available texts and material in this area for speech pathologists involved with assessing and managing children with feeding difficulties.

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