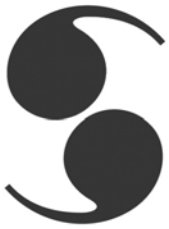

Speech Pathology Australia

Criteria for the Analysis of Speech Pathology Terms: *Challenges and a Methodology*

Final publication of the *Terminology Frameworks Project*

The Speech Pathology Association of Australia Limited
2nd floor, 11-19 Bank Place Melbourne VIC 3000
Phone: 03 9642 4899 Fax: 03 9642 4922
Email: office@speechpathologyaustralia.org.au Website: www.speechpathologyaustralia.org.au
ABN 17 008 393 440

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Contents

Section 1: Introduction

This section presents the aims and an overview of *Criteria for the Analysis of Speech Pathology Terms: Challenges and a Methodology.*

What is the terminology issue?

Terminology presents a major challenge to the field of speech pathology. The terminology in our field has been described as inconsistent, variable, inadequate, a mess, in a state of chaos and a bottleneck (Johnson, 1968; Rockey, 1969, 1980; Schindler, 1990; Travis (cited in 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 describe children's language problems: *language disorder, language impairment, language delay, specific language impairment, semantic-pragmatic disorder, etc*. Many authors have developed definitions of key terms, but these also vary. This inconsistency leaves us in a quandary. How do we 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 fundamental question is: *Can we improve the appropriateness and consistency of our terms?* Many respected writers in our field have bemoaned the lack of consistency and suitability of our terms. Kamhi (1998, p. 35) suggested that 'it is unrealistic to expect … consistent terminology' but then appealed for 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). This document has grown out of the frustration experienced with the terms in our profession, and a belief that there must be a way to improve the situation.

Who is this document for?

This document is for speech pathologists who are concerned about our terminology, or who have experienced frustration related to terms, for example in the following situations:

- Being unsure about which communication 'condition' a presenter is referring to;
- Trying to write easily understood arguments to reimbursement services to explain the needs of people with communication or eating/drinking difficulties;
- Getting lost in the series of different labels for diagnosis used in our literature;
- Failing to secure funding for projects or services from administrators who do not understand the terms you use;
- Finding it hard to explain to others just what it is that you do for a living;
- Struggling with decisions about which terms to use in pre-service training for speech pathologists to equip them to work in a variety of contexts;
- Being involved in endless debates about differential diagnosis in children's language disorders;
- Conducting educational activities with other staff at your workplace, where you find they use the same terms with completely different meanings to you.

A number of new concepts and challenges to the way we currently use terms are presented. Working on terms and terminology can be difficult and confronting – if you are willing to take the challenge, this document is for you.

Aims

The aim of this document is to equip 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;
- Criteria for terms and definitions.

Goals for speech pathologists are:

- To examine their personal beliefs about terminology and identify how these beliefs may be contributing to problems with terms in practice;
- To formulate a dynamic and more realistic view of terms in practice;
- To apply criteria to terms and definitions;
- To be able to critically evaluate the use of terms for the various purposes within their own practice;
- To plan how to further explore and apply the concepts presented in this document with colleagues and within their own work context in the future.

Overview

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

This document 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 we use terms in our profession
- The analysis of terms through the application of criteria
- Some common problems with terms used for particular purposes

Each section introduces concepts which may be new to readers, explains why these concepts are important to improving terms and terminology, and concludes with some questions to assist readers to reflect on their learning. Working on terms and terminology entails exploring our own values, beliefs and practices. It can present a challenge to what we currently believe and do, so it is likely that readers may occasionally find the contents unsettling and disconcerting. Readers are encouraged to persist despite this experience; it is indeed a challenge to reflect on something as closely tied to self-concept as the values, beliefs and practices within our own professional area.

It is recommended that readers work through the document in the order it is presented, as later sections are based on concepts presented in earlier sections and the criteria are developed over a number of sections. It is estimated it will take between 6 to 10 hours to read through the document and complete the *Questions for Reflection*. It is also suggested that readers work through the material with colleagues to benefit from the opportunities for discussion of the concepts presented. Group activities in Section10 will take additional time.

Acknowledgements

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Terminology Frameworks Project Officer
Regina Walsh

Speech Pathology Australia Project Management Group
Lisa Shaw-Stuart, Patricia Bradd, Gail Mulcair, Assoc. Prof Lindy McAllister, Gillian Dickman, Leone Carroll

Feedback on project materials (Australia)
Assoc. Prof Lindy McAllister, Dr Giuliana Miolo, Dr Sue McAllister, Dr Julie Marinac, Patricia Bradd, Louise Brown, Dr Bronwyn Davidson, Vickie Dawson, Dr Cori Williams, Sue Horton, Gillian Dickman, Leone Carroll, Meredith Kilminster, Alison Smith

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Section 2: Glossary

This section defines key terms in this document; terms are also explained further in the sections in which they are introduced.

Artefacts: the products of human activity, most commonly referring to craft or artwork, but also including the speech sounds, spoken and written words, signs, symbols and other products of communication activity.

Communication: the act of exchanging meaning.

Conceptual model: a theoretical representation of a subject of study which shows the boundary and the detail, i.e. what the subject of study covers and its component parts.

Construct: a complex notion about the world created for the purpose of organising experiences. Common ***constructs*** in our culture are *love* and *intelligence.* While they mirror reality to some extent they are ideas or notions, not actual things. Profession-specific ***constructs*** emerge largely from theories we develop after repeated experience with the real world; we fashion them during our training and early working experience.

Context: the environment within which an activity or role takes place (***context*** obviously reflects elements of the ***culture*** as well; it is not imperative to make an absolute distinction between the two for the purposes of this document).

Culture: the system of values within which decisions and statements are made, including those about terms and terminology. ***Subculture*** refers to the system of values of a subgroup within the broader culture.

Definition**:** a statement which manifests what a thing is or what its name signifies.

Dimensions: the components of human communication that can be observed or focused upon within the chosen picture or ***conceptual model*** of human communication. Consensus about the pertinent ***dimensions*** of interest is based on a shared conceptual model of human communication.

Dynamic: active or moving, and is used as a descriptor for the way that human behaviour evolves and responds to the environment in which the behaviour is taking place. A ***dynamic view of terminology*** thus describes the way that humans adapt and change the terms they use in response to the environment in which the terms are being used.

Dysfunction or ***'dys'function:*** a collective term used in this document to refer the variety of terms that denote below normal functioning of communication, including *disorder, delay, condition, disability,* etc. ***Dysfunction*** is intended as a contrast to *function,* as used in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

Eating and drinking: the act of ingesting food and/or liquids and, for purposes of this document, includes the act of swallowing saliva. (Sometimes written as ***eating/drinking.***)

Entity: a physical or observable thing; entities differ from ***constructs*** in having ***material*** properties which allow them to be identified according to objective features (of interest to the specific scientific field).

Granularity: the feature by which terms are compared with regard to the scope of information and level of detail of information referred to. The ***granularity*** of a term is derived from the idea of the relative size of the 'grain' of information compared to other 'grains' of information. Just as grains

can be smaller or larger than each other, terms can refer to 'bits' of information that are greater/smaller in scope and detail than others. Thus terms can be described as being of ***finer granularity*** in that they refer to concepts that are smaller than or encompassed by a term/s for a broader concept.

Material: the physical and measurable property of a thing. It relates to things we commonly think of as having a physical/measurable property, such as a *tongue* and a *sentence*, and also things we may rarely think of as physical (although we do measure them), such as *voice* and *phoneme onset.* If something has properties which can be measured, these properties can be said to be ***material***.

Meta-terminology: the collection of terms that refer to terms and terminology to allow analysis and productive debate. Meta-terminology refers to features and characteristics of terms.

Perspective: the particular view of a subject of interest, including both the overall ***conceptual model*** of the subject and the focus on one of the various component parts of the subject. There can be as many perspectives/views/focus areas of a subject as there are disciplines which study it.

Phenomenon: a thing, behaviour, structure, physiological function, idea or event; this term is used when it is convenient to refer to these with an umbrella term.

Professional practice schema of speech pathology: the amalgamation of the various roles and activities (i.e. ***purposes***) that constitute the practice of speech pathology.

Purpose of a term: the reason for which a term is used in the roles or activities in which a professional is engaged.

Referent: the thing or idea to which a term refers.

Taxonomy**:** a structured system for naming and organising ***phenomena*** into groups that share similar characteristics.

Term: a word with a specific technical meaning in a specific context. A *term* can consist of one word or several words grouped for a specific meaning (e.g. *communication disability* is considered as a ***term*** for the purposes of this project).

Terminology: i) the body of terms for a specific field and ii) the information that refers to terms, including clinical vocabularies and systems, definitions, classification, nomenclatures, ontology, and the critical study of terms themselves; thus it can be used as a collective noun (e.g. *the terminology of the field*) and as an adjective (e.g. *terminology issues*).

Users: all the people who need to understand and use a term.

Section 3: Rationale for a new approach to terminology

This section describes some sources and impacts of terminology problems and suggests the need for a new approach to terminology work.

Why do we have such a problem with terminology?

Communication has been studies for thousands of years. Wollock (1997) has extensively explored the earliest documented studies of communication disorders from the Classic period. He documented the way that terms were gradually corrupted over time due to subtle mistranslations from the original Greek and Latin, and through attempts to unify completely separate classification approaches that were applied to human communication. For example, Aristotle's classification system was based on observable communicative behaviours and Galen's classification system was based on the putative sources of communication problems (Wollock, 1997). However these two different systems were amalgamated over time causing a number of problems including 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).

Modern day 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. For example, medicine draws on the knowledge of the 'pure' sciences of biology, chemistry, anatomy and physiology, which employ the methodologies of the 'hard sciences' (Tanner, 2006). The field of education draws on linguistics and psychology and has reflected the perspectives and trends from these disciplines over time (Alexander & Fox, 2004). As contemporary speech pathology has a diverse parentage, it follows that our terms have been derived from a range of different disciplines, rather than from a specific science of human communication.

Due to the complex evolution and diverse parentage of speech pathology, the terminology in the area is sometimes vague, inappropriately defined and used inconsistently (AIHW, 2003). Inconsistency in terms has repeatedly been recognised as an issue (e.g. Johnson 1968; Goldstein, 1970; Rockey, 1969; Schindler, 1990; Eadie, 2005; Behlau, 2005). Travis (1971, cited in Schindler (1990, p. 32) highlighted the following quote from Kenneth Scott Wood which still seems disconcertingly relevant:

> *All areas of scientific study are afflicted with a certain amount of ambiguity, duplication, inappropriateness, and disagreement in the use of terms. Like other sciences, speech pathology, audiology, and the entire cluster of studies associated with the production and perception of speech have been developing over the years a terminology and nomenclature that leave much to be desired in logic and stability. Many terms and their meanings are not well crystallized because the subject matter is always changing; concepts themselves are often tentative and fluid, and many writers have liberally coined new terms whenever they felt a need to do so. This growth of speech pathology and audiology, stimulated as it has been by so many workers, has generated hundreds of terms, some of which are interchangeable, some of which have different meanings to different people, some of which are now rare or obsolete, and some of which for various reasons have had only a short literary life.*

How do terminology problems impact?

A major challenge in terminology is the need to engage with a wide range of audiences for a variety of purposes. We need precise scientific terms for profession-specific communication; however, some of our terms have multiple or vague meanings. We also need more general terms to communicate with those outside the profession, for purposes including data collection,

service delivery, lobbying, advocacy, reimbursement systems, representing clients in government documents, policies and legislation, and in promoting the profession. Thus, we need terms to achieve a number of different purposes. It would benefit both our clients and our profession if we could choose the best terms and promote their consistent use.

Terminology problems have been identified as contributing to the following:

- Lack of understanding in the wider community about the negative implications in all areas of human functioning and on quality of life for those people with limited communication (Kamhi, 1998; Kamhi, 2004);
- Difficulties in health promotion related to communication and its disorders (Hoffman & Worrall, 2004);
- Difficulties in establishing the prevalence of communication disorders (Blum-Harasty & Rosenthal, 1992; Harasty & Reed, 1994; Law, Boyle, Harris, Harkness & Nye, 2000; Law, 2004);
- Difficulties in planning and implementing responsive and effective speech pathology services due to inadequate information about needs in local communities (Enderby & Emerson, 1996; Enderby & Pickstone, 2005);
- Difficulties integrating speech pathology services into a range of health, education and social contexts, due to a poor understanding of the benefits of providing services to support people's communication abilities directly where people are living, learning and working (McCartney, 1999);
- Difficulties for professionals in determining the best therapeutic approach for some clients due to poor definitions of various communication disorders (Gagnon, Mottron & Joanette, 1997);
- Difficulty for speech pathologists in participating in activities such as the implementation of clinical terminologies, e.g. SNOMED-CT® (NHS, 2002) and health classification systems, e.g. ICF (WHO, 2001) which require a degree of consistency in terminology currently lacking in the field of communication disorders (Walsh, 2005a);
- Difficulty promoting pre-service training courses for speech pathologists in various institutions as they are known by varying titles (Kamhi, 2005);
- The inefficient use of professional research funding for extensive debates in the professional literature about whether certain communication disorders actually exist or whether they are merely 'created' by the use of terms with vague definitions (Gagnon et al, 1997; Walsh, 2005a).

Over the last 40 years several major projects have looked at ways to improve the terminology relevant to communication sciences and disorders, with the main aim being to seek consensus on formal definitions for terms. Terminology problems have been seen as a purely scientific issue (Schindler, 2005), albeit with practical implications. Numerous classification projects, standardisation projects and translation projects have attempted to develop consensus scientific definitions for speech pathology terms. However, no projects have come to light which have attempted to address the underlying causes of inconsistency and lack of appropriateness in terms, and no projects seem to have considered the wide range of different purposes for which we need suitable terms. For an review of major terminology projects during the last 40 years, refer to the historical review undertaken as part of the *Terminology Frameworks Project* by Walsh and the International Group on Terminology Frameworks – Communication Science and Disorders [IGOTF-CSD] (2006).

In summary, inconsistent and inadequate terminology has a significant impact on the profession and on the people who need our services. Wide ranging comments and concerns have been raised about terms. Extensive work to find standard definitions and classification systems for existing terms has been undertaken by highly-skilled professionals, but no project to date has resulted in a sustained improvement in the consistency of the terminology within the profession. Terminology remains a major issue within our field.

Challenging the assumption that a list is the solution

The belief that a standardised list of terms will address the terminology issue is very widespread. While people commonly believe a list of terms will 'sort out the mess', such lists have been developed in the past, and have not had a measurable impact on the profession. 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 and with the professional practice schema, and may in fact merely result in terminology proliferation.

The assumption that a list of standardised terms is the 'solution' to terminology problems is based on an overly-simplistic view of how terms function within a professional field.

Terms are the dynamic, practical expression of our perspective

Terms are much more than words with definitions. Terms are a dynamic and practical expression of the professional schema, reflecting the profession's (tacit) beliefs, values, constructs, perspectives, and purposes for talking about human communication (and eating and drinking). Therefore, when investigating terms, we are actually investigating the values and the perspective of the profession (and subsequently our personal professional values and perspective). Terms need to be suitable to the various purposes we wish to achieve and the various contexts in which we practice.

Terms evolve

Terms are dynamic and will therefore change over time. We are well aware that the use of terms related to the field of disability has changed significantly over the last century; the same applies to many terms within our field. No one person or select group of people can 'set' the terminology for the entire field for all time. Terms have always, and will continue to evolve. Since terminology is dynamic and evolving, it is unlikely that strict rules (a recipe or a list) for terms would be successfully implemented.

Terminology is extremely complex

Rockey (1969) said that while experts in a specific clinical area are more likely to define a term well, such people may not necessarily be expert in matters of terminology. Crafting terms and definitions requires more than knowledge about the subject of interest; it requires a sound understanding of the field of terminology itself. Description of health concepts is difficult and investigating and analysing terminology in a productive way is extremely complex and time consuming (Chute, 2000). Rockey (1969) called for terminology to be considered a specialised field of study requiring as much research and thought as other specialties.

In summary, the assumption that a list of standardised terms will solve the terminology problems of our field is based on a simplistic and inadequate view of how terms work within our professional schema. The answers to the terminology problems of speech pathology do not lie in a standardised list of terms; our professional parentage is too broad, human communication too complex and our practice paradigms too diverse to be accommodated in a single list of terms. Projects to develop standardised lists of terms have been tried many times, and while they may have short-term local success, they have failed to result in a significant improvement in consistency of terminology across the field.

An alternative approach: criteria for terms

An alternative approach to finding a solution to our terminology problems is to establish criteria for terms and definitions. Such criteria should be based on a thorough understanding of the professional practice schema of speech pathology, and allow for both **consistency** in how the underlying meaning of the term is accessed and shared and **flexibility** in how a term is actualised in different contexts.

This means that we need:

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

The field of Health Informatics has begun to move away from information systems based on organising terms themselves, to organising the underlying concepts, developing concept maps and standardising meta-data about terms and concepts. Madden and Hogan (1997) proposed that a productive approach to improving consistency in terminology related to disability would be a framework which included common information about terms and which allowed common reference points. Such frameworks convey information about how terms work – essentially a **meta-terminology**. This entails looking beyond the terms themselves to the required standards or criteria for terms and definitions. Establishing criteria for terms provides the basis for successful communication about complex information between individuals and between systems; effective standards for terminology are invisible and are taken for granted (Pavel and Nolet, 2001)

Developing **criteria for terms** is completely different to developing **standardised terms**. Such an approach is relatively unexplored in our field. Criteria refer to information **about** terms: they set the parameters for the analysis and discussion of terms between professionals. Criteria for terms would allow the sharing of precise information within an international professional community, while also allowing for flexibility and variability in how this information is actualised locally in terms, in different contexts and different cultures. Establishing criteria for terms targets the professional, rather than the term, as the potential source of improved consistency – through improving the knowledge and understanding of the professional about the principles of **effective** terminology.

The need for criteria for definitions has been raised previously by a few writers, with some suggesting that good definitions are ‘crisp’, ‘satisfying’, etc., (e.g. Hewitt, 1961 and Perkins, 1962, cited in Johnson, 1968; Critchley, 1967, cited in Rockey, 1969). However, specific objective criteria for terms within speech pathology have not been agreed upon to date. Consensus about the criteria for terms and definitions would help to rid us of some problematic terms with unhelpful definitions, which contribute to any number of issues, including problems in clinical reasoning.

This document: *Criteria for the Analysis of Speech Pathology Terms: Challenges and a Methodology* presents and explores a theoretical framework for criteria for terms and definitions based on the purposes for which we use terms. This is an important step in addressing the problems around terms in our field. Such a framework presents the necessary criteria for terms and definitions, which will then allow professionals to select the most effective term for the purpose for which it is to be used. Through establishing shared criteria, 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.

Summary

Section 3 has explored some of the sources and impacts of the problems speech pathology faces in terminology. It summarised the shortcomings of the belief that a list of standardised terms will sort out the terminology ‘mess’. Finally, it provided a rationale for a new approach to improving appropriateness and consistency in terminology: criteria for terms and definitions that reflect the realities of the professional practice schema.

Questions for reflection

1. How does the diverse parentage of the speech pathology profession contribute to the issues in our terminology?
2. How have issues with terms and terminology negatively impacted on you?
3. How is the belief that we can use a standardised list of terms to solve our terminology problems based on an overly-simplistic view of how terms work?
4. How would the approach of developing criteria for terms differ from developing a standardised list of terms?

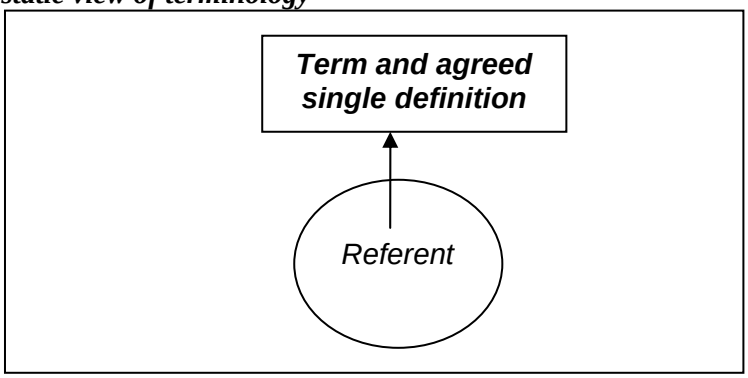
Section 4: A framework for criteria for terms

This section sets the scene for the development of criteria for terms by introducing a dynamic view of terminology and a framework to use to establish criteria.

A static 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 Diagram 1, has dominated terminology literature and project work for decades.

Diagram 1: A static view of terminology



This view of terminology ignores context and application, and implies that terms refer to absolute and unchanging entities in a rarefied world of 'pure' science.

A dynamic view of terminology

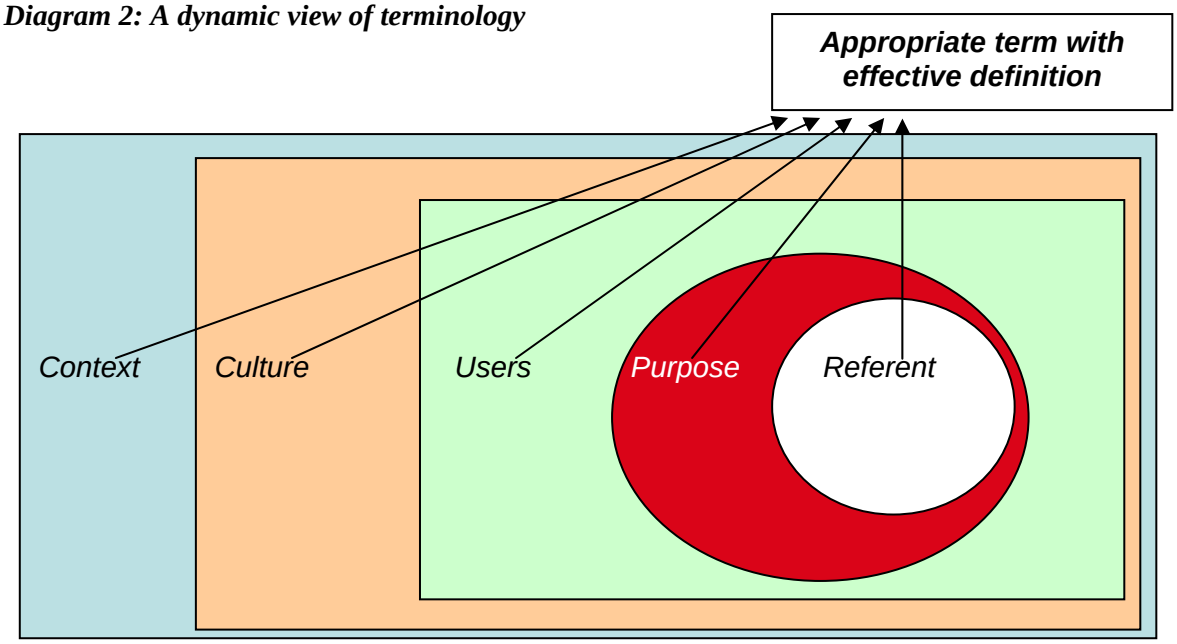
Systems theory and the outcomes of previous work on terminology suggest that a static view of terminology does not necessarily represent how terms work in practice (Bain, 2005). It ignores a number of other influences on terms, such as the various purposes that we have for referring to human communication and the contexts and cultures within which we practice. These all influence the features of an appropriate term and effective definition. Taking these parameters into account is the basis of a dynamic view of terminology.

The Referent remains a key parameter within a dynamic view of terminology. In addition, the influence of other parameters is also acknowledged. A dynamic view of terminology holds that each term has a **Referent** and is used for a **Purpose** by **Users**, within a **Culture** and in a **Context**. Thus, an appropriate term with an effective definition reflects the influence of:

- The **Referent** – the thing or idea within communication to which we are referring
- The **Purpose** – the reasons we use 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 Diagram 2.

Diagram 2: A dynamic view of terminology

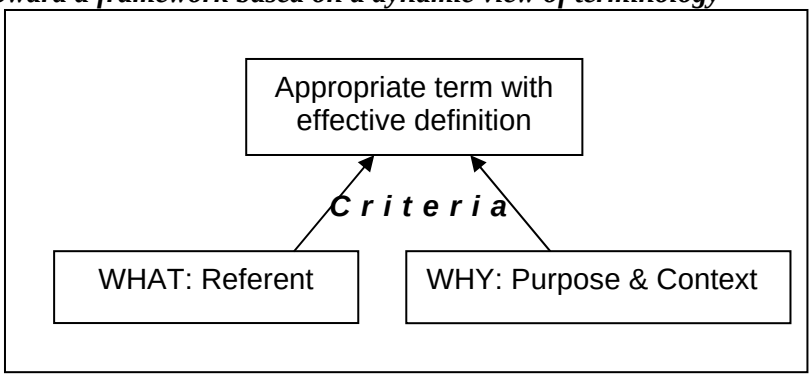


Each of these parameters is the source of specific criteria for terms and definitions. For example, a term must be *accessible to all identified Users* and a term must be *relevant to the Context*. Within a dynamic view of terminology, terms are viewed as appropriate or inappropriate for a particular purpose, i.e. they do or do not meet the criteria for terms for that purpose. This document will first present a comprehensive framework based on a dynamic view of terminology, and then explore each of these parameters in turn to establish criteria for analysing terms and definitions.

A framework for criteria

A dynamic view of terminology is a more realistic view of how terms work in practice. From this view, appropriate terms with effective definitions are the result of the interplay between WHAT we are talking about **and** WHY we are talking about it.

Diagram 3: Toward a framework based on a dynamic view of terminology



Therefore, criteria for terms must be based on detailed information about:

a. The range of possible **Referents**; and
b. The various **Purposes** for which we use terms within speech pathology.

To establish appropriate terms with effective definitions we need to ask a number of questions. With regard to the WHAT side of the diagram we need to ask ourselves not only, 'What does this term refer to?' but also 'What specific aspect of human communication am I focusing on?' and 'Is this type of definition appropriate for the nature of the thing I am referring to?' With regard to the WHY side of the diagram we need to ask ourselves not only 'Why are we using this term?' but

also 'Who needs to use this term?'; 'In what contexts and/or culture do we need to use this term?' and 'Is the Referent suitable for the purpose of the term?' These and other questions are explored in depth throughout this document.

A dynamic view of terminology underpins the *Dynamic Terminology Framework* presented in Diagram 4 (on page 18). This *Framework* illustrates that the synergy between WHAT and WHY:

- WHAT: 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, i.e. the specific thing or idea within the overall picture or model of human communication. The model of human communication will be presented and discussed in Section 5.
- WHY: On the right-hand-side of the *Framework* is a *conceptual model of terms in use*. Within this model, each occasion of use of a term can be considered according to the **Purpose**, the **Users**, **Culture** and **Context**. In addition, each **Purpose** for which we use terms has an **Applicable Dimension**, which is the focus area within human communication that is inherent to that Purpose (explained on 29). The model of terms in use will be explored in Sections 7 and 8.

Articulating the criteria related to the Referent, Purpose, Users, Culture and Context and ensuring that our terms meet these criteria will result in terms and definitions that are appropriate and effective, will meet our needs, and thus will be used more consistently. The *Dynamic Terminology Framework* therefore provides the basis for a logical and rigorous methodology for projects and activities seeking solutions to our current terminology issues.

Summary

Section 4 contrasted the static and dynamic views of terminology, and introduced the *Dynamic Terminology Framework*. Selecting appropriate terms and crafting effective definitions is influenced by both:

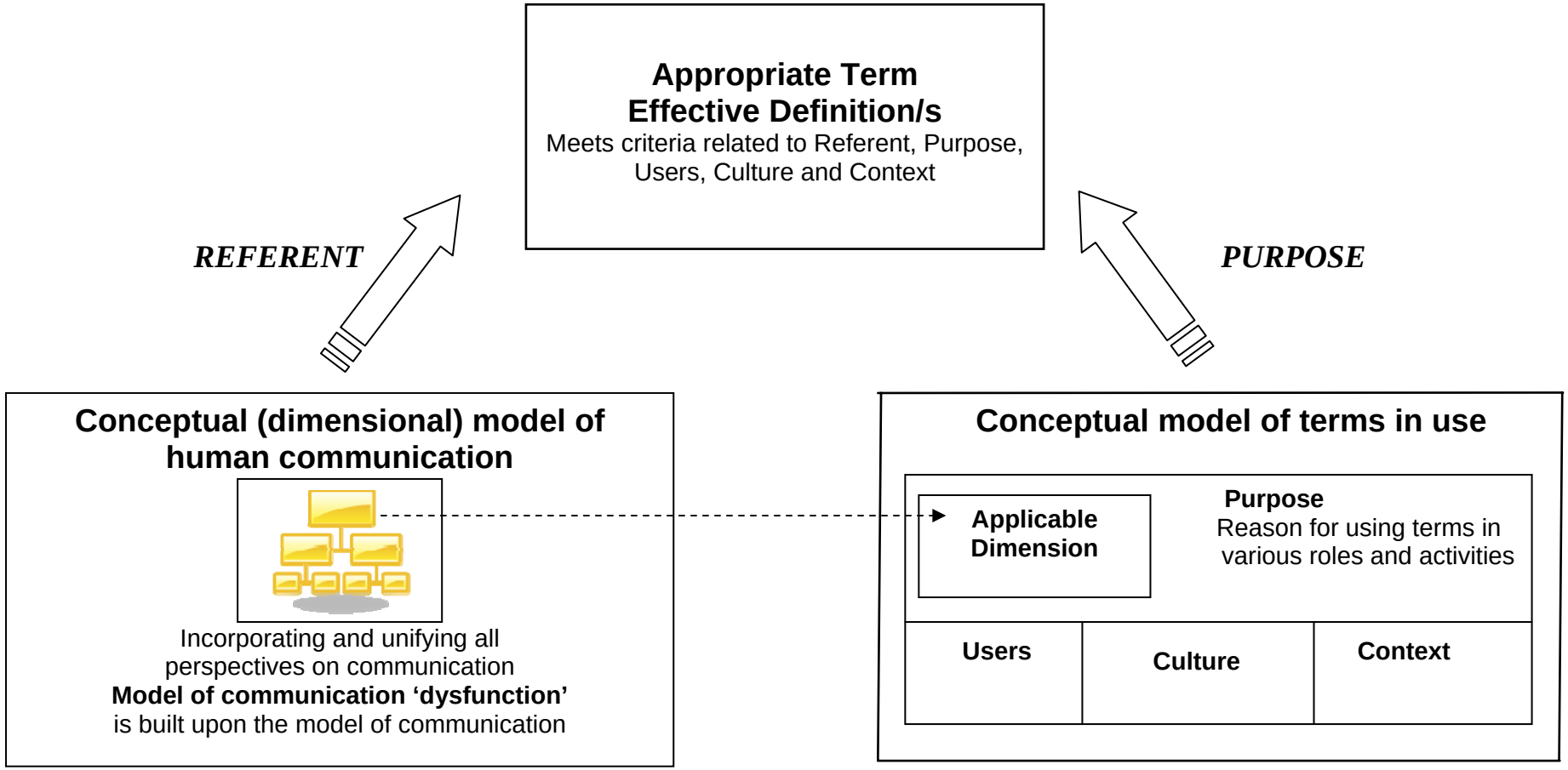
- The various **Referents** within an overall conceptual model of communication; *and*
- The various **Purposes** for which we use terms within speech pathology.

The parameters to consider in developing effective terms and definitions are the **Referent**, **Purpose**, **Users**, **Culture** and **Context**. In the following sections, we will see how each of these parameters provides the basis for specific and objective criteria for appropriate terms and effective definitions.

Questions for reflection

1. What is the key difference between a static and dynamic view of terminology?
2. The *Dynamic Terminology Framework* suggests that it is necessary, for some Purposes, for the term used to refer to something to be different in different contexts or culture. Which type of Purposes might these be and why? Could this variation cause problems within the speech pathology community?

Diagram 4: Dynamic Terminology Framework



Section 5: A conceptual model of human communication

The *Dynamic Terminology Framework* calls for a clearly articulated conceptual model of human communication. This section explains the pivotal role of a shared conceptual model of human communication for terminology work and introduces an adaptation of an existing model of human functioning as the basis for discussion in this document.

Perspectives on communication

One of the reasons that we have so much difficulty with terminology in our field is that human communication is extremely complex, and can be conceptualised in a number of ways from a considerable number of perspectives. We are well aware that human communication spans the ways that human functioning is considered and classified in Western culture. It does not fit neatly into any one of the traditional medical, education and social paradigms. Communication is **necessarily** physiological, psychological, behavioural and social (Alexander & Fox, 2004). In other words, every communication act has physiological, psychological, behavioural and social (and other) aspects; each specialist field of study tends to focus on just one of these. Thus, while we recognise that communication has a social aspect, at a particular time we may focus only on the physiological aspect. The perspective we take and what aspects of communication we refer to depend what we consider *communication* is; our terms reflect how we view human communication.

A conceptual model of human communication articulates what communication is, the component parts of communication which can be considered, and thus the perspective/s from which communication is viewed. It is a theoretical representation that delineates the aspects of the subject of interest to provide a shared basis for professional discourse. We each have our own conceptual model – our own way of understanding *communication*, and thus what we do as speech pathologists. However, our field does not have a single prevailing conceptual model[1] of human communication.

A number of models of communication exist, for example, the transport model, the social-interaction model, the dialogical cooperation model (Haaland-Johansen, 2007). Conceptual models are not right or wrong; they represent different ways to look at an object of study. Depending upon our model, we view human communication as having varying component parts upon which we can focus, and terms are then employed to refer to this range of component parts. It follows that if my model of communication is different from yours, then what my terms refer to could be quite different to what your terms refer to – even if we use the same terms. To enable productive discussion and analysis of terms and their Referents, it is essential to have a shared and clearly articulated conceptual model of human functioning, including communicating and eating/drinking (Walsh, 2005a).

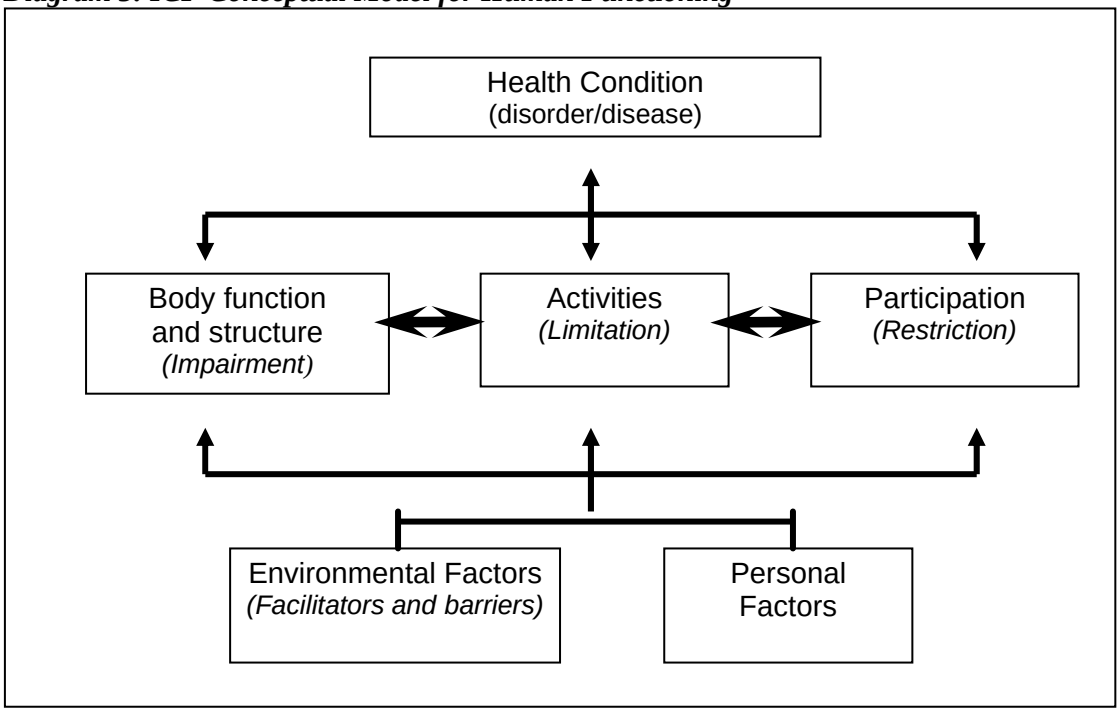
The lack of a prevailing, clearly articulated conceptual model of human communication within speech pathology presents a major stumbling block. Without a shared conceptual model within the profession, it is possible to debate endlessly about the terms we use to refer to things and ideas, but in fact be referring to entirely different phenomena. Alternatively, we may unknowingly be discussing the same phenomenon but from different perspectives for which we have adopted different terms. Only with a shared model of human communication can we determine if terms have the same Referent.

[1] *A **conceptual model** of communication is distinct from the many **process models** of communication (e.g. Stackhouse and Wells' (2001) Speech Processing Profile model) which articulate how communication works. A conceptual model does not attempt to describe how communication works, but illustrates what it is, and its component parts.*

Integrating perspectives on communication

The International Classification of Functioning, Disability and Health (WHO, 2001), known as the ICF, integrates the various perspectives that can be taken on human functioning, including communication. It represents a unifying model: a biopsychosocial model – integrating the traditionally separate medical, educational and social models of human functioning. The ICF (WHO, 2001) provides a useful basis for integrating the various perspectives that may be taken on human communication (Simeonsson (2003); Schindler, Muò, Di Rosa, Manassero, Venero & Schindler, 2004; Threats & Worrall, 2004). Diagram 5 illustrates the ICF (WHO, 2001) conceptual model.

Diagram 5: ICF Conceptual Model for Human Functioning



The ICF (WHO, 2001) conceptual model provides the basis for classifying human functioning. Human functioning is seen as physiological, behavioural and social, and influenced by environmental and personal factors. Issues or problems at each of these levels are labelled as *impairments*, *limitations*, *restrictions*, *facilitators* or *barriers*. The ICF (WHO, 2001) classifies *communication* at the Activity/Participation level, and classifies *language* and *voice and speech* at the Body Function and Structure level. Readers should access the ICF (WHO, 2001; 2003) if they require more information about the model and classification system, as this knowledge will be assumed for this document.

A conceptual model of human communication

In comparison to many of the other aspects of human functioning in the classification system of the ICF, human communication is considerably more complex and warrants division into more detailed component parts. Further expansion within the activity component is required to reflect the fact that communication is an activity (i.e. behaviour) that entails not only **action,** but also complex responses or **interaction** involving another person. Communication is also more complex than many other human activities in that it involves using symbolic representations. Clark (2006) suggested it is important to recognise that symbolic representations have a **propositional** aspect (i.e. the meaning or message) and a **material** aspect (i.e. 'products' or 'artefacts' that can be recorded or measured: spoken and written words, sounds, gestured signs). It is possible to focus on any one of these dimensions within the Activity component of communication; therefore they should be articulated separately. The existing ICF model (WHO,

2001) also does not include the critical component of *communicative intent* at any level of its classification system.

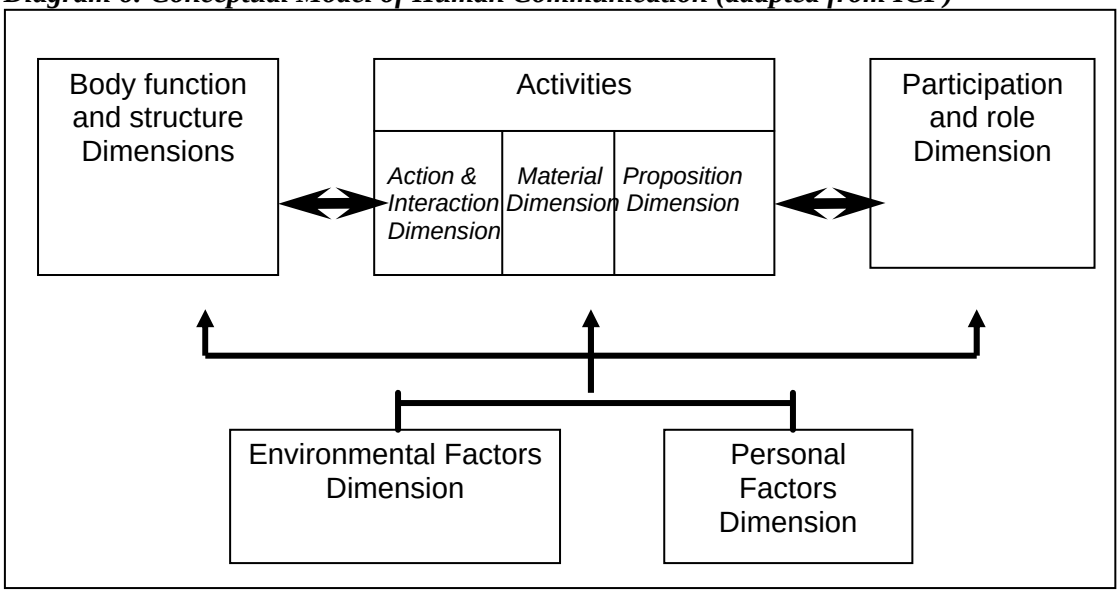
An adaptation of the ICF model (WHO, 2001) with greater detail within some components of the model is presented below. To distinguish this new model from the ICF model, these component parts will be referred to as the various **dimensions** of communication. As the aim is to present a model of human communication, disregarding its disorders at this stage, the *health condition* component has been removed from the ICF (WHO, 2001) model. Further detail has been added to the activity dimension as discussed above. The same model applies to eating and drinking (called *ingestion* in the ICF), although the specific issues with the lack of detail in the activity dimension do not apply.

The *Conceptual Model of Human Communication* (see Diagram 6) delineates the following dimensions:

- Environmental factors dimension: facilitators and barriers to communication in the physical, social and attitudinal environment of the individual;
- Personal factors dimension: particular attributes of an individual including gender, race, age, lifestyle, habits, character, personal beliefs, etc., that may influence communication;
- Body Structure dimension: anatomical structures related to voice and speech and to language;
- Body Function dimension: physiological and psychological functions related to voice and speech and to language;
- Action and interaction dimension: behaviours of communicating;
- Material dimension: products or 'artefacts' of communicating, i.e. words, sounds, symbols, etc.;
- Propositional dimension: the meaning aspect of communication;
- Social role and participation dimension: involvement in life situations through communication, including participation in the range of social roles (parent, worker, friend, etc.) and in social situations (greetings, formal presentations, humour, etc.).

It is possible to focus on any one of these dimensions at a particular time, and the terms we use in our practice reflect this. Focusing on different dimensions within the model is referred to as taking different **perspectives** on communication.

Diagram 6: Conceptual Model of Human Communication (adapted from ICF)



As a conceptual model of an individual functioning as a communicator, Diagram 6 does not include the *communicative partner*, but this could be argued to belong within the Environmental factors dimension. Within this model *communicative intent* could be considered at the Body function dimension (although some could argue it belonged within the Personal factors dimension).

The fact that different perspectives on human communication are possible is a source of confusion and the reason that a shared, clearly articulated conceptual model is integral to terminology work. Due to the wide scope of speech pathology practice, its terms and definitions reflect a range of different perspectives (i.e. focus on any one of the different dimensions) which can be taken on human communication.

Diagram 6 provides a way of understanding how different definitions for the same term may be created. For example, the varying definitions of *language* across various fields of study reflect the differing focus on different dimensions, e.g. speech pathology generally focuses on the body function dimension in its definitions for *language* (i.e. the symbolic representation system), and linguistics and second language learning fields generally focus on the material dimension (i.e. the words themselves). It is necessary to use 'generally' as there will be exceptions, but each field of study, and its terms and definitions are primarily orientated around a focus on a specific dimension within the overall model of human communication.

Diagram 6 also provides a basis for understanding how a term like *language* can have a common meaning and a different scientific meaning – the everyday definitions of *language* entail a focus on the material dimension (i.e. the words and sentences) while scientific meaning of *language* may encompass several dimensions (i.e. symbolic code for the exchange of meaning within a culture).

The *Conceptual Model* is at a rudimentary stage of development, and requires extensive further investigation to provide the detail within the dimensions that is necessary for the field. (Some options for future explorations and development of the conceptual model are discussed in Appendix 2.) An alternative simplified layout of Diagram 6 is presented in Table 1 below, which may be of more use for some applications or analyses.

Table 1: Alternative layout of the Conceptual Model of Human Communication

Components of Human Functioning (ICF, WHO, 2001)							
Environmental Factors	Personal Factors	Body structure	Body function	Activity			Participation
Dimensions of Human Communication (based on ICF, WHO, 2001)							
Environmental factors	Personal factors	Body structure	Body function	Action & Interaction	Material	Propos-ition	Participation & role

The *Conceptual Model of Human Communication*, adapted from ICF (WHO, 2001) will be used in this document as the basis for discussing terms. The *Conceptual Model of Human Communication* and the various perspectives on communication taken by different individuals for different purposes and in different contexts will be referred to frequently in the discussion throughout the following sections.

Summary

Section 5 has explained that any discussion about terms needs to be based on a clearly articulated conceptual model which includes the various component parts or the perspectives that can be taken on communication. It is fundamental to productive work on terms and definitions that we have the same concept in mind. The lack of a clearly articulated shared unifying conceptual model of human communication has been a major barrier to efforts to discuss terms and their referents.

An adaptation of the conceptual model of the ICF (WHO, 2001) was presented with extensions to reflect the complexity of human communication. The *Conceptual Model of Human*

Communication will be used throughout this document when discussing the various criteria for terms and definitions.

Questions for reflection

1. On which dimension of communication does each of the medical, educational and social paradigms predominantly focus?
2. To which dimension/s do these terms primarily refer?

TERM	***DIMENSION***
a. Plosive	*Material dimension*
b. A speech-generating device	*Environmental factors dimension*
c. Transverse muscles of the tongue	*Body structure dimension*
d. Eye contact [2]	*Action and interaction dimension*
e. MLU	
f. Communication disability	
g. Specific language impairment	
h. Prosody	
i. Diphthong	
j. Auditory processing	
k. Comprehension	
l. Topic shift	
m. Semantic-pragmatic disorder	
n. Sensory-neural hearing loss	
o. Expressive language	
p. Noun phrases	
q. Intelligibility	
r. Third person verb agreement	
s. Gesturing	
t. English	

3. Have you experienced an unresolved or frustrating debate with a colleague outside the profession about how to manage a particular communication 'condition'? Can you reflect back on this debate with reference to the *Conceptual Model of Human Communication* to determine if each of you might have been referring to different dimensions of communication?
4. In what ways does the common use of the term *speech* differ from a speech pathologists use of the term *speech* (think about referring to different dimensions)?

[2] This is an example of a complex abstract noun phrase used to refer to what in reality is an action (called **nominalisation** – nouns used in place of verbs). This is extremely confounding in professional discourse. There are three more examples in this list which involve nominalisation.

Section 6: Criteria related to the Referent

With the *Dynamic Terminology Framework* and the *Conceptual Model of Human Communication,* it is possible to begin to develop criteria for terms and definitions. This section explores the various criteria which relate to the Referent.

Referent and definitions

The Referent is the thing or idea to which a term refers. In the previous section we saw that it is possible to take different perspectives on communication, and to focus on a specific dimension within the overall model of communication. A shared conceptual model of human communication is needed to be able to establish that when two people use a particular term that it does actually have the same Referent. This constitutes the first of a number of essential conditions for terminology work.

> *Essential Condition 1: The Referent is derived from a clearly articulated conceptual model of human communication*

Once we are reassured that we are likely to be referring to the same thing or idea with a term, we are able to begin to craft a definition. There can be as many definitions of a thing or idea as there are ways of understanding it; the definitions of a thing are as numerous as are the sciences which observe it (Ross, 2005). A *definition* is a statement which manifests what a thing is or what its name signifies (Rockey, 1969). An effective definition is a concise description that distinguishes one term from any other (Pavel & Nolet, 2001). However all definitions are not of equal standing; some definitions do not meet very basic requirements identified by terminologists, and some definitions provide little clarifying information about a term.

Criteria related to the Referent

Several criteria developed by terminologists and translation professionals can be applied to speech pathology terms and definitions. Effective definitions are based on the following (criteria and examples derived from Rockey, 1969; WHO, 2001; Pavel & Nolet, 2001; Morris, 2005):

- Conciseness and predictability
- Positive/affirmative statement
- Linearity and clarity
- New information
- Precision and co-extensiveness
- Part of speech parity

Conciseness and predictability

> *Criterion: The definition is concise and predictable, and includes only essential information*

Definitions should be as brief as possible while providing the essential information. This information should fit predictably into the expected ways of referring to the subject within the field of study. A concise and predictable definition: *Bachelor: unmarried male,* can be contrasted with an absolutely exhaustive but unnecessarily long definition *Bachelor: a living unmarried human male of marriageable age that has never been married.*
An example of a definition which meets this criterion is below; it is concise and provides information about physical form and the function which are predictable types of information for definitions in this field:

- *Tongue: muscular organ in the mouth used for chewing and swallowing, and for articulating speech sounds.*

An example of a definition which does not meet this criterion is below; it is overly long, does not provide the specific information that one would expect in a definition of an organ in the body:

- *Tongue: the active articulator on the floor of the mouth, which when lifted is held down by the lingual frenulum, on either side of which are two papillae on top of which is the opening of the submandibular salivary glands.*

Positive/affirmative statement

Criterion: The definition is a positive/affirmative statement of the Referent

The aim of defining the Referent is to describe what it **is**, rather than what it is **not**. Effective definitions avoid exclusion-based 'it's not x' style statements; while exclusions might add information to an extended definition, they should not constitute the main information provided. An exclusion-based definition is inadequate for the ongoing development of professional knowledge.

When referring to 'disorders', it is often difficult to avoid negative statements; it may be particularly difficult while the field of study is still maturing and the state of knowledge is under-developed. Rockey (1969) and Ross (2005) have criticised definitions of 'disorders' or 'pathological conditions' that do not pay due attention to the positive quality which is lacking. Pathological conditions should be seen as **privations** of an expected function and defined in this way.

An example of a commonly-used exclusion-based definition is that of *specific language impairment*: *a developmental deficit in language in the absence of a number of other diagnostic features.* An alternative positive/affirmative style of statement would be: *a developmental deficit with the primary diagnostic feature of impairment of the symbolic representational system.*

Linearity and clarity

Criterion: The definition is linear and clarifying; it avoids circularity

Definitions should be constructed to provide clarity. To be clarifying, definitions must avoid **circularity**, which results when a definition includes the term being defined. Examples of circular definitions, which consequently do not clarify the term, are: *an articulation disorder is a defect of articulation; Verbosity: the act of being verbose.* This is known as **self-reference**, i.e. referring back to the term itself to define it. It is essential that the term itself does not appear in the definition. The opposite concept to circularity is linearity – in an effective definition, there is one way progress between the term and the definition, without any self-reference.

New information

Criterion: The definition provides new information; it avoids tautology

The type of information required in the definition will depend on who is using the term and the context of use, which will be covered later. Regardless, it is important that the definition provides new information such as a description of the features of the thing referred to, and is not just a paraphrase of the term. **Tautology** is the repetition of the meaning of a term merely using different words, an easy trap to fall into in crafting definitions, particularly when the term is a phrase. An example of a tautological definition is: *Infantile swallowing: an immature pattern of swallowing.* In this example, there is no new information, merely a replacement of the term *immature* for *infantile,* and self-reference to the term *swallowing.* An alternative definition which provides new information and avoids tautology could be: *a pattern of anterior/forward tongue thrusting movement during eating/drinking which persists beyond infancy.*

Precision and co-extensiveness

Criterion: The definition is precise and co-extensive with the Referent

The definition must be an accurate and precise reflection of the thing to which it refers, and must be neither more nor less than the Referent. The first aspect of precision relates to co-extensiveness. **Co-extensive** means that the definition covers the same extent as the term. Care must be taken to ensure that the definition is not too broad, i.e. contains more than the Referent, or too narrow, i.e. contains less than is embodied in the Referent. For example, *dysfluency* refers to a broader concept than *stuttering*, so it is not co-extensive with it and cannot be used alone to accurately define it. An example of definition that is too narrow would be defining *stuttering* as *the repetition of sounds.* Neither of these is precise enough to state exactly what *stuttering* is.

The exercise of determining the precision and co-extensiveness of a definition entails determining the scope and level of detail of information of the Referent. It relies on a clearly articulated conceptual model of human communication, highlighting once again its central role in terminology. (Those who are particularly interested in this criterion will find more information in the discussion on **Granularity** in Appendix 2.)

Another aspect of precision relates to etymology, the meaning according to the derivation of the parts of the words. Words do evolve over time so that the common meaning and the derivation may no longer be aligned. (An everyday example is the gradual change in the meaning of *alternate* (from the Latin *alternare*: do things by turn) to mean the same as *alternative* (from the Latin *alternativus*: other)). This causes little problem in everyday talking; language is sufficiently redundant so we usually know what the speaker intends the word to mean.

However, disregard for the etymology of technical terms results in numerous problems. A common issue with terms is the misuse of prefixes so that they change the meaning rather than act as qualifiers (Rockey, 1969). An example is *aphasia* used in some contexts to mean *acquired language impairment* while *dysphasia* is used to mean *developmental language impairment,* disregarding the meanings of the prefixes *a-* (*not* or *without*) and *dys-* (*bad* or *difficult*). In other circles, *aphasia* means the same as *dysphasia.* These meanings are not shared across all professional circles, however, so the one term means (at least) two different things within the speech pathology profession.
Sonninen and Damsté (1971) questioned the continuing use of terms derived from classical Latin and Greek when these languages are no longer commonly part of the education of professionals. Such terms allowed a precision in technical terms that is not needed in everyday words, but their misuse has contributed to variable interpretations of the terms. To improve clarity and precision, it is necessary to either align terms with their etymological derivation or discontinue their use. Every effort should be made to align the derivation, particularly regarding the affixes, with the definition of the term.

Part of speech parity

Criterion: Part of speech parity exists between the term and the first key word of the definition

The first key word of a definition must be of the same part of speech as the term being defined; this ensures that the definition refers to the same type of **entity** as the Referent.
This criterion is too frequently ignored, and leads to long definitions that somehow fail to explain exactly what the Referent is. This is easiest to demonstrate through examples of where this has <u>not</u> been met are:

- *Noise-induced hearing loss: when exposed to a loud noise for any length of time, a person may eventually have a noise-induced hearing loss which is sensorineural in character;*
- *Overextension: at the two-word stage of language acquisition, overextensions may occur.*

Summary

Section 6 has presented criteria related to the Referent, the thing or idea to which a term refers. An essential condition for terminology work is that the Referent is derived from a clearly articulated model of human communication. When analysing or crafting definitions, the following criteria should be applied:

- The definition is concise and predictable
- The definition is a positive/affirmative statement of the Referent
- The definition is linear and clarifying; it avoids circularity
- The definition provides new information; it avoids tautology
- The definition is precise and co-extensive with the Referent
- Part of speech parity exists between the term and the first key word of the definition

Questions for reflection

1. Do the following definitions (from Morris, 2005) meet the criteria related to the Referent?
   a. *Count nouns*: nouns which the language treats as separable entities; they are opposed to mass nouns.
   b. *Creaky voice*: a description of a person's voice produced at a very low pitch.
   c. *Focal sites*: a specific part of the brain from where symptoms of disease and disorder can occur.
   d. *Lingual tonsil:* a structure formed by some lymphoid tissue at the back of the tongue.
   e. *Speech acts*: describe the presumed intention of the speaker when expressing an utterance in relation to the hearer.
   f. *Verbal auditory agnosia*: a very severe form of agnosia.
   g. *Vital capacity*: the biggest breath a person can take in or let out.
   h. *Myoclonus*: a movement disorder characterised by sudden jerks.
   i. *Group therapy*: people can work out their problems with other people around them and find out how others in the group react to the way or ways those with the problem are given to overcome it.
   j. *Fistula*: a hole or opening which remains after surgery.
   k. *Dysphonia*: disorders of respiration, pitch intensity and/or resonance which impair communication.
   l. *Paraphasia:* an error usually found in the language of those with aphasia, where they substitute a word, sound or morpheme for another in the spoken as well as the written form of language.
   m. *Schwa:* perhaps the mot common vowel found in English.
   n. *Eye contact:* some people who have a stammer or a voice disorder are so embarrassed when they speak that they fail to look directly at the therapists or person to whom they are talking.
   o. *Disyllable:* two syllables which make up a phonetic unit.
   p. *Wh- questions:* question words which begin with *wh-* i.e. why, what, who, when, which and where.
   q. *Agraphia:* disorders of writing which may be neurological in origin.
   r. *Turn taking:* the pattern of reciprocal interchange which takes place in normal conversational situations.
   s. *Unintelligible speech:* the speech of a person who has a very server communication problem.
   t. *Lip reading:* a form of communication used with people who have a hearing loss.
   u. *Connected speech:* a particular type of speech.
   v. *Age-equivalent scores*: scores that are obtained after working out the results of assessment by looking up tables in the manuals of the assessment concerned.
   w. *Implosive*: a glottalic ingressive voiced stop.
   x. *Oesophageal prosthesis*: a device placed in the fistula following a laryngectomy.

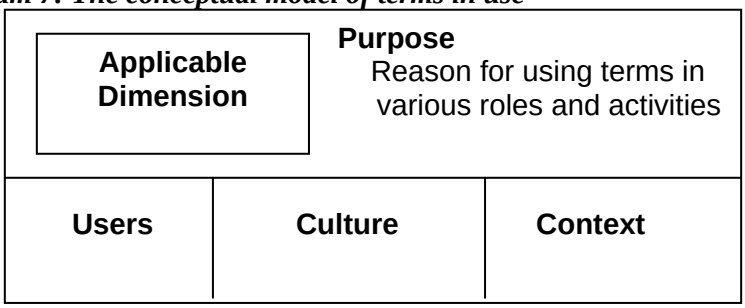
Section 7: Criteria related to Purpose

The *Dynamic Terminology Framework* calls for a conceptual model of terms in use that reflects the reality of terms in practice and identifies the relevant parameters to be considered. This section begins the exploration of the *Conceptual Model of Terms in Use*. It introduces the different Purposes for which we use terms within speech pathology and explains how each Purpose has an Applicable Dimension. It then discusses the criteria related the Purpose of terms.

A conceptual model of terms in use

The *Conceptual Model of Terms in Use* was introduced on page 18 within the overall *Dynamic Terminology Framework.* It holds that each Purpose for which we use terms can be specified according to its Applicable Dimension, Users, Culture and Context as in Diagram 7.

Diagram 7: The conceptual model of terms in use



The first two parameters of Purpose and Applicable Dimension will be discussed in this section, with the remaining three discussed in Section 8.

The influence of purpose on terms and definitions

Most previous work on terminology has been premised on the need to find the most accurate and scientific definition for each term (Schindler, 2005). However, the usefulness of a definition ultimately depends on the purpose or function to which the term is put. Medawar and Medawar (1983) explained:

> *A hunger for definitions is very often a manifestation of a deep-seated belief … that all words have an inner meaning that patient reflection and research will make clear … indeed, amateurs will sometimes [ask]: "What is the true meaning of the word 'life'?" There is no true meaning [of the word 'life']. There is a usage that serves the purpose of working biologists well enough.*

Thus, it is not fruitful to search for permanent and uniform definitions for terms, as definitions must vary according to different purposes (Madden & Hogan, 1997). In other words, an effective definition is determined and shaped by the purpose for which we use the term, rather than being an essence of the 'thing' being defined (Ross, 2005). Therefore identifying the different purposes for which we use terms is important.

Purposes

Purposes are the reasons we use terms in the **roles** and **activities** which make up our professional practice. These Purposes include assessing communication status, advocating for clients, gathering prevalence data, classifying communication phenomena into organisational systems, etc., and thus can involve a range of people as well as speech pathologists. A full list of Purposes is provided in Table 2 beginning on page 29.

The various Purposes in our field are derived from the various disciplines from which speech pathology has evolved, i.e. linguistics, psychology, medicine and sociology (Tanner, 2006). Each

of these disciplines traditionally takes a different perspective on human communication, i.e. each discipline predominantly focuses on one dimension of communication. Related to this, each of these disciplines has a different range of roles and activities for which the professionals use the terms. Therefore, due to our diverse professional parentage, speech pathology has inherited an enormous range of Purposes for which we use terms. For example, analysing language samples is derived from linguistics, describing behaviour from psychology, making a diagnosis from medicine, and collecting data about populations from sociology.

The Applicable Dimension

Speech pathology professional practice is an amalgam of Purposes based on focusing on different dimensions of human communication. To be rationale, each Purpose within our professional practice schema thus entails focusing on the pertinent aspect of communication, i.e. the thing, behaviour, quality or construct, which is inherent or applicable to that Purpose. The specific aspect of human communication to which terms for each particular Purpose must apply is the **Applicable Dimension.** For example, for the Purpose of advocating for people's rights, the Applicable Dimension is the impact on participation for the individual (the Participation dimension); for the Purpose of making a diagnosis, the Applicable Dimension is the Body structure and function dimensions plus the causal factor/s.

As part of identifying the Purpose of a term, it is necessary to identify the Applicable Dimension for this Purpose. The Applicable Dimension will be one or more of the dimensions from the C*onceptual Model of Human Communication* on page 21.

List of purposes for speech pathology terms

The *Competency-Based Occupational Standards* [CBOS, 2001] *for Speech Pathologists* (Speech Pathology Australia, 2001) identified the range of competencies expected of a speech pathologist entering the profession. CBOS, 2001 was used to identify and organise the various Purposes for which we use terms within the speech pathology professional practice schema. (The CBOS, 2001 headings have been slightly adapted.)

The Purposes of terms in speech pathology are presented in Table 2. The Applicable Dimension for each purpose is also listed according to the **dimensions** of communication and eating/drinking in the *Conceptual Model of Human Communication.* At this stage, the list of Purposes has not been validated as exhaustive, and the categories are not necessarily mutually exclusive. Some of our Purposes which do not refer to the conceptual model may not be represented, e.g. labelling service delivery models. It is envisaged that this list of Purposes will be refined over time. These various Purposes represent how we see the practice of speech pathology currently. This constitutes the second of a number of essential conditions for terminology work.

> *Essential Condition 2: The Purposes are representative of the range of activities and roles within the professional practice schema.*

Table 2: Purposes for terms in speech pathology

CBOS UNIT *Activities and roles*	***PURPOSE*** *Reason for using a term in an activity or role*	***APPLICABLE DIMENSION*** *Dimension/s of communication and eating/drinking*
Assessment (Unit 1)	**Describing an individual's background and situation**	Environmental factors and/or Personal factors dimensions
	Describing the influencing factors on communication and/or eating/ drinking	Environmental factors and/or Personal factors dimensions
	Describing the individual's biological status related to communication and/or eating/drinking	Body structures dimension
		Body functions (i.e. physiology and psychology) dimension

CBOS UNIT *Activities and roles*	*PURPOSE* *Reason for using a term in an activity or role*	*APPLICABLE DIMENSION* *Dimension/s of communication and eating/drinking*
	Describing communication and eating/drinking behaviours	Activity dimension (action/ interaction for communication)
	Measuring aspects of communication	The Material dimension
	Describing the symbolic aspect of communication	Proposition (i.e. meaning) and/or material dimension
	Describing an individual's ability to participate and fulfil social roles	Participation dimension
	Identifying causal factors	Environmental factors and/or Personal factors dimension (and Health condition from ICF)
Analysis and interpretation (Unit 2)	**Demarcating dysfunction** of communication and/or eating/drinking	Activity dimension, and less commonly Participation dimension
	Making a diagnosis Labelling the established diagnosis: signifies the nature and cause; *terms serve as an explanation and a delineation from other conditions*	Body structure or Body function dimension plus known causal factors (Environment and Personal factors plus Health condition from ICF)
	Identifying conditions and issues Labelling the theorised 'conditions' inferred from behaviour and observed issues; *terms serve as a description*	Usually Activity dimension, sometimes Participation dimension (also sometimes with theorised (inferred) reference to Body structure/function dimension)
	Proposing a prognosis Describing likely/possible changes in behaviours of communication and/or eating/drinking over time	Usually Activity dimension, sometimes Participation dimension
Planning, providing and reporting on speech pathology intervention (Units 3&4)	**Setting and monitoring therapy goals**	Usually Activity dimension (any of Action/interaction, Material, Proposition) and Participation dimension apply, although occasionally Body function dimension can apply
	Describing change of communication and eating/drinking behaviour	Activity dimension (Action/ interaction for communication)
	Describing change to the symbolic aspect of communication	Proposition (i.e. meaning) and/or Material dimension
	Measuring change in communication	Activity dimension, particularly the Material dimension
	Describing change to the biological status of communication/ eating & drinking	Body structures dimension Body functions (i.e. physiology and psychology) dimension
	Recording clinical care Labelling and describing the focus of the service provided; may be individual records or electronic patient records systems	Activity (sometimes participation) dimension *(as distinct from medical care which focuses on body structure and function dimensions)*
	Labelling intervention approaches Labelling approaches to intervention or types of intervention programs	Usually the Activity dimension, or may infer Body structure or function dimension/s
Planning, maintaining	**Advocating for individuals rights** Promoting rights of an individual to	Activity or Participation dimensions

CBOS UNIT *Activities and roles*	*PURPOSE* *Reason for using a term in an activity or role*	*APPLICABLE DIMENSION* *Dimension/s of communication and eating/drinking*
and delivery of speech pathology services (Unit 5) *(only additional)*	service agencies and government, entails labelling an individual according to additional special needs in communication and/or eating/drinking	
	Applying for funding for services/resources Entails labelling or describing individuals according to additional special needs that are relevant to the funding source	Activity or Participation dimensions and the limiting/ negative implications of these, or to the type of support needed (Activity or Environmental factors dimensions)
	Allocating individuals to service delivery categories Labelling individuals according to workplace-specific service delivery categories, i.e. existing government categories for funding or service organisation	Most commonly to the Activity dimension and the limiting/ negative implications; the type of support needed, i.e. Activity (eating/drinking assistance; communication difficulties) or Environmental factors (service provider)
	Managing service level data Collecting and labelling units of data about individuals in standardised units of information (about communication status/behaviour, etc) to sum the number of occurrences of a feature of interest	Most commonly Activity dimension, but it is possible to apply to any dimension with the proviso that all units of data that are collated must refer to the one dimension. *In medicine, the Applicable Dimension for Managing service level data is the Health Condition, but this is not so useful in speech pathology*
Professional, group and community education (Unit 6) *(only additional)*	**Lobbying for appropriate provision of services** Communicating to government to promote the rights and requirements of the population, entails labelling people according to additional special needs	Usually the Activity or Participation dimensions and the limiting/negative implications of these. Less often it might be the Environmental factors dimension (the type of service required)
	Conducting public relations Providing information to the public (the targeted audience will influence the choice of terms) about communication and/or eating/drinking development and 'disorders'	Usually the Activity or Participation dimensions and the limiting/negative implications of these. It might include the Environmental factors dimension
	Conducting educational activities Providing information to a targeted audience about communication and/or eating drinking development and 'disorders'	Usually the Activity or Participation dimensions and the limiting/negative implications of these. Can refer to Body structure/ function dimensions, but only if linked to Activity/Participation. Might include the Environmental factors dimension
	Delineating and describing the role of the speech pathology profession to others *Distinct from profession-specific*	Activity or Participation dimensions and the limiting/ negative implications of these; may refer to Body dimensions as part of this (as

CBOS UNIT *Activities and roles*	*PURPOSE* *Reason for using a term in an activity or role*	*APPLICABLE DIMENSION* *Dimension/s of communication and eating/drinking*
	statement of role.	explanation or further information) but not as first point
	Labelling the profession	Activity or participation dimensions or a culturally shared construct (multiple dimensions)
Professional development (Unit 7) *(only additional)*	**Establishing prevalence** Collecting and labelling units of data about the population in standardised units of information (about communication status/problem, eating/ drinking disability, etc) to sum the number of occurrences of a feature of interest within the population	Most commonly Activity dimension *Possibly can apply to any dimension with the proviso that all data to be collated must refer to the one dimension, and be in mutually exclusive categories*
	Classifying the phenomena of interest to the field (Taxonomy – whole field) Labelling and categorising all phenomena of interest to the professional field within a single comprehensive organisational schema	*Can be any one dimension or a multi-axis schema incorporating a number of dimensions. Phenomena categorised together must be from the same dimension, and the taxonomic principles must be articulated*
	Classifying some of the phenomena of interest to the field (Taxonomy – part field) Labelling and categorising a subsection of communication phenomena of interest to the professional field	*Can be any one dimension, but all phenomena within a classification should be from the same dimension*
	Intra-professional discourse – describing communication domains	Multi-dimensional constructs, only understood by the profession (e.g. *language, speech, fluency*, etc)
	Intra-professional discourse – analysing speech/language	Material dimension (e.g. *semantics, syntax, phonology*)
	Intra-professional discourse – describing communication modes or prosthetics	Activity, Material dimension and/or Environmental factors (e.g. spoken words, nonverbal mode, AAC system and/or device)
	Delineating research subjects Labelling a group of participants for inclusion in speech pathology research studies by delineating them from others	Activity dimension
	Articulating research aims, methodologies and outcomes Labelling aims, methodologies and outcomes for speech pathology research	Activity dimension most commonly; sometimes Participation, rarely Body structure and function dimension/s
	Delineating the scope and role of the profession (internal-use only) Labelling the domains of human communication and eating/drinking and the roles of the profession in relation to these	Multi-dimensional constructs crossing a number of dimensions, only understood by the profession

Criteria related to purpose

Once the Purpose of a term has been identified, several criteria can be applied. Criteria related to Purpose are perhaps the most complex and challenging of those considered in this document, and readers may wish to take longer on this section to reflect on the concepts. The criteria relate to:

- The Referent and the Applicable Dimension
- The nature of the phenomenon
- Directness of observation
- The type of definition
- The role of the definition

The Referent and the Applicable Dimension

Criterion: The Referent comes from the Applicable Dimension for the Purpose

As discussed previously, each Purpose entails a focus on an appropriate aspect of communication, the Applicable Dimension. The wide scope of speech pathology professional practice raises the possibility of a mismatch between the Purpose and the Referent of the term, in that the Referent may not come from the Applicable Dimension.

Problems result if an inappropriate dimension of communication is referred to for a specific Purpose. For example, referring to the Body structure and function dimensions of communication is inappropriate for the Purpose of advocating, and usually only serves to confuse other people. Similarly, focussing on the Participation dimension is inappropriate for the Purpose of making a diagnosis, and tends to confound clinical reasoning. We are steeped in a static view of terminology, and so familiar with using our terms for various purposes, that this most basic of criterion is often overlooked. Many of the issues in our terminology result from a mismatch between the Purpose (with its Applicable Dimension) and the Referent. The following two criteria assist in explaining its importance.

Nature of phenomenon

Criterion: The definition is suitable for the nature of the phenomenon (thing/entity, construct, other), which itself must be appropriate for the Purpose

Discussing communication entails referring to phenomena of different natures, including any of the following:

- a physical thing (e.g. a tongue, a neurone, a sign, a spoken word)
- a physiological function (e.g. moving the tongue, breathing)
- a psychological function (sometimes called a mental ‘faculty’, e.g. memory)
- a simple behaviour (e.g. pointing to a symbol, uttering a word)
- a complex behaviour (e.g. maintaining and switching topic in conversation, thinking)
- an event or occasion (e.g. maternal rubella is the *occasion* leading to a lesion of Organ of Corti)
- a quality (e.g. timbre, pitch)
- a simple construct (e.g. environmental deprivation, parental role, delayed development)
- a complex construct (e.g. language processing, personality, intelligence)

Thus, a term and its definition may refer to an **entity** (a physical or observable thing or behaviour) or to a **construct** (an idea or theoretical concept). Many of our terms refer to a single **thing/entity** and therefore a single dimension within the *Conceptual Model of Human Communication***.** For example, *hearing impairment* refers to the Body dimension; *mean length of utterance* refers to the Material dimension. In contrast, many terms refer to a collection of information from a range of dimensions combined to form a **construct**.

Some of our terms label extremely complex constructs that are culturally and professionally derived. These complex constructs tend to incorporate information from multiple dimensions of communication or eating/drinking. For example, speech pathologists use *language* to refer to phenomena from different dimensions – the term *language* refers to the dimensions of Body structure, Body function, Material (and others), and has therefore been fashioned into a profession-specific **construct** that refers to several dimensions. Some terms for complex constructs that we use are *language, speech, intelligibility, auditory processing, delay, voice, phonology, swallowing,* and *disability*. Such constructs emerge largely from repeated experience with the real world, we learn and adopt them during our training, and rarely analyse them during our working lives. While they mirror reality to some extent, they are merely a mental construct created for the purpose of organising our experiences (Ross, 2005), i.e. they have no physical reality, they are not real entities, and they may make no sense outside the community of professional users within one culture. People outside our field are not likely to share our understanding of such constructs (McCauley, 2001). Terms for complex constructs do not translate directly from one culture to another; geographical and cultural differences lead to differences in the constructs and thus in the terms (Schindler, 2005; Patterson, 2005). These complex constructs seem stable enough to give the impression of reasonable discussion and debate, but are not stable at all under close scrutiny (Bowker & Star, 1999). Some writers have challenged the profession in this regard (e.g. Apel, 1999), but the serious negative impact on professional discourse has not been adequately explored.

This distinction between a **thing** and a **construct** is essential for ensuring that the nature of the phenomenon of the Referent is suitable for the Purpose. Many Purposes require reference to actual things/entities, for example, terms for the Purpose of prevalence require reference to observable quantifiable behaviours or things. It is not possible to determine the prevalence of a construct, yet an analysis of the difficulties in prevalence studies reveals that the profession has tried to do this many times (e.g. Law et al, 2000; Law, 2004). Taxonomy, diagnosis, educational activities and many other Purposes require reference to actual things/entities or behaviours. As we are extremely familiar with our profession-specific constructs, we can 'forget' that they are actually constructs and have no physical reality. We complain that others outside speech pathology do not understand terms such as *fluency* or *speech*, when in fact we use these terms to refer to profession-specific constructs that we have fashioned ourselves.

Treating **constructs** as though they were **things** can also confound clinical reasoning. For example, debates about the relationship between *language* and *cognition* founder on the (frequently ignored or played down) fact that both terms refer to constructs – the use and meaning of each term varies enormously amongst professionals. Theories and practice relating to the relationship between *language* and *cognition* lack a solid foundation of precisely what each term means (Wilson, 2005). This type of issue is common in professional research literature and debate in many areas of the human sciences, and results from referring to complex constructs as though they were real things (a tendency known as **reification)**.

Defining a term for a construct is considerably more difficult than defining a term for a thing. We define constructs, such as *disability* or *language disorder*, in terms of what we as a professional community agree they will mean. This is distinct from defining a physical entity, such as a *tongue* which has material properties that can be observed and measured. For example, *vocal nodules* constitute an **entity** identified according to objective features (of interest to the specific scientific field); while *voice disorder* is a **construct** which has different meanings and applications in different cultures (and subcultures and contexts) even within the one scientific field of study. Terms for entities are defined by universal features, but not so terms for constructs. As such, definitions of constructs are a matter of consensus of theory about complex phenomenon, more than a matter of finding the 'true essence' of the phenomenon being defined (McCauley, 2001).

Terms referring to *dysfunction* in human communication (and eating/drinking) relate to complex constructs which are culturally and professionally derived. To define *disorder* entails developing consensus about the criteria to demarcate something as a disorder and the usefulness of the criteria

for making this distinction. Definitions of *disorder* do not refer to 'an essence' of the disorder (Ross, 2005). The appropriateness of the definition for a term and the criteria by which we demarcate *disorder* ultimately depend on the purpose of the term. This adds complexity to crafting definitions, so it is essential to clarify at the outset whether the term refers to an entity or a construct.

In summary, the definition must reflect the nature of phenomenon. Therefore, it is essential to identify the nature of the phenomenon being referred to, and ensure this is appropriate for the Purpose for which the term is being used. Profession-specific constructs may be useful for intra-professional discourse (although they can confound clinical reasoning), but we must be extremely cautious about our use of them when communicating with those outside speech pathology.

Directness of observation

Criterion: The definition reflects the directness of observation, which itself must be appropriate for the Purpose

Communication is observed through people's behaviour (Action/interaction dimension) and the Material dimension of communication, i.e. the 'artefacts' that are produced. Words, sounds, symbols, etc. are all cultural 'artefacts', in the same way that we think of written texts and pottery as cultural artefacts (Clark, 2006). Speech pathologists devote considerable energy to the observation and analysis of communication behaviours and the material 'artefacts' of communication, and from this information make inferences about other dimensions (McCauley, 2001). In contrast, some aspects of communication (e.g. speech processing, areas of breakdown within language comprehension) cannot be directly observed and are inferred from other information.

Therefore, the different dimensions of human communication are more or less directly observed and we detect them in different ways; we *observe, measure, judge, evaluate, assume* or *infer* information about each of the dimensions of human communication. The dimensions can be:

- Directly measured (objective), e.g. the number of words in a sentence (Material dimension);
- Directly observed (subjective), e.g. the quality of voice produced (Material dimension); the appropriateness of a response to a question (Action/interaction dimension); the participation of an individual in the classroom (Participation dimension);
- Inferred from what can be observed of another dimension, e.g. comprehension of spoken words (Body function inferred from Action/interaction dimension, i.e. pointing to a picture); the nature of a disorder e.g. word finding difficulties (Body function inferred from Action/interaction and Material dimension, i.e. 'searching' for words while talking).

Inferred information is suitable for some Purposes; for example, it is appropriate for the Purposes of conducting public relations and lobbying to use terms which are based on inferring the negative implications for individuals from information observed from the Activity dimension.

However, certain Purposes require that the phenomenon is directly observed rather than inferred, e.g. the Purpose of making a diagnosis. The field of medicine (from which we have taken the Purpose of diagnosis) draws a distinction between ***symptoms*** *and* ***diagnosis*** and requires direct observation of the physiological mechanisms to establish the specific nature of a condition. The Applicable Dimensions for making a diagnosis is the Body Structure and Function dimension. For example, the diagnosis of *Coeliac Disease* is only reached after a biopsy of the colon, i.e. directly observed evidence of the disease, despite the availability of symptoms which could lead a practitioner to infer the existence of this condition. In speech pathology, however, we often make a 'diagnosis' through inference, i.e. using only the observed/measured symptoms or behaviours. Speech pathology is replete with 'inferred-diagnosis' terms which are based only on the 'symptoms' observed in the Activity dimension. Such terms do not meet the criteria for the

Purpose of making a diagnosis because directly observed information at the Body level (the Applicable Dimension) is not available.

Reliance on inferred information is a result of the current state of scientific knowledge about the brain, the nature of communication itself, and is indicative of a still maturing professional field. In recognition of the fact that, on many occasions, we do not (yet) have the necessary directly-accessible information to make a diagnosis, CBOS (2001) included in its list of competencies for speech pathologists, *'determines the basis **or** diagnosis of … issues and conditions'*. It is not always possible to make a diagnosis related to a communication problem. 'Inferred-diagnosis' terms do have their uses. They assist us in determining intervention strategies. They guide decisions about therapy and prognosis. They also play an important role in the testing of hypothesis regarding communication 'dysfunction'.

However, problems arise when we then treat this inferred information as though it had been directly observed and is thus incontrovertible fact. It results in protracted debates about proposed diagnoses, such as *auditory processing disorder* and *semantic-pragmatic disorder*. These terms imply the existence of a 'condition' at the Body function dimension, but are based only on information from the Activity dimension. Other interpretations or explanations may be possible for the symptoms. Assuming that inferred information is 'fact' confounds clinical reasoning and leads to a circular argument about symptoms and causality, as in 'Why does this person have a diagnosis of *j*?' … 'Because they have symptoms *x, y and z'* … 'And why do they have symptoms *x, y and z'* … 'Because they have condition *j*.' It also leads to the proliferation of terms which refer to overlapping aspects of human 'dysfunction' and which are used as though they referred to clinical 'entities' when in fact none have been established (Gagnon, Mottron & Joanette, 1997). Tentative diagnostic labels created for research should be either confirmed as true diagnostic terms or discarded. This confirmation should take place within a reasonable timeframe for research. This does not consistently happen; terms used in research studies sometimes move into use as diagnostic terms (e.g. *specific language impairment*) without the necessary rigorous investigations. The other pitfall is that we tend to use our 'inferred-diagnosis' terms for a range of other Purposes which cannot be based on inferred information (e.g. prevalence studies, taxonomy, etc).

Assuming that inferred information is 'fact' is a widespread issue across the health services, not just in speech pathology, and results in enormous difficulties in professional communication. Many terms from psychology (e.g. *sensory processing, short term memory, intelligence, cognition*) are based on making an inference from observed behaviours and implying some sort of 'faculty' or 'condition' at the body function dimension (Wilson, 2005). These terms are used as the basis of some diagnostic terms in communication disorders, which then also consequently lack specificity and clarity. Wilson (2005) said that appealing to a psychological 'faculty' (e.g. *short term memory)* which we have inferred as a way of making sense of behaviours that we have observed does nothing to **explain** the behaviours we have seen, but is an example of a circular argument.

The reader may be concerned that this issue means that many of our terms should be 'thrown out', but this is not the intention. Rather, the argument is that our field needs to establish a consistent way to **differentiate** terms that are truly diagnostic (i.e. explanatory information at the Body structure/function dimension) and those that describe communication behaviour/s and infer a biological basis (i.e. descriptive information about the Activity dimension and subsequent inference). In this document, the list of Purposes in Table 2 lists 'Making a diagnosis' is as one Purpose, and 'Identifying conditions and issues' as a separate Purpose, as the Applicable Dimension (and other criteria) for terms for each Purpose is different. A most important advancement in our field would be to establish a consistent way to label these inferred-diagnosis terms. For example we could agree that the terms *disorder* and *impairment* were restricted to use of information directly observed at the Body level dimension, while the term *condition* would be used for information measured at the Activity level dimension with an inferred physiological basis. (See Appendix 2 for further discussion of a model of

communication 'dysfunction'). Many options are possible; the imperative is to find a consistent way to make this differentiation to allow clarity in professional discourse.

Type of definition

Criterion: The type of definition is suitable for the Purpose

Several systems of classifying **types** of definitions exist. Rockey (1969) suggested that the types of definitions most pertinent to human communication are:

- Etymological: concerned with the derivation (but is the least complete type of definition)
- Nominal: general meaning in general use
- Empirical: observable symptoms
- Essential: the exact distinguishing note of a thing
- Causal: etiological

On one hand, this means that one term could have several definitions of different **types**. For example, *puberphonia* could be defined as:

- an adolescent voice (an etymological definition)
- higher pitch voice that persists beyond puberty (an empirical definition)
- a voice pitch disorder (an essential definition)
- a psychogenic voice disorder (a causal definition)

On the other hand, it means that several different terms can refer to the one thing but with different **types** of definition. For example, the terms *childhood dysphasia* and *language learning disorder* refer to the one thing, where the first refers to the etiology (causal definition) while the second refers to the observed behaviour and symptoms (an empirical definition.)

The different types of definitions are more or less suitable for different Purposes. For example, an etiological definition is suitable for the Purpose of diagnosis. For the Purpose of identifying communication conditions for which we are uncertain of the cause, an empirical definition would be most suitable, while an etiological definition for such a condition may represent just one theory for the condition. It is critical that definitions for all terms within the one Purpose, e.g. all terms for prevalence or taxonomy, should be of the same type (Rockey, 1969; Simeonsson, 2003; Oats, 2004). When this does not happen, different terms with different types of definitions proliferate and lead to confusion.

Role of the definition

Criterion: The role of the definition is suitable for the Purpose

The **role** of a definition refers to whether it is used to:

- Explain: provide information about why the phenomenon exists
- Delineate: differentiate between this phenomenon and others
- Describe: provide information about the phenomenon; descriptive definitions can refer to any aspect, including:
  - What it can do
  - What it is part of
  - What it is made of
  - What it links to
  - When it occurs
  - What it consists of
  - What category it fits into
  - What purpose it serves
  - What aims it achieves
  - What it is like (referring to a term that is more familiar)

All these different roles are valuable, but their appropriateness depends on the Purpose and context of the term. In some areas of speech pathology, terms proliferate for the one thing/phenomenon with definitions that play different roles. This is most apparent in child language terms, where some terms focus on **explaining** the 'problem' e.g. *childhood dysphasia* and other terms **describe** the 'problem' e.g. *language learning disorder*. Other terms have been developed to **delineate** specific 'problems' from others. For example, the impetus for the term *specific language impairment* was to **delineate** one particular pattern of presentation in individuals from others (viz. language impairment co-occurring with or without significant intellectual impairment; see Stark & Tallal, 1981), rather than to **explain** the condition. Difficulties in terminology, research and clinical practice result when terms that describe and delineate conditions are used as though they explained a condition. This is, unfortunately, fairly common and results in extensive debate and considerable difficulty in clinical reasoning.

Summary

Section 7 has begun the analysis of the *Conceptual Model of Terms in Use*. It introduced and explored the Purposes of terms – the reasons for which we use terms in our various roles and activities. Each Purpose is entails referring to the logical Applicable Dimension. A list of Purposes within the professional practice schema of speech pathology was presented, with a caveat that it may be refined over time. A second essential condition for terminology work holds that the Purposes are representative of the range of activities and roles within the professional practice schema. When choosing terms and crafting definitions a number of criteria should be considered:

- The Referent comes from the Applicable Dimension for the Purpose
- The definition is suitable for the nature of the phenomenon (thing/entity, construct, other), which itself must be appropriate for the Purpose.
- The definition reflects the directness of observation, which itself must be appropriate for the Purpose.
- The type of definition is suitable for the Purpose
- The role of definition is suitable for the Purpose

Questions for reflection

1. Do you think the number of different Purposes within speech pathology may be greater than in some other professions? If so, why do you think that might be?

2. As the activities and roles in our practice vary over time, it follows that the Purposes for which we use terms vary within a given day. Can you identify the main Purposes for which you used terms in your workplace on your most recent work day?

3. Which Purpose applies in the following?

ACTIVITY OR ROLE	***PURPOSE***
a. Meeting with a local parliamentarian to discuss the need for increased speech pathology services in the area	*Lobbying*
b. Categorising the school students eligible for language support classes	*Allocating to service delivery categories*
c. Identifying the cause of a client's voice problem	
d. Undertaking a grammatical analysis of a language sample	
e. Describing the ability of an individual to chew and swallow	
f. Articulating the role of the speech pathologist in an acute care setting	
g. Describing the impact of an individual's communication problem on their capacity to work	
h. Developing a list of the types of disorders for which speech pathologists can provide rehabilitation services	

4. Think of one term that you think is currently used for a variety of different Purposes. Is the Applicable Dimension the same for these various Purposes?
5. What is the main difference between a definition for an entity and a construct?
6. Consider these terms and determine whether they involve direct observation or inference.

TERM	***DIRECT/INFERRED***
reduced rate	*direct*
working memory	*inferred*
size of vocabulary	
vocal fry	
auditory processing disorder	
pitch	
percentage of syllables stuttered	
non verbal learning difficulty	
phonetic analysis	

7. Identify the type and role of the definition for the following:
    a. *Myoclonus:* a movement disorder characterised by sudden jerks
    b. *Dysphonia*: disorders of respiration, pitch intensity and/or resonance which impair communication
    c. *Hypotonia*: a description of flaccidity found in muscles
    d. *Down syndrome*: syndrome produced by Trisomy 21 wherein an extra part of a chromosome is present on the long arm of the chromosome 21.
    e. *Mutism*: an inability to speak or phonate
    f. *Tinnitus*: the perception of rushing, roaring, ringing noises in the ear

Section 8: Criteria related to Users, Culture and Context

In Section 7, the exploration of the *Conceptual Model of Terms in Use* covered the range of Purposes for which we use terms within speech pathology practice. This section continues the exploration of the *Model.* Each Purpose can be specified according to Users, Culture and Context. This section explores these parameters and explains the criteria related the each of these parameters.

Users

Users are all the people (e.g. members of the general public, speech pathologists, etc) who are identified as needing to use terms for a particular Purpose. 'Users' is a more appropriate and inclusive term than 'audience' and signifies **all** the people who need to understand and use a term (Madden & Hogan, 1997). The Users can include:

- Speech pathologists
- Other professionals
- Clients of speech pathology services
- Families of clients of speech pathology services
- Non-professional colleagues in work settings
- Administrative personnel in work settings
- Politicians
- Lawyers and advocates
- Statisticians
- Disability activists
- General public
- Others

Many of our Purposes (e.g. establishing prevalence, applying for funding, conducting public relations) necessitate that many people (Users) other than speech pathologists understand and use terms related to human communication appropriately. It is critical for speech pathologists to move away from the prevailing view that we are the 'informed speakers with knowledge of terms' and all others are our 'audience'. This document avoids the term 'audience' because of the implied unequal status of the communication partners (unless an 'audience' is part of the activity, such as providing workplace educational activities with a presenter and an audience.)

The term 'User' implies equal status and equal need for suitable terms by all the people who need to refer to communication and eating/drinking. It highlights another essential condition for terminology work.

Essential Condition 3: The identified Users are considered as being of equal status.

Criterion related to Users

Many different Users need to have access to appropriate terms related to communication and eating/drinking. The identified Users will vary considerably with the Purpose. Once the Users of terms for a particular Purpose have been identified, it is necessary to consider the important criterion of Accessibility.

Accessibility

Criterion: The term and definition are accessible to all identified users

Professionals tend to view themselves as the 'owners' of special terms (i.e. the holder of the special knowledge to understand the terms), despite the fact that terms used for some Purposes

(particularly in the public arena) must be accessible to many different Users. As a result, many potential allies in, for example, advocacy, service delivery and management, may be disempowered by (or simply too busy to get over) the terminology 'barrier'. If we maintain the current situation where the speech pathologist has to inform every other User about every term and definition then we have an untenable situation: an unending burden of educating others continuously and a great source of misunderstanding and frustration about terms. If we identify that speech pathologists are the **only** Users of terms for a specific Purpose, then this is not an issue, but only a minority of Purposes are truly profession-specific. If, however, we identify that others need to use terms for a particular Purpose, then we need to ensure terms and definitions are accessible to all these Users.

Ensuring that terms are **accessible** to identified Users entails awareness of the various perspectives of communication and of eating and drinking (introduced in Section 5). Different Users can take different perspectives on communication and eating/drinking which means that different Users focus on different dimensions, including:

- Structural or physiological conditions of the body (e.g. cleft palate)
- Impacts for the person in daily activities (e.g. speaking clearly)
- Service implications related to activity limitations (e.g. education and health services required)
- Individual and community implications (e.g. social isolation and other participation restrictions)
- Societal implications (e.g. broader impacts on independence, financial security)
- Others

The fact that different Users may take different perspectives on communication is a key aspect in understanding where inter-professional and professional-public communication can break down. One term can be used by different Users with different meanings due to referring to different dimensions. For example, one User (a parent or a client) might use the term *speech* to refer to talking (i.e. the Activity dimension) whereas another User (a speech pathologist) might use the term *speech* to refer to the physiological function of producing connected phonemes (i.e. the Body function dimension). As mentioned in the section on the *Conceptual Model of Human Communication*, awareness that different Users may have different perspectives on human communication provides a basis for understanding how some of our core professional terms, e.g. *language*, *fluency*, have both a common meaning and a different scientific meaning.

Ensuring that terms are accessible to all who need to use them sounds only reasonable, but what it means in practice is that professionals need to 'let go' of some of the terms that they are familiar and comfortable with. A common source of terminology problems is taking a profession-specific perspective of human communication for those Purposes of terms where accommodating other Users' perspectives is imperative, for example, for Purposes of national data collection, funding applications. For Purposes that involve the general public, such as conducting public relations, professionals should avoid terms that refer to the Body structure and function dimensions, such as *dysphagia*, and refer instead to the Activity or Participation dimensions, e.g. *eating and drinking 'difficulties'* (or term relevant to the context). The term *swallowing* is also problematic for use with the general public because we have developed a profession-specific construct [3] that differs from the everyday meaning of this term, and so is not immediately accessible to other Users. This leads to the inevitable conclusion that we may need different terms to refer to the same thing depending on the identified Users.

[3] CBOS (2001) definition: Swallowing … is to be understood in its broadest possible sense, where all parts of oral functioning are considered prerequisite for the act of swallowing and swallowing central to feeding, i.e. the intake of both food and drink. Thus saliva control, oro-facial muscle tone stimulation, feeding techniques, etc. are all considered part of swallowing …

Culture

Culture is the value-system within which terms are used. It is necessary to link Culture to the identified Users and then to consider it at one of three levels:

- Cultural differences between people from different countries or backgrounds;
- The broad population values within any one culture, e.g. regarding scientifically-based knowledge and regarding disability;
- The values of a subculture, most importantly for this document, the subculture of speech pathology and its profession-specific values, e.g. regarding scientifically-based knowledge and regarding logic, truth and accuracy.

Thus Culture refers to the valuing of certain features of terms which reflect other underlying values about knowledge, individuality, empowerment, etc.; it does not encompass the fact that there may be varying meanings of terms in different cultures (which is covered under the section on Referent). Within any one culture, either the broad population culture or the subculture of specific groups of Users needs to be considered. For example, if the only identified Users are speech pathologists, then the subculture of speech pathology – the dominant values pertinent to professional practice – would be considered. This is an essential condition for work in terminology.

> *Essential condition 4: Culture is linked to the identified Users and is considered at between cultures, broad culture or sub-culture level.*

Between cultures

For discussion about terms and terminology to take place between people from different countries or cultures, possible differences related to values and the formation of constructs must be considered (Patterson, 2005). Several writers (e.g. Schindler, 2005; Kjaer, 2005) have pointed out that cultural and geographical differences play an important role in the formation of constructs, which can result in conceptual and terminological differences. It is hoped that the approach presented in this document will assist people from different cultures to discuss terms and terminology productively. The *Dynamic Terminology Framework*, the *Conceptual Model of Human Communication* and the *Conceptual Model of Terms in Use* provide a methodology to support a detailed analysis of cross-cultural differences related to terms, which may lead to the articulation of additional pertinent criteria for terms and definitions.

Developed within one culture only, this document will restrict itself to statements regarding the mainstream Australian culture.

Criteria related to Culture

With regard to the Culture, criteria are related to:

- Acceptability
- Appropriateness

Acceptability

> *Criterion: The term and definition are acceptable within the broad culture, particularly to those who are labelled by them*

Over time, terms move in and out of **acceptability** within our culture. For example, terms used 100 years ago to refer to people with disabilities are no long acceptable. We each exist within our own culture, and may find it difficult to consider the acceptability or otherwise of a particular term within cultures other than our own, whether in other countries, or for migrants to our country. There is no simple answer to this, but sensitivity and awareness provide a starting point.

Acceptability is of particular relevance for Purposes such as lobbying, advocacy and public relations. It is important to ensure that the people who are 'labelled' by terms find them acceptable. This criterion can be overlooked by professionals who may be highly motivated to assist others, but who may not appreciate the negative experience of being labelled by an unacceptable term. (It is beyond the scope of this document to enter the broader debate about the rights and wrongs of labelling people.) It follows that it would be desirable to include a wider group of Users, in addition to speech pathologists, in decisions about terms for some Purposes.

Appropriateness

Criterion: The term and definition have appropriate features for the culture or subculture

The features that determine the **appropriateness** of a term depend on whether the term is considered at the broad culture or subculture level. Values about knowledge, etc. and subsequently about terms vary considerably between various the broad culture and professional subcultures. Any number of subcultures are possible (e.g. the subculture of a hospital work place), but discussion will be restricted to the subculture or value system of the speech pathology profession[4] as it sits within the broader culture.

Kamhi (2004) used memetic theory to explore problems related to the profession's values about terms; he pointed out that professionals value terms that are fully comprehensive, scientifically-based, logical and accurate. These features represent the values that speech pathologists hold about knowledge – the values of the speech pathology subculture. Speech pathologists tend to require these features for all terms, when in fact, they may not be necessary for every Purpose for which terms are used. For example, while a fully comprehensive, logical and accurate definition is absolutely necessary for a term for the Purpose of making a diagnosis, it is not necessary for terms for the Purpose of conducting public relations.

The features valued within the speech pathology subculture (as discussed by Kamhi, 2004) are contrasted with features of terms and definitions that are considered appropriate within the broader culture in Table 3.

Table 3: Features of terms and definitions considered appropriate

BROADER CULTURE	SPEECH PATHOLOGY SUBCULTURE
• Based on general cultural concepts • Having an appeal to the User, although not necessarily accurate, objective or logical • Referring to the general 'essence' of a phenomenon or to one key aspect for a specific purpose	• Based on current scientific empirical evidence • Accurate, objective and logical • Fully comprehensive and including all aspects

Speech pathologists need to understand that the features of terms valued within the professional subculture may not be necessary or even appropriate for all Purposes. This entails identifying the pertinent level of analysis as either broad culture or subculture level, and based on this, determining whether terms for a specific Purpose do, in fact, require the features valued within the speech pathology subculture. In analysing and selecting terms, speech pathologists need to be alert to those Purposes where it is necessary to ensure that terms and definitions have the features valued by the profession, for example for diagnosis, or when this may, in reality, create difficulties for clear communication.

[4] No assumption is made that the subculture of speech pathology is the same within every culture, although the values explored in this document seem to be central to a professional identity.

Insisting that **all** terms have the features that are valued within the speech pathology subculture may be a major hurdle for members of the profession to overcome (Kamhi, 2004). For example, difficulties finding a single title for the profession are partly related to professionals trying to find a term which is comprehensive, objective, scientifically-based and logical (see discussion in Patterson, 2005). However these features are not necessary for terms for use by the general public for Purposes including public relations, describing the professional scope of practice to others, etc., and it could be argued that the title of the profession is one such term.

Context

Context is the environment in which terms are used. It is not necessary to articulate all aspects of the Context, but to be alert to those aspects which influence the term (e.g. existing data collection systems in the work place context will impact on terms the speech pathologists can use; terms already used in legislation are relevant to lobbying, etc).

The Context for the use of a term includes:

- Workplace (e.g. school, hospital) context and dominant paradigm of practice
- Administration context
- Local, national or international arena
- Profession-specific context
- Others

Eadie (2005) said that much of the terminology that speech pathology students learn is not appropriate in the context of their work settings, and they have to learn a whole new vocabulary in their practice. As a result of the prevailing static view of terminology (see Section 4) speech pathologists learn profession-specific terms divorced from context in training, and then use, adapt or discard them once in the workplace. However, terms do not function in a vacuum or in a rarefied 'pure' science milieu; they exist to serve the Purposes within our practice (including research). The Context will always impact on the appropriateness of terms. This leads to a final essential characteristic of work in terminology.

> *Essential condition 5: Context is recognised as central (and not an add-on) to the appropriateness of terms.*

Criteria related to Context

With regard to the Context, it is necessary to consider the following:

- Relevance
- Influences outside speech pathology

Relevance

Criterion: The term and definition are relevant to the context in which it is used

Given that speech pathologists work in varied contexts, it is necessary to use different terms relevant to these specific contexts. **Relevance** is such an important criterion that it overrides some others; terms which lack relevance may be misunderstood or ignored. For some Purposes (e.g. applying for funding) it is so important that terms are relevant to the context, that it is necessary to choose the best term to fit into existing terminology or organisational systems (Wolf-Nelson, 1992) whether these terms meet some other criteria or not. Relevance to the context means that speech pathologists must sometimes adopt others' terms.

Our profession faces many challenges working effectively within and across the various paradigms of practice (McCartney & van der Gaag, 1996; Duchan, 2006); this includes challenges in terminology. Terms in different contexts reflect the fact that each paradigm is dominated by a different perspective on human functioning and by different Purposes for terms. Generally

speaking, the medical paradigm puts more emphasis on Body structures and functions dimension, while the educational paradigm puts more emphasis on the Activity dimension, and the social paradigm puts most emphasis on Participation dimension. Each of these dimensions may be more or less applicable for the Purposes for which we use terms within different work contexts. Terms from one paradigm may be misinterpreted in another. For example, terms for the Purpose of making a diagnosis derived from the medical paradigm (with the Applicable Dimension of the Body function dimension) are sometimes misapplied in educational contexts, while terms for the Purpose of allocating students to service delivery categories in the educational paradigms (with the Applicable Dimension of the Activity dimension) are sometimes misinterpreted in medical contexts. Successful professional discourse within and across paradigms entails being aware of the Purpose for which you are using terms, and the dimension of communication to which you (and others) are referring.

Meeting the criterion of Relevance therefore entails selecting terms and crafting definitions with the context in mind, and being prepared to adapt terms to suit the Context. The differences between practice paradigms present an ongoing and substantial source of terminology confusion which could be ameliorated with a dynamic view of terminology.

Influences outside speech pathology

Criterion: *The term and definition take into account influences outside speech pathology*

In addition to the impact of the practice context, a number of influences exist in the Context beyond speech pathology. These influences may significantly impact on the terms that we select for specific Purposes.

Legal, government and other standards and conventions regarding terms
A number of standards and conventions for terms are used by various governments either explicitly, such as the adoption of terminology standards by the Australian government, or implicitly, such as the conventions about referring to people with disabilities in statutes. The standards and conventions which impact on the choice of terms for some purposes include:

- The ICF (WHO, 2001), as the standard for national health information management in Australia, will have a bearing on the choice of terms for data collection in speech pathology;
- The *International Classification of Diseases* [ICD] (WHO, 1992), the *Diagnostic and Statistical Manual of Mental Disorders* [DSM IV tr] (APA, 2000) or other classifications used in work settings which may be required for funding of services may have an impact on the choice of terms for diagnosis or terms for service delivery categories;
- Terms in existing legislation and policies (e.g. *Disability Discrimination Act*, 1992; *Disability Standards for Education*, 2005) may have an impact on the choice of speech pathology terms for lobbying.

Terms used by others related to human communication and disability
The terms relating to human communication and disability that are currently used by others may be an important influence. Unfortunately we are not able to insist that other people adopt our terms, so we must be aware of how others use terms, including:

- The terminology assumptions underlying electronic patient records systems in hospitals (e.g. SNOMED®, NHS, 2002);
- Terms used by related professional groups (e.g. dieticians, occupational therapists, physiotherapists, teachers, etc.);
- Terms used by existing advocacy groups (e.g. the use of *physical disability* by a particular lobby group may have implications for the use of terms such as *communication disability).*

These outside influences may impact on the selection of terms by speech pathologists, and becoming more aware of influences outside the profession will also assist speech pathologists to

understand some of the issues which may arise. Over time, we may be in a position to challenge the use of some terms if they create problems for us. However, we first need to develop our own skills and knowledge about terms and terminology first.

Summary

Section 8 has completed the analysis of the *Conceptual Model of Terms in Use*, exploring the essential conditions and criteria related to Users, Culture and Context. It presented three additional essential conditions for terminology work:

- The identified Users are considered as being of equal status
- Culture is linked to the identified Users and is considered at between cultures, broad culture or sub-culture level
- Context is recognised as central (and not an add-on) to the appropriateness of terms

The criteria for terms and definitions are:

- The terms 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 have appropriate features for the culture or subculture
- The term and definition are relevant to the context in which it is used
- The term and definition take into account influences outside speech pathology

These criteria are not in any set order or hierarchy; there is no requirement to progress from the first, to the second, and so on. As mentioned in the discussion, relevance is such an important criterion that it might, on occasion, override other criteria.

Together with the criteria presented in Sections 6 and 7, these criteria inform the selection or creation of appropriate terms with effective definitions for all the Purposes for which we need to use terms. The following section will present these criteria within a format which can be applied in the analysis of terms.

Questions for reflection

1. What range of Users need to understand and use the terms for the following Purposes?
    - National prevalence data collection
    - Describing communication behaviours
    - Taxonomy
2. What issues may arise related to the accessibility of existing speech pathology terms, particularly for public relations, lobbying and funding applications?
3. Can you think of Purposes where using terms with a scientific basis (as speech pathologists' subculture values and requires) may actually cause difficulties in being understood by people in the broader culture?
4. Can you think of any examples where specific speech pathology terms are not relevant to the Context in which they are used?
5. In your workplace, are there any sector-specific terms that might impact on others' understanding of speech pathology terms?
6. What are some pertinent aspects of the Context for terms used for diagnosis, for service level data management and for conducting public relations?
7. Thinking about the Users and Culture for a term (and definition) for the title of the profession, what would you identify as its necessary features?

Section 9: Bringing it all together

In previous sections, criteria have been derived from the *Dynamic Terminology Framework* through exploration of the *Conceptual Model of Human Communication* and the *Conceptual Model of Terms in Use*. This section collates the information from the previous sections into a comprehensive format.

Summary of essential conditions and criteria

The *Dynamic Terminology Framework* highlights the various parameters that influence the appropriateness of terms and the effectiveness of definitions. In Sections 6 to 8, essential conditions related to each of the parameters have been presented. The essential conditions represent the fundamental premises which underpin effective terminology work:

1. The Referent is derived from a clearly articulated model of communication
2. Purposes are representative of the range of activities/roles in professional practice schema
3. The identified Users are considered as being of equal status
4. Culture is linked to the identified Users and is considered at between cultures, broad culture or sub-culture level
5. Context is identified as central (not an add-on) to the appropriateness of terms

In Sections 6 to 8, the criteria for terms and definitions were presented:

- The definition is concise and predictable
- The definition is a positive/affirmative statement of the referent
- The definition is linear and clarifying; it avoids circularity (self-reference)
- The definition provides new information; it avoids tautology
- The definition is precise and co-extensive with the Referent
- Part of speech parity exists between the term and the first key word of the definition
- The Referent comes from the Applicable Dimension for the Purpose
- The definition is suitable for the nature of the phenomenon (thing/entity, construct, other), which itself must be appropriate for the Purpose
- The definition reflects the directness of observation, which itself must be appropriate for the Purpose
- The type of definition is suitable for the Purpose
- The role of definition is suitable 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 have appropriate features for the culture or subculture
- The term and definition are relevant to the context in which it is used
- The term and definition take into account influences outside speech pathology

The essential conditions and the criteria for analysing terms are collated in Table 4 into a matrix according to the parameters of the *Dynamic Terminology Framework* under the headings of Referent, Purpose, Users, Culture and Context.

Table 4: 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**
Essential condition	***Essential condition***	***Essential condition***	***Essential condition***	***Essential condition***
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
Criteria related to Referent	***Criteria related to Purpose***	***Criteria related to Users***	***Criteria related to Culture***	***Criteria related to Context***
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				

Section 10: Application of the *Framework*

This section demonstrates the application of the *Dynamic Terminology Framework.*

Applying the Framework

The *Dynamic Terminology Framework* 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.

Table 5 on the following page illustrates the various steps in applying the *Dynamic Terminology Framework.* The sequence of steps will vary depending on application, and is presented in Table 5 in the most straightforward order. If the *Framework* is applied to determine if a term is suitable for the Purpose for which it is used, the steps are:

1. Identify the Referent of the term under analysis;
2. Identify whether the criteria related to the Referent have been met;
3. Identify the Purpose for which we use (or wish to use) this term;
4. Identify whether the criteria related to the Purpose have been met;
5. Identify Users, Culture and Context;
6. Identify whether the criteria related to Users, Culture and Context have been met;
7. Articulate the source of any problems with the term under analysis;
8. Summarise findings and conclusion: a statement whether the term (and its definition) is suitable for the Purpose being considered (i.e. does/does not meet criteria).

If the *Framework* is applied to analyse a particular Purpose to identify the challenges of this Purpose for the profession, the steps are:

1. Identify the Purpose for analysis, its Applicable Dimension, and the Users, Culture and Context;
2. Explore the criteria related to the Purpose, Users, Culture and Context to articulate the list of criteria for terms and definitions for the Purpose under analysis;
3. Identify the Referent of term/s commonly used for this Purpose;
4. Determine whether the criteria related to Referent and Purpose are met;
5. Summarise any issues regarding terms for the Purpose: the source of problems.

Determining the best order to work through the criteria will result from familiarity with the *Framework*, but it is simple to reiterate various steps until the reader gains this familiarity. Examples of possible sources of terminology problems, findings and conclusions are listed in Table 5, on page 50. Following this, examples demonstrating the process of working through the steps to apply the framework begin on page 51.

Table 5: Applying the Framework

STEPS		DETAIL			SEE PAGE
1.	**Identify the Referent**	*Use the Conceptual Model of Human Communication*			**21**
2.	**Identify whether the criteria related to the Referent have been met**	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*			
3.	**Identify the Purpose for which we use (or wish to use) a term**	*Refer to various roles and activities in list of Purposes; also identify the Applicable Dimension*			**29**
4.	**Identify whether the criteria related to the Purpose have been met**	• *Referent comes from the Applicable Dimension* • *Nature of the Referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*			**33**
5.	**Identify:**	***Users***	***Culture***	***Context***	
6.	**Identify whether the criteria related to Users, Culture and Context have been met**	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	**40-46**
7.	**Articulate the source of any problems with the term or the purpose (OPTIONAL)**	*Examples of issues that may be noted:* • *Referent does come from the Applicable Dimension for this Purpose* • *Criteria related to the Referent are not met* • *Criteria related to the Purpose are not met* • *Criteria related to the Users/Culture/Context are not met* • *The term is used for multiple Purposes, but does not meet the criteria for all these Purposes*			
8.	**Summarise findings and conclusion**	*Types of findings include:* • *Statement whether the term (and its definition) under analysis is suitable for the Purpose being considered* • *A list of the key features and criteria for terms and definitions for the Purpose under analysis* • *A list of available appropriate terms (and definitions) for the Purpose being considered* • *Suggested new term/s (and/or definitions) for a particular Purpose if needed* • *Summary of the source/s of problems with the use of a particular term* • *Summary of issues or challenges of the Purpose for the profession*			

Example A: Identify/select appropriate terms for Public Relations

The task in this example is to identify some existing terms suitable for the Purpose of Conducting Public Relations activities to promote the work of speech pathologists across all contexts.

EXAMPLE A – Identify appropriate terms for Public Relations					
Steps		**Details**			**Discussion**
1.	*Identify the purpose*	***Purpose*** ***Applicable Dimension***			Purpose: Conducting Public Relations (PR) – Providing information to the public about communication and/or eating/drinking development and 'disorders' Applicable Dimension: The Activity or Participation dimensions – those dimensions that all users can easily observe; the limiting/negative implications of communication problems
2.	*Explore the criteria related to the Purpose*	• *Referent comes from the Applicable Dimension* • *Nature of the Referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*			Nature of Referent: For PR, it is desirable to refer to things or behaviours rather than constructs, although the overall impact of Activity limitation and participation restriction on person (i.e. disability) is a common culturally-shared construct in Australia. Referring to a profession-specific construct is inappropriate for PR terms. PR terms are suitable for a diverse group of users if they refer to human behaviours that are directly observable – *talking, listening, understanding, eating,* and *drinking* – rather than profession-specific constructs such as *speech* and *language.* The most suitable Type of definition is nominal and the Role is description.
3.	*Identify:*	***Users***	***Culture/ subculture***	***Context***	Users are general public, other professionals, administrators, speech pathologists, people who have family members who have special needs in communication and/or eating/drinking. PR terms suitable for every Context would have to be very general. Such terms need to work within the broad Australian Culture which is quite diverse.

EXAMPLE A – Identify appropriate terms for Public Relations					
Steps		**Details**			**Discussion**
4.	*Explore the criteria related to Users, Culture and Context*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	To be accessible to all users, terms should be intuitively understood without specialised training. The common perspective of all Users is the readily observable aspects of communication or eating/drinking. *Communication* is a potentially useful term, but due to its use by I.T., it may not be understood without a term that suggests *human* attached to it. Terms such as *disorder* and *disability* may be unacceptable to some Users or inappropriate to some Cultures. However, *disability* is a commonly-used term amongst Australian support and advocacy groups. Those people who have family members with, or themselves have, special needs in communication would be a good source of information when selecting PR terms. The requirements of the speech pathology subculture need not apply: PR terms should refer to the impact for the individual; comprehensive and scientifically-based definitions are not needed. Relevance to the context also may mean that PR terms need to vary with different contexts. For example, *disability* is a more relevant term than *disorder* within educational settings; the alternative is a very general term, such as *people with special needs in communication* or *communication difficulties* or *communication support needs.* Outside influences: PR terms used by related groups may influence the choice of terms; this requires a local investigation. The Australian government's adoption of the terms from the ICF (WHO, 2001) for health care data management is pertinent as it suggests the use of the general term '*communication disability.*' The ICF is a particularly important outside influence as it currently informs many terminology decisions across Australia.
5.	*Articulate the source of any problems with the purpose*				The most immediate issue is that speech pathologists choose terms to use for the purpose of PR that have 'evolved' from other purposes, and may not be appropriate for PR. Intuitively accessible terms that refer to observable things/behaviours are most appropriate. PR needs to 'start' where the naïve user is, so needs to focus on implications for the individual in communicating and/or eating and drinking, and not on speech pathology. Promoting the profession may flow from this, but it should not be the starting point.

EXAMPLE A – Identify appropriate terms for Public Relations			
Steps		**Details**	**Discussion**
			A second issue is speech pathologists may tend to apply the features valued within the profession to PR terms; this tendency can lead to inappropriate terms used for PR, and conversely possible resistance to the adoption of general PR terms promoted by the professional associations. The third issue is that a context-neutral term for PR would need to be extremely general. An example of a possibly suitable term is: *communication disability*, defined as: *special needs (or limitations) with talking and understanding for everyday activities.* Other, possibly suitable terms are: *special needs in communication* and *communication support needs* defined as: *difficulties with talking and understanding for everyday activities.*
6.	*Summarise findings and conclusions*		Suitable terms for PR to select from are: • *Communication disability*, defined as: *special needs (or limitations) with talking and understanding for everyday activities;* • *Special needs in communication*, defined as: *difficulties with talking and understanding for everyday activities;* • *Communication support needs*, defined as: *requirement for support for talking and understanding for everyday activities*. Once a single term is selected for general PR, it would be important to explain the rationale for the choice (with specific reference to criteria for terms for PR) to professionals to increase the likelihood that the one term will be consistently used.
7.	*Once selected, identify whether the criteria related to the Referent have been met*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*	

Example B: Analyse Taxonomy to identify the challenges of this Purpose

The task in this example is to analyse the Purpose of Taxonomy to identify the possible reasons the field has been unable to develop a single comprehensive taxonomy.

EXAMPLE B – Analyse the Purpose of Taxonomy to identify its challenges to the profession					
Steps		**Details**			**Discussion**
1.	*Identify the Purpose*	***Purpose*** ***Applicable Dimension***			Purpose: Classifying the phenomena of interest to the field (Taxonomy) Labelling and categorising all the phenomena of interest to the professional field within a single organisational schema (a comprehensive knowledge representation). Applicable Dimension: varies, can be any one dimension or a multi-axis schema; those terms categorised together must be from the same dimension
2.	*Explore the criteria related to Purpose*	• *Referent comes from the Applicable Dimension* • *Nature of the referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*			Applicable Dimension: the actual dimension is less important that the need for all terms grouped within a classification system to refer to the same dimension/s of communication. Thus the actual nature of the phenomenon is less important than the requirement for all terms to refer to phenomena of the same nature – so all terms refer to body structure, or causal factors, or behaviours (unless there is a multi-axis classification system, but grouping according to same nature of phenomenon is then required within each axis.) Most critically, it is not possible to accommodate both entities and constructs within the one taxonomy. Phenomena to be classified should be directly observed (either through an objective test or through behavioural analysis) rather than inferred. Inferred 'conditions' create instability in classification systems; if different inferences can be made about what is observed, this leads to multiple options for classifying one phenomenon, and the subsequent lack of usefulness of a classification system. The same type of definition is required for all terms within a classification system (e.g. all etiological or all empirical, etc.).
3.	*Identify:*	***Users***	***Culture/ Subculture***	***Context***	The Users are speech pathologists. Taxonomy is a profession-specific purpose, and terms must have features appropriate to the professional subculture, but can be considered to be Context neutral.

EXAMPLE B – Analyse the Purpose of Taxonomy to identify its challenges to the profession					
Steps		**Details**			**Discussion**
4.	*Identify whether the criteria related to Users, Culture and Context have been met*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	As the only identified Users are speech pathologist, the criterion of accessibility does not apply. Speech pathology subculture would require a scientific basis for the terms adopted. The possible existence of various international speech pathology subcultures would need to be explored and resolved for the development of a single taxonomy for the field. Classification theory (from philosophy and from Health Informatics) would be a relevant outside influence on the development of a comprehensive taxonomy for speech pathology.
5.	*Identify the Referent*	*Using the Conceptual Model of Human Communication*			Need for consensus about which dimensions of communication are to be referred to, and subsequently which levels of detail of Referents are to be included in the classification. The conceptual model is central to developing this consensus.
6.	*Identify whether the criteria related to the Referent have been met*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*			As this particular example aims to explore the Purpose of taxonomy, rather than specific terms or definitions, the criteria related to the Referent cannot be considered, but once the criteria related to Purpose are addressed, these related to the Referent would need to be applied to terms to be included in a classification system. (Precision, co-extensiveness and granularity would be major considerations, see Appendix 2).
7.	*Articulate the source of any problems with the Purpose*				The terms usually adopted for taxonomy are our 'diagnostic' terms; however, these terms do not meet a basic requirement of taxonomy in that they refer to Referents of a number of different natures (e.g. site of lesion, impact on neural or physical functioning, causal factors, and aspect of communication behaviour impacted). Another issue is that some of out current diagnostic terms refer to entities, while others refer to constructs. Such constructs are ideas we have fashioned to make sense of the world and do not refer to any actual entity. Combining terms for entities with terms for constructs results in overlap and multiple places that a single 'communication disorder' can be classified within an organisational system

EXAMPLE B – Analyse the Purpose of Taxonomy to identify its challenges to the profession			
Steps		**Details**	**Discussion**
			A third issue is that our 'diagnostic' terms have a range of different types of definitions (some etiological, some based on symptoms, etc). This could mean that we are referring to the one thing with two terms with different types of definition, again leading to overlap of categories within a classification system.
8.	*Summarise findings and conclusion*	*Summary of the characteristics of the Purpose of Taxonomy to explain the challenges of this purpose to the profession.*	Taxonomy for the field of speech pathology will remain a major challenge until we can reach consensus on the nature of communication phenomena that we wish to classify. Considerable further development of the *Conceptual Model for Human Communication* would be part of this process. The field needs to explore and employ the principles of classification theory. (Those interested might like to read some introductory notes on granularity in Appendix 2). If diagnostic terms are to be used for taxonomy, a clear terminology marker is needed to distinguish true diagnoses from inferred-diagnoses.

Example C: Determine whether a term is suitable for the Purpose of Diagnosis

The task in this example is to analyse the term *Specific language impairment – a developmental deficit in language in the absence of a number of other diagnostic features, such as hearing loss … etc., (Morris, 2005)* to determine whether it is appropriate to use for the Purpose of Making a Diagnosis.

EXAMPLE Ci – Determine whether *specific language impairment* is a suitable term for the Purpose of Diagnosis			
Steps		**Details**	**Discussion**
1.	*Identify the Referent*	*Using the Conceptual Model of Human Communication*	It is not clear what the Referent of *specific language impairment* is, as the use of the term varies in the professional literature. Some use indicates the Referent is the impairment of the physiological basis of the symbolic representation system of the individual (which would be the Body function dimension). Some use of the term seems to indicate the Referent is the limitations in the actual material language (words, sentences, etc.) produced by the individual, (which would be the Activity dimension). This suggests that *specific language impairment* refers to dimensions from across the conceptual model, and is used variably to refer to one dimension or another on different occasions, or by different professionals. As with most terms related to *language* in our field, *specific language impairment* thus refers to a complex profession-specific construct.
2.	*Identify whether the criteria related to the Referent have been met*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*	The definition of *specific language impairment* does not meet several of the criteria related to the Referent; it fails to include a positive/affirmative statement, is circular (self referential) and is tautological.
3.	*Identify the Purpose*	***Purpose*** ***Applicable Dimension***	The Purpose of diagnosis is to signify the nature and cause of the 'condition' of concern which serves as an explanation. The Applicable Dimension for diagnosis is the Body structure and function dimension, and the causal factor within the Personal or Environmental factors dimensions.

EXAMPLE Ci – Determine whether *specific language impairment* is a suitable term for the Purpose of Diagnosis					
Steps		**Details**			**Discussion**
4.	*Identify whether the criteria related to the Purpose have been met*	• *Referent comes from the Applicable Dimension* • *Nature of the referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*			It is difficult to analyse *specific language impairment* as its use in professional literature varies. However, as the Applicable Dimension for Making a Diagnosis is the Body structure or function dimensions, it seems there is a mismatch with the Referent for *specific language impairment*. This can best be explained through the subsequent criteria. Re the nature of the Referent, terms for diagnosis must refer to entities/things (not constructs). However, the term *specific language impairment* refers to a cross-dimensional constructs developed within speech pathology. Diagnosis requires direct and objective observation of a measurable clinical indicator at the body level (i.e. the biological or physiological manifestation of these conditions). *Specific language impairment* is based on observation of limitations of activity (Action/interaction, Material and Proposition dimensions) and an inference of what is happening at the Body function dimension. So it represent an 'inferred-diagnosis' (which has some important uses, but leaves open the possibility of other inferences and interpretations of the observable evidence.) Diagnostic terms require an etiological/causal type of definition which has an explanatory role. The definition does not meet these criteria. The definition for *specific language impairment* serves to delineate rather than explain.
5.	*Identify:*	***Users***	***Culture/ Subculture***	***Context***	Users are speech pathologists and diagnosis is context neutral. Terms for diagnosis need to be appropriate to the subculture of speech pathologists in that it should be comprehensive, scientifically-based, accurate and logical.
6.	*Identify whether the criteria related to Users, Culture and Context have been met*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	Accessibility should not be an issue due to the single group of Users of speech pathologists. (While diagnostic terms may also be shared with clients, it is expected that the speech pathologist discusses a diagnosis with the client to ensure understanding). In terms of appropriateness to subculture, the literature would indicate considerable debate about the scientific basis and status of *specific language impairment,* and it would not therefore meet this criteria. Re influences outside speech pathology: An important influence is the trend across health care to treat any label as though it were a Diagnosis, e.g. in

EXAMPLE Ci – Determine whether *specific language impairment* is a suitable term for the Purpose of Diagnosis					
Steps		**Details**			**Discussion**
					psychiatric diagnosis, terms like *emotional behavioural disorder*. This creates enormous problems in professional discourse, but is a discussion beyond the scope of this document.
7.	*Articulate the source of any problems with the term or the Purpose*				The major problem with *specific language impairment* being used for the Purpose of making a diagnosis is that it is based on observation of behaviours upon which the speech pathologist infers information about the Body function dimension. This leads to an 'inferred diagnosis', rather than a true diagnosis. Because it is based on inference, and is thus open to other interpretations, such inferred diagnostic terms may be used differently by various speech pathologists. The lack of stability and precision that allows different interpretations results in inconsistency and difficulty in professional discourse. An 'inferred diagnosis' can also lead to circular reasoning as in 'Why does this person have a diagnosis of *specific language impairment*?' … 'Because they have a problem in understanding language' … 'And why do they have problems in understanding language' … 'Because they have *specific language impairment'*. The other pitfall is that we tend to use our 'inferred-diagnosis' terms for a range of other purposes which cannot be based on inferred information (e.g. Conducting prevalence studies, Taxonomy, etc).
8.	*Summarise findings and conclusion*				The term *specific language impairment* is not appropriately used for the Purpose of making a diagnosis, because it does not refer to directly observed information about the Body structure or Body function dimensions, is based only on inferring information from 'symptoms' or communication behaviours, and refers to a construct rather than an entity/thing. The definition fails to meet the criteria related to the Referent. These problems do not mean there is no value in this term, but that with the given scientific knowledge, it does not meet the criteria for the Purpose of Diagnosis. It may perhaps be suitable for the Purposes of Identifying conditions or Allocating to service delivery categories if it had a more effective definition.

The task in this example (Cii) is to analyse the term *phonological disorder – the severe form of phonological delay in which the child's sound system is completely disordered (Morris, 2005)* to determine whether it is appropriate to use for the Purpose of **Diagnosis**.

EXAMPLE Cii – Determine whether *phonological disorder* is a suitable term for the Purpose of Diagnosis			
Steps		**Details**	**Discussion**
1.	*Identify the Referent*	*Using the Conceptual Model of Human Communication*	Use in the literature indicates the **Referent** of *phonological disorder* is the impairment of the physiological basis of the phonological information storage system of the individual (which would be the Body function dimension).
2.	*Identify whether the criteria related to the Referent have been met*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*	The definition for *phonological disorder* does not meet several of the criteria related to the Referent; it is circular (self-referential) and tautological and does not have part of speech parity.
3.	*Identify the Purpose*	***Purpose*** ***Applicable Dimension***	The Purpose of making a diagnosis is to signify the nature and cause of the 'condition' of concern, which serves as an explanation. The Applicable Dimension for making a diagnosis is the Body structure and function dimension, and the causal factor within the Personal or Environmental factors dimensions
4.	*Identify whether the criteria related to the Purpose have been met*	• *Referent comes from the Applicable Dimension* • *Nature of the referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*	It appears that there is a match between the Referent for *phonological disorder* and the Applicable Dimension for the Purpose of Making a Diagnosis. Re the nature of the referent, terms for diagnosis must refer to entities/things (not constructs). The term *phonological disorder* does refer to an entity/thing (phonological information storage system in the brain), but the demarcation of *disorder* is not clear and may be a profession-specific construct. Diagnosis requires direct and objective observation of a measurable clinical indicator at the body level (i.e. the biological or physiological basis of these conditions). *Phonological disorder* entails the observation of Activity (Action/interaction, Material and Proposition) dimensions but it also entails an analysis of speech sound production at the Body function dimension. (It could be argued that some inference is made.) Diagnostic terms require an etiological/causal type of definition which serves

EXAMPLE Cii – Determine whether *phonological disorder* is a suitable term for the Purpose of Diagnosis					
Steps		**Details**			**Discussion**
					an explanatory role. The definition does not meet these criteria. The definition provided for *phonological disorder* serves to describe rather than explain.
5.	*Identify:*	***Users***	***Culture/ Subculture***	***Context***	Users are speech pathologists and diagnosis is context neutral. Terms for diagnosis need to be appropriate to the subculture of speech pathologists in that it should be comprehensive, scientifically-based, accurate and logical.
6.	*Identify whether the criteria related to the Users, Culture and Context have been met*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	Accessibility should not be an issue due to the single group of Users of speech pathologists. (While diagnostic terms may also be shared with clients, it is expected that the speech pathologist discusses a diagnosis with the client to ensure understanding). In terms of appropriateness to subculture, *phonological disorder* refers to a 'dysfunction' of a linguistic function at the Body function dimension for which there is strong scientific support. The definition does not necessarily have the appropriate features for the subculture.
7.	*Articulate the source of any problems with the term or the Purpose*				The major source of problems with *phonological disorder* is in the ineffective definition which does not meet the criteria related to the parameters of Referent and Purpose.
8.	*Summarise findings and conclusion*				The term *phonological disorder* may be appropriate for the Purpose of making a diagnosis, but the definition provided does not meet all the criteria. It seems that cautious acceptance could be made of the term *phonological disorder* for the Purpose of Making a Diagnosis, with the proviso that a more effective definition was developed, particularly with regard to a better operational statement about the demarcation of *disorder*.

Example D: Explain the Purpose of Allocating to Service Delivery Categories

The task in this example is to explain a term created for the Purpose of Allocating individuals to Service Delivery Categories to those who may not be familiar with this purpose. The example explores the term *special needs in communication* which is used as a service delivery category within Education Queensland.

EXAMPLE D – Explain the purpose of Service Delivery Category			
Steps		**Details**	**Discussion**
1.	*Identify the Referent*	Using the *Conceptual Model of Human Communication*	The Referent of *special needs in communication* is activity limitations; it refers to the broad culture construct of a group of school students who need the same type of support for learning.
2.	*Identify whether the general criteria related to the Referent have been met.*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*	The original definition developed for *special needs in communication – problems in communication* did not meet the criteria related to the Referent as it exhibits circularity and tautology**.** A more effective definition would be: *Special needs in communication – difficulties in talking and understanding for learning and relating to others.*
3.	*Identify the Purpose*	***Purpose*** ***Applicable Dimension***	Purpose: allocating individuals to service delivery categories: labelling individuals according to existing workplace categories for services The Applicable Dimension is the Activity limitation or Participation restriction dimensions. Workplace service delivery categories refer to the group of individuals who need the same type of service or support; it is not linked to a specific diagnosis necessarily.
4.	*Identify whether the criteria related to the Purpose have been met*	• *Referent comes from the Applicable Dimension* • *Nature of the referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*	The Referent of special needs in communication matches the Applicable Dimension for the Purpose of Workplace Service Delivery Categories. The nature of referent is primarily an entity/thing in that it refers to actual activities and behaviours. It would have objective criteria for inclusion in the group (not to be confused with diagnostic criteria). It includes a construct of 'shared need for support for learning', a culturally shared construct, rather than a profession-specific construct. Directness of observation: The category of *special needs in communication* is based on directly observable activities limitations or participation restrictions that can be observed by a number of different people (even if 'measured' by

EXAMPLE D – Explain the purpose of Service Delivery Category					
Steps		**Details**			**Discussion**
					the speech pathologist). For a service delivery category, the type of definition is empirical, and its role is to delineate from other categories.
5.	*Identify:*	***Users***	***Culture/ Subculture***	***Context***	Users are speech pathologists, colleagues and families of clients within the educational work context, administrators, funding sources and policy officers. Culture would be considered at the broad level (rather than at the speech pathology subculture level) and Context is a state government education department.
6.	*Identify whether the criteria related to Users, Culture and Context have been met*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	Accessibility: service delivery categories need to be accessible to a wide range of Users with only minimal training or additional information. The most relevant perspective is the Activity dimension, as the information of interest is the implication for the education department as a service provider. Acceptability may be an issue given the tension between the necessity of labelling individuals to enable access to additional resources/funds and the possible negative impact of labelling in lowering expectations and self-esteem. Features of terms for the broad culture would be appropriate; the features of terms valued within the speech pathology subculture would not be necessary. The motivation for the creation of *special needs in communication* came from the lack of relevance of existing speech pathology terms to the educational context. Diagnostic or *disorder* related terms were viewed by both teachers and administrators as derived from health and therefore not relevant, and terms for complex profession-specific constructs, e.g. *language,* were not understood. Outside influences: The key influence from outside speech pathology on the establishment of the service delivery term *special needs in communication* was the tendency of agencies to focus on existing *impairment* and *disability* categories in making decisions about funding allocations. Awareness of this factor led speech pathologists to create a new workplace service delivery category to use in arguments for services and funding.

EXAMPLE D – Explain the purpose of Service Delivery Category			
Steps		**Details**	**Discussion**
7.	*Articulate the source of any problems with the term or the Purpose*		Service delivery categories within one work setting are sometimes misunderstood by people from other work settings. For example educational service delivery categories terms related to communication are sometimes misunderstood as diagnostic terms by others, when in fact they serve to label a group of students with regard to the type of specialised educational provision for those students. This did not occur with *special needs in communication*, but did occur with the service delivery category of *speech-language impairment* which was created in Education Queensland around the same time.
8.	*Summarise findings and conclusion*		The term: *special needs in communication* meets the criteria for the Purpose of Allocating individuals to Service Delivery Categories within the educational setting. It is accessible, acceptable and most importantly it is relevant to the context. PR work was undertaken to explain how *special needs in communication* related to other existing terms in the educational sector. It serves an important role of labelling and delineating a particular group of students (otherwise possibly overlooked) so that they are included in decisions about departmental service provision and funding. However, its original definition required review and improvement.

Example E: Select from terms for the Purpose of Applying for Funding

The task in this example is to select from the terms *dysarthria, motor neurone disease, speech disorder and communication disability* the most suitable term to use in an Applying for Funding for additional services for an individual in rehabilitation services.

Steps		Details	Discussion
1.	*Identify the Referent*	*Use the Conceptual Model of Human Communication*	The Referent for each of the terms is: *Dysarthria* – the health condition; Body structure and function dimensions *Motor Neurone Disease* – the health condition; the Body structure and function dimensions *Speech Disorders* – the Body function and Activity dimensions *Communication Disability* – the overall impact on the individual; the Activity and Participation dimensions
2.	*Identify whether the criteria related to the Referent are met*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*	Definitions are not provided for the terms under analysis, but these criteria would apply.
3.	*Identify the Purpose*	***Purpose*** ***Applicable Dimension***	Purpose: Applying for funding for services – Terms generally describe the limiting/negative implications of communication problems, or the communication or support service needs of an individual or small group The Applicable Dimension for the Purpose of Applying for Funding depends on the intent of the application.
4.	*Explore the criteria related to the Purpose*	• *Referent comes from the Applicable Dimension* • *Nature of the referent: Thing/entity, Construct* • *Directness of observation: direct objective/subjective, indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*	In this example, the dimensions of Activity and Participation would be best, since the context is rehabilitation. *Speech disorder and communication disability* would thus be most suitable of the four options in their match with the Applicable Dimension. Nature of Referent: due to the wide range of Users, it would be productive to focus on observable things/entities (behaviours and activities) and avoid profession-specific constructs (e.g. *speech* with our profession-specific definition) or terms that required the User to have extensive knowledge or make inferences of the implications for the

Steps		Details			Discussion
					individual *(dysarthria or motor neurone disease).* Directly observable phenomena such as activity or participation are most appropriate. The most suitable Type of definition is nominal or empirical, with the role of description.
5.	*Identify:*	***Users***	***Culture/ Subculture***	***Context***	Users are speech pathologists, administrators and other professionals working in the service. Culture is the broad culture rather than the subculture of speech pathology. Context is the rehabilitation service and/or the funding body (if external to the service).
6.	*Identify whether the criteria related to Users, Culture and Context have been met*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	Key terms to present an argument for funding allocation need to be accessible to administrators without the need for extensive explanations. Non-speech pathologists consider *speech* to mean 'speaking' or 'talking' i.e. they tend to focus on the Activity dimension of communication. For this reason, *speech disorder* might be a useful term (although not with a speech pathologist's definition). *Dysarthria* and *motor neurone disease* are unlikely to be accessible terms (but this would depend on the familiarity of administrators with these terms). Relevance to the Context of the rehabilitation service is critical: if *disability* terms are the norm in this setting, this would indicate the relevance of the term *communication disability.* Influences outside speech pathology: it would be advisable to take note of the way funding is currently allocated and the terms that are used in the pertinent allocation process/model (not discussed here, as significant variation exists.) Adapting speech pathology terms to be more relevant to this would be important to improve success of the application.
7.	*Articulate the source of any problems with the term or the Purpose*				The main possible source of problems would be the accessibility and relevance to the Context of the terms *dysarthria, motor neurone disease, speech disorder and communication disability.* Successful funding applications (for any purpose) are always based on 'talking the talk' of the Context and the funding body. Avoiding profession-specific terms, particularly those for profession-specific constructs, would be imperative.

Steps		Details	Discussion
8.	*Summarise findings and conclusion*		Of the four available terms, *speech disorder and communication disability* seem the most appropriate for the Purpose of Applying for Funding for services for an individual in rehabilitation services. Additional information about the relevance of terms to the rehabilitation service Context and the existing terms used by the funding body are needed in order to make a decision.

Some conclusions from the examples

The examples have illustrated how terms and definitions can be assessed according to the criteria presented in this package. The analysis of terms is extremely complex, but criteria which are agreed to by the professional community provide a much needed tool for more objective and productive analysis.

These examples give rise to the following points:

- Terms can be more usefully viewed as appropriate/inappropriate, i.e. meeting the specific criteria for that Purpose, rather than good/bad
- A number of the terms considered did not meet the criteria related to the Referent; a scan of several professional dictionaries revealed this may be quite common
- The plethora of terms within speech pathology with overlapping Referents and vague definitions is a result of i) the lack of a shared conceptual model for human communication and ii) terms and definitions that do not meet criteria related to the Referent, Purpose, Users, Culture/subculture and Context
- We need to become more aware of the negative impact on clarity caused by our profession-specific constructs in our professional and public discourse, and use them only as appropriate
- Using terms that do not meet the criteria for the Purpose of Making a Diagnosis can lead to circular reasoning, which ultimately impedes professional advancement; it is a key challenge to the profession, since we use so-called 'diagnostic' term for a number of other Purposes
- On occasion, we may choose to use the prevailing terms (to achieve an aim), but on other occasions we may need to challenge them – as professionals we need to make this decision on a case-by-case basis
- It is possible that, based on our work context and experience, we may be more familiar with some Purposes than others; it is important to understand the wide range of Purposes to understand the role of the speech pathologist in different contexts

The *Dynamic Terminology Framework* provides the critical first step toward arriving at shared terms within our profession. It allows the profession to begin to discuss terms and terminology in a consistent way, to establish objective criteria for terms, and to recognise the complexity and significant challenges that terminology presents to our profession's advancement. With the *Framework*, professionals can begin to review how they use terms in daily practice, to become more careful about choosing appropriate terms for the various Purposes within their practice, and to engage in fruitful discussions with each other the most appropriate term for a specific Purpose.

The experience of applying the Framework

Unfortunately, we cannot rely on current practice as a gauge for appropriate terms and effective definitions, as current practice merely reflects and reinforces many of our problems in terminology. This document presents a challenge to what we currently believe and do; exploring one's own use of terms can be unnerving and unsettling. Realising that one's own use of a term might be contributing to problems can be extremely confronting, and an understandable response might be to avoid further exploration. It is necessary to persist with the *Framework* through feelings of doubt and lack of immediate answers; it is indeed a challenge to reflect on something as closely tied to self-concept as the values, beliefs and practices within our own professional area. However it is a challenge each of us needs to face if we wish to see more appropriate terms used more consistently.

Summary

This section demonstrated the application of criteria developed from the *Dynamic Terminology Framework*. The examples illustrated a methodology that allows a more objective and

dispassionate analysis of terms than has been previously possible. They also highlighted that there are numerous sources of terminology problems. Some problems can be remedied by closer scrutiny and greater precision in our use of terms, while others will only be remedied through broad ranging debate and discussion, and a change of behaviour by members of the profession. The examples also highlighted the complexity of terms in use, and that appropriate and consistently-used terms are the responsibility of each and every one of us. Improving the appropriateness and consistency of terminology is indeed an enormous challenge.

This document sets the scene for the profession to explore its terminology within a coherent and comprehensive framework. It provides a methodology which needs to be applied and tested. It is anticipated that practical applications may well challenge aspects of the *Dynamic Terminology Framework*, the *Conceptual Model of Human Communication* and the *Conceptual Model of Terms in Use*, and lead to revisions over time.

Questions for reflection – your next steps

The first step is to reflect on the five Essential Conditions for terminology work (see the Matrix on 58). Each of these represents a fundamental premise for productive terminology work, and each presents specific challenges to the profession. Discuss the following points with your colleagues.

- *Essential Condition 1:* We currently lack a widely-shared and detailed conceptual model of human communication. How has the profession developed to this point in the absence of this model? How does your personal conceptual model of human communication compare with the model presented in this package?
- *Essential Condition 2:* We have a tendency to think of speech pathology terms as referring to some sort of 'pure' concept as divorced from their purpose or context of use. Reflect on how you acquired the specific terms for speech pathology during your pre-service training.
- *Essential Condition 3*: We have had a tendency to think of those outside speech pathology as our *audience* for our terms. How much of a challenge will it be to think of members of the public as terminology Users of equal need and status?
- *Essential Condition 4:* We are likely to find it a challenge to see outside our own subculture of speech pathology and to reflect upon our professional values in relation to terms; the people attracted to speech pathology, in general, tend to be practically orientated and uninterested in abstract conceptualising (Wilson, 1991). How could this challenge be addressed?
- *Essential Condition 5:* The number and diversity of practice contexts for speech pathology is enormous. If the impact of context were to be 'built in' to terms, i.e. different terms for the same Referent were chosen for different contexts as a matter of course, what would be required to allow shared meaning across these different Contexts?

The second step is to explore and consolidate the concepts related to analysing terms. With your colleagues:

1. Discuss your answers to the *Questions for Reflection* throughout this package;
2. Select a number of speech pathology terms and identify their Referents by using the *Conceptual Model of Human Communication*;
3. Discuss the list of Purpose (page 29) and the Applicable Dimension for each Purpose. Do you agree with the identified Applicable Dimension or can you think of circumstances in which it could be a different dimension?
4. Select a number of speech pathology terms and identify the Purpose/s for which you use them, and subsequently identify the Users, and pertinent aspects of the Culture/subculture and Context;
5. Select a Purpose for terms that is common to your workplace and consider the criteria related to Purpose. Identify the Users, Culture/subculture and Context and reflect on the criteria relevant to each of these. Consider a term used for this Purpose to determine whether it meets the criteria.

The third step is to plan to apply the *Dynamic Terminology Framework* with colleagues within your own workplace or sector to one situation you face currently, such as:

- Integrating speech pathology terms into your workplace electronic patient data record system (you will be analysing others' use of terms too);
- Planning your next PR campaign, including key terms to use;
- Writing a statement about the role of the speech pathologist in your sector.

You can use the Worksheet in Appendix 1 for any of the situations within your own practice where terms and terminology are an issue. However, you will need to progress through the worksheet in the sequence suitable to the type of application; it is not necessary to progress from step 1 to 7 in strict order. Start where it seems most logical to you, and if necessary revisit previous steps in the analysis. When you begin, you may prefer to work on just a few parameters, rather than the whole *Framework,* to gain confidence and experience. For example, there is considerable value in establishing clarity about the Users, Culture/subculture and Context, without also exploring the Referent in detail. You may also find that some of the criteria overlap, or are more or less relevant to some types of analysis. This is to be expected as the *Framework* has been developed to be explicit about all aspects of analysis, even though some aspects may not apply in every situation.

Once you have developed some familiarity and skills with the application of the *Framework,* you may then wish to apply it to any of the issues that were raised on page 5 that are relevant to you. Try to persist with the *Framework* despite any feelings of being overwhelmed or, conversely, undermined. Analysing terms to reveal the source of terminology problems, which may in fact be our own behaviour, is a challenge each of us needs to face if we wish to see more appropriate terms used more consistently.

Section 11: Looking to the future

This section summarises the information presented in this document and looks to the future with both optimism and an acknowledgement that real change will take some time.

Summary

Many terms used in speech pathology are inadequate or inappropriate for the field; this impacts on all areas of practice. Extensive effort to improve the situation has been expended within and outside our field. The focus has previously been on consensus scientific definitions, but experience suggests that while accurate scientific definitions are a necessary part of a profession's terminology, they are insufficient to ensure appropriate and consistently-used terms for all the activities of our field. Terms should be seen as a dynamic expression of the professional practice schema. Criteria for our terms and definitions would provide a basis for consistency in shared meaning, while allowing flexibility in the way terms are actualised in various contexts.

This document:

- Challenged the assumption that a standardised list of terms will solve the profession's terminology problems;
- Introduced and explored the *Dynamic Terminology Framework*;
- Introduced the *Conceptual Model for Human Communication*;
- Introduced and explored the *Conceptual Model for Terms in Use*;
- Presented criteria for terms and definitions related to the Referent, Purpose, Users, Culture/subculture and Context;
- Collated the essential conditions and criteria for analysing terms and definitions within a matrix to serve as a format for application;
- Provided examples of analysis of some Purposes and some terms, and discussion of some issues with our current use of terms.

This document presented a theoretical **framework** of terminology to support a logical and rigorous **methodology** related to criteria which can form the basis for **projects** and activities to find real **solutions** to our terminology issues.

Implications of a dynamic view of terminology

The implications of a dynamic view of terminology include:

- Everyone 'owns' the terminology of the profession; everyone is likewise responsible for its improvement;
- The *Dynamic Terminology Framework* challenges **us** to change our behaviour (it is not necessarily the **terms** that need to change);
- Terminology analysis is 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 interplay between the various perspectives on communication and the various Purposes of terms;
- 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.

This last point is particularly pertinent: taking a dynamic view of terms within a professional practice schema, it can be said that no individual or group of experts will be able to decree a list of standardised terms that will be acceptable to the entire profession for all Purposes. Surely, as communication specialists we understand that words do not work that way; our professional (and public) terms need to be dynamic and to be embedded in our evolving practice schema. Some of our terminology issues are related to the relative youth of our profession; as we mature we can develop a wider and more complex view of ourselves and our terminology.

What the Framework will and will not do

The *Dynamic Terminology Framework* 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 our terms;
- Supports the development of a mature profession with a solid conceptual basis for the scope and development of its terminology.

Before we see an improvement in terminology we must change our own thinking and our own behaviour with terms and terminology. The *Framework* provides the basis for reflecting upon and analysing the way we use terms, and presents some challenges to the views we may hold about terms. The principles, essential conditions and criteria presented can assist you to better understand the sources of terminology problems and to select the best available term to use for a particular Purpose.

The *Framework* can be applied to any area of interest. Many of the issues speech pathologists experience with terminology are found in other professions as well. This document represents an application to human communication science and its disorders, but the concepts are not specific to this field of investigation.

What comes next?

While it is understandable to want answers to pressing problems quickly, and to achieve logic and consistency in our terms, we have some distance to travel before we achieve this. Resolving the problems with terms in speech pathology will take both time and commitment. Appropriateness and consistency in our terms will be achieved over time, as a result of the application of agreed criteria for terms and terminology. Obviously, it is neither possible nor desirable to abandon all current terms and begin again. Instead, we need to undertake an evolutionary process of change which includes:

- Consensus related to the *Framework* and the criteria, including necessary refinements;
- Applied research on the parameters of the *Framework*, also leading to refinements;
- Adoption of the *Framework* and/or its premises in research of all types;
- Extensive further theoretical and applied research specifically on the *Conceptual Model of Human Communication* to ensure its validity and to supply the necessary additional detail for the field (see Appendix 2 for an introductory discussion);
- Education of members of the profession about the fundamental premises and details of the *Framework*;
- Exploration of the *Framework* in pre-service training programs;

- Sector or association project to promote improvements and increased consistency of terms for those Purposes which are easier to address, for example terms for Public Relations and Establishing Prevalence;
- International professional collaboration to work directly on the challenges related to some Purposes, particularly Taxonomy.

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 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 field. The profession needs to 'step outside itself' to reflect on its values and its choices related to terminology. Such reflection would foster the emergence of a mature profession which can take its place confidently in the world.

A vision for the future

Influencing attitudes and understanding about something as fundamental and closely tied to one's professional identity as terminology is no small task (Kjaer, 2005). But it must be done, as terminology presents a significant barrier to the profession's advancement in research, clinical effectiveness, public image and political profile.

The development of the *Dynamic Terminology Framework* was motivated by a vision of the future when terms are used with care and consideration across the profession; when all stakeholders (not just the professionals) in communication science and disorders have access to terms that meet their needs; when there is a high level of value for accessible, appropriate and consistent terms; when there is awareness of terms as dynamic and powerful; when there is active engagement with broader systems of terminology, and even the capacity to challenge the misuse of terms by others; when we understand the many characteristics of terms that impact on their usefulness; and when a shared meta-terminology takes debate on terms out of the personal-opinion realm and into an arena where terms are considered according to which most appropriately meets the established criteria (adapted from Walsh & IGOTF-CSD, 2006).

This is a vision of a mature profession able to resolve its terminology issues as they arise, to be logical and aware of the 'big picture' when adapting or creating terms as new scientific information is discovered, and to present itself to the public and to government with clear consistent messages that promote the importance of communicative well-being for all people.

Section 12: Bibliography

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Appendix 1: Worksheet – Criteria for Analysing Terms

Steps		Details			My answers
1.	*Identify:*	***Referent***			
2.	*Identify whether criteria related to the Referent have been met*	• *Concise and predictable* • *Positive/affirmative statement* • *Absence of circularity* • *Absence of tautology* • *Precise and co-extensive* • *Part of speech parity*			
3.	*Identify:*	***Purpose*** ***Applicable Dimension***			
4.	*Identify whether criteria related to the Purpose have been met*	• *Referent comes from the Applicable Dimension* • *Nature of the referent: Thing/entity, Construct* • *Directness of observation: Direct objective/subjective, Indirect* • *Type: Etymological, Nominal, Empirical, Essential, Causal* • *Role: Explain, Delineate, Describe*			
5.	*Identify:*	***Users***	***Culture/ subculture***	***Context***	
6.	*Identify whether criteria related to Users, Culture and Context been met*	• *Accessible*	• *Acceptable* • *Appropriate to sub/culture*	• *Relevant* • *Influences outside speech pathology*	
7.	*Articulate the source of any problems with the term or the Purpose*				
8.	*Summarise findings and conclusion*				

Appendix 2: Future forays into terminology

This section presents some of the ongoing challenges of terminology and the areas of research that need to be undertaken.

Theory into practice

This package has presented a methodology for analysing terms within a framework based on theory from a number of sources including philosophy, classification theory, health informatics, linguistics and terminology/translation. The theoretical model of the *Framework* requires scrutiny, application and review, over a period of some years. Putting the *Framework* into practice is needed to establish if the stated criteria are necessary and sufficient to support the broad ranging discussion about terms across the field. Productive discussion is needed to achieve the consensus that ultimately leads to the appropriateness and consistency of terms in the field.

Moving forward with a Conceptual model of Communication

During the early stages of the *Terminology Frameworks Project*, the explorations of the parameters of Purpose, Users, Culture/subculture and Context seemed to present an absorbing and sufficiently complex project. Over the course of the project, the lack of a shared conceptual framework of human communication for the field raised one issue after another, to the point where this seems to be the challenge of greater priority for the field. The unresolved issues, enticing explorations, and need for extensive further detail present significant areas of research for the field. The conceptual model presented in this document represents only the first steps along a lengthy journey of exploration and clarification for the field. Further development of the model would allow:

- Verification or changes so that the identified dimensions adequately represent human communication in a way that supports the endeavours of the field;
- Further detail and subcategories within each of the dimensions;
- Better distinction between cause and symptom;
- Better distinction between cause and occasion;
- Greater clarity about the difference between entities/things and constructs;
- Better and more useful definitions for our field of our core concepts such as *speech*, *language* and *communication*;
- Consistency in generic terms related to function and 'dysfunction';
- Definitions of pathological conditions paying due attention to the positive quality which is lacking;
- A strong basis for a taxonomy for the field.

A more detailed conceptual model is necessary to make progress toward the ideal that the terms for Purposes which are specific to the profession (e.g. diagnosis, taxonomy) are *univocal*, i.e. terms have only one meaning that is consistently used (Rockey, 1969). The characteristic of being *univocal* is currently lacking for many profession-specific terms.

Toward a shared model of communication 'dysfunction'

A model of communication 'dysfunction' (using whatever term we eventually select) must be based on a strongly established model of human communication *functioning*. Definitions of disorder or pathology must be based on the privation of an expected function or they may be meaningless. Establishing precisely what dimensions of human functioning we are referring to with key generic terms for function first and subsequently 'dysfunction' is essential for professional discourse.

One of the original aims of the early work for the ICF (WHO, 2001) was to establish clear Referents for the key terms *impairment, disability*, etc. (WHO, 1980). These key terms were each

assigned very specific Referents within the ICF conceptual model (see 20). Table 6 demonstrates the Referents (shaded in grey) of the ICF 'dysfunction' terms. The term *impairment* refers to the Body Structure and Function component; the term *limitation* refers to the Activity component, the term *restriction* refers to the Participation component. *Disability* is used as an umbrella term to refer to the overall implications for the individual as a result of the interaction of the five components (though still lacking a consensus definition at the time of writing). With a shared conceptual model of human communication, a similar exercise could be undertaken related to generic terms for communication 'dysfunction'. We could adopt the ICF terms as a starting point, which would mean becoming more rigorous with our current use of these terms, and work to reach consensus about Referents for other common 'dysfunction' terms used within speech pathology, including *disorder, condition, delay, difficulties*, etc.

The terms presented with question marks in Table 7 illustrate how a shared conceptual model of human communication could support debate and facilitate agreement on terms to be used consistently to refer to specific aspects of communication 'dysfunction'. For example, the field could decide to consistently use the term *condition (*as in *speech condition)* to refer to the presentation of a communication 'dysfunction' with evidence at the Activity and Participation dimensions, with an inferred 'involvement' at the Body function dimension, but in the absence of definite causal or diagnostic information. These terms are provided as examples of the type of discussion to be had to reach consensus, not as recommendations.

Table 6: The Referents of key terms related to 'disability' from ICF (WHO, 2001).

ICF terms and referents					
Components of Human Functioning (ICF, WHO, 2001)					
Environmental Factors	Personal Factors	Body structure	Body function	Activity	Participation
		Impairment			
				Limitation	
					Restriction
Disability					

Table 7: Examples of possible Referents of terms related to communication 'dysfunction'

Dimensions of Human Communication (based on ICF, WHO, 2001)							
Environmental facilitators and barriers	Personal factors	Body structure	Body function	Action and Interaction	Material	Propos -ition	Participation and role
Possible referents for our 'dysfunction' terms							
Causal factors							
Diagnosis							
	Disorder?						
				Condition?			
		Syndrome?					
	Delay?						
Difficulties?							
NB: *These examples are presented to illustrate how we could use the conceptual model as the basis of discussion, not as a prescription for the use of these terms in this way.*							

Toward a taxonomy for the field

Parallel to the surprising absense of a shared conceptual model of human communication, or perhaps as a result of it, is the disquieting absense of a shared taxonomy for the field of communication disorders. Establishing a taxonomy for the field first requires an understanding of **granularity** – a concept from the field of Information Management (Bowker & Star, 1999; Kwasnik, 2000). **Granularity** refers to the concepts of:

- the scope/breadth of the phenomena that a term refers to (wide or narrow);
- the level of detail of the phenomena that a term refers to (gross or fine).

The term *granularity* comes from the idea of the size of a 'grain' of information. Terms (and the phenomena/data to which they refer) can only be sensibly compared and contrasted if they are of the same granularity, i.e. of the same scope and detail. An example outside speech pathology demonstrates how granularity applies and is important. In biology, terms that refer to the level of *genus* differ from those in the level of *phylum* by granularity – the terms (and phenomena) at the *genus* level are of a narrower scope and of finer detail than those at the *phylum* level. They are of *finer granularity.* One would not group or contrast terms from the *genus* level with terms at the *phylum* level. For example, a discussion about the differences between two animals, one using terms referring to phenomena at the *genus* level and one from the *phylum* level would not be sensible or productive. Doing a nature survey, and counting some animals at the *genus* level and some at the *phylum* level would be nonsense.

Thus, granularity is an important concept for any Purposes that require comparing or collating discrete phenomena (i.e. diagnosis, taxonomy, prevalence, service delivery categories, etc.). It is less important for Purposes that refer to global constructs or overlapping phenomena (i.e. lobbying) and it may be relevant only in certain situations for Purposes such as describing communication behaviours.

Diagram 8 represents a mock classification of all the phenomena within human communication. The diagram is divided into different dimensions (A-D), then divided into elements (1-8), then further divided into sections (a-p). **Across** this diagram we can see the **scope** or breadth of phenomena. Going **down** the diagram it is possible to see finer and finer **detail**. Each small box on the diagram represents a phenomenon within human communication which can be compared with others according to its **granularity**.

Diagram 8: An exercise in granularity

SCOPE

DETAIL

Human Communication															
Dimension A				Dimension B				Dimension C 💣				Dimension D			
1		2		3		4 ✡		5		6		7		8	
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
													💣		
*	*						%	#		+					
		💣													

Based on Diagram 8, we can say:

- Two terms that are at the same level of detail in the table and cover the same scope within an element (such as *) can be grouped or contrasted meaningfully because they have the same granularity;
- Two terms that are at the same level of detail in the table and cover the same scope but within different dimensions (such as % and #) can be grouped or contrasted meaningfully because they have the same granularity;
- Terms that differ in both scope and detail (such as 💣) cannot be grouped or contrasted meaningfully as they have different granularity;
- Terms that are at the same level of detail but refer to differing scope (such as # and +) cannot be grouped meaningfully, but can be contrasted by scope;
- Terms that are related but refer to phenomenon with more or less detail (such as ✡ and %) also cannot be meaningfully grouped, although they can be contrasted by detail.

Unfortunately, without a shared conceptual model of human communication with sufficient detail it is not possible to consider the relative granularity of the phenomena in human communication. Therefore, the type of analysis done with icons above is currently difficult to apply to actual terms in every day use. The Referent of each term must be absolutely clear before debate about classification can take

place. However, the profession will not be able to develop a comprehensive classification of the phenomena in human communication (and its disorders) until it grapples with the realities of granularity.

In the meantime, it is possible to note a number of current terminology problems related to granularity. Disregard for granularity is the source of the plethora of terms referring to language disorders that overlap or refer to broader or more specific language skills. For example, *word finding difficulties* has finer granularity than *expressive language disorder*. Our terms *speech, fluency* and *voice* have a finer granularity than our term *language*, yet we attempt to group children (e.g. for purposes of prevalence studies and diagnosis) into the categories of speech, fluency, voice and language 'dysfunction'. This means we are demarcating 'categories' of very different scope, and which potentially also overlap. *Semantic-pragmatic disorder* has a finer granularity than *autism*, but some propose the equivalent status of these two, both as diagnostic 'conditions'. The creation of new terms such as *speech sound disorder* must be done with consideration of granularity and the overall model of phenomena within human communication. Failing to do so has an impact on the usefulness of both new and existing terms.

Lack of regard for granularity within speech pathology has resulted in the proliferation of terms. Granularity is a critical concept when establishing that a definition is co-extensive with the Referent. Our many terms refer to varying scope and detail of the phenomena within human communication, yet fail to encapsulate these in logical ways that allow productive professional discourse.

Appendix 3: Some issues with Purposes

CBOS UNIT	*PURPOSE*	*SOME ISSUES*
Assessment (Unit 1)	**Describing an individual's background and situation**	Treating clients' background as a causal factor in lieu of a diagnosis (e.g. an individual's non-English speaking background is not a *causal* factor, although it is an influencing factor)
	Describing the influencing factors on communicating and/or eating/drinking	Treating influencing factors as causal factors (in lieu of a diagnosis)
	Describing an individual's biological status related to communication and/or eating/drinking	The impairment of a particular body structure is sometimes viewed as the cause of the disorder, but actually it is manifestation of the disorder at the body level, e.g. *hearing impairment* is the manifestation of some underlying disorder at the level of the body organ
		It can be difficult to determine (as required in ICF) if some functions are physiological or behavioural, e.g. Where precisely is the boundary between *articulating* (physiological) and *speaking* (activity/behaviour)?
	Describing communication and eating/drinking behaviours	Finer and finer levels of analysis of communicative behaviours or communicative artefacts (e.g. words, sounds) still refer to behaviour or material aspects of communication, but are sometimes used as thought they referred to the biological basis of the behaviour, e.g. *word finding difficulty, auditory memory problem* are strictly descriptions of behaviours An underdeveloped conceptual model of communicative leads to overlap in constructs related to e.g. *language* and *literacy*
	Measuring aspects of communication; Describing the symbolic aspect of communication	Observation of the Material dimension of communication (e.g. *written words)* is used to as evidence of a physiological function (e.g. *phonemic awareness*) when other interpretations are possible
	Describing an individual's ability to participate and take on social roles	Neglect or omission of information from the Participation dimension in favour of normal score data about the Activity or Body function dimensions
	Identifying causal factors	Inferring etiology without direct evidence; Mixing up the cause of disorder (e.g. *damage to Organ of Corti*) with the occasion of cause (e.g. *measles*); Using abstract constructs (e.g. *semantic-pragmatic disorder)* as though they were entities
Analysis and interpretation (Unit 2)	**Demarcating dysfunction**	The terms *impairment, disability, disorder, condition, problem, issue, difficulty,* etc., are used variably and without a clear Referent. We cannot successfully communicate to those outside the profession using complex profession-specific constructs; our terms relating to 'dysfunction' are extremely vague

CBOS UNIT	*PURPOSE*	*SOME ISSUES*
	Making a diagnosis	Inferring a biological basis for a behaviour, and then 'explaining' the behaviour in terms of the inferred biological basis is the source of much circular reasoning in our field (e.g. see page 36)
	Identifying conditions and issues	Treating terms which *describe* the communication problem as though it were an *explanation e.g. word finding difficulty* is a *description* of behaviour not an *explanation* of the behaviour. These may be a useful part of practice, but cause problems if misused as diagnostic terms.
Planning, providing and reporting on speech pathology intervention (Units 3&4)	**Setting and monitoring therapy goals**	If a goal/outcome is to be measurable it must be related to an observable behaviour or thing rather than a profession-specific construct
	Recording clinical care	Profession-specific terms that are not established as diagnostic terms (or not without controversy) are sometimes used; as electronic patient records are generally medically orientated, they tend to focus on diagnostic categories (i.e. Body structure & function dimensions) and they may not easily accommodate all aspects of communication
	Labelling intervention approaches	Sometimes differences of professional opinion about intervention approaches may in fact be differences in opinion about the underlying profession-specific constructs (e.g. controversy about *auditory processing disorder* relates to different constructs of *language*)
Planning, maintaining and delivery of speech pathology services (Unit 5)	**Advocating for individual rights**	Referring to the professionals or service providers rather than the implications for the client; using diagnostic terms; using terms that are not relevant to the service provider or agency; and using profession-specific constructs all reduce the effectiveness of the advocacy message
	Applying for funding for services/ resources	Referring to the service provider (e.g. speech pathologist) rather than to clients' needs, based on the assumption that others understand why the service provider would be needed
	Allocating individuals to service delivery categories	Such terms are work-place specific, e.g. education departments create service delivery categories for funding/allocation of specialist teachers or other services. These terms are frequently misunderstood out of context and sometimes confused with diagnostic terms
	Managing service level data	Attempting to 'sum' different types of 'communication conditions' which actually refer to different types of information (e.g. different dimensions). These do not meet data management requirements of referring to discrete and stable categories of information
Professional, group and community education (Unit 6)	**Lobbying for appropriate provision of services**	Attempting to find one term to refer to all speech pathologists' clients with a single comprehensive definition is likely to be fruitless; a small set of terms is required to cover the range of implications for e.g. learning, working.
	Conducting public relations	Using terms for PR that have the features of terms for profession-specific purposes, e.g. comprehensiveness; using diagnostic terms; using terms that are not relevant to the context; using terms for profession-specific constructs rather than entities/things or behaviours all limit the effectiveness of public relations activities

CBOS UNIT	*PURPOSE*	*SOME ISSUES*
	Conducting educational activities	Using terms with no relevance to the context and using profession-specific constructs with people outside the profession may impede understanding
	Delineating and describing the role of the speech pathology profession to others	Using profession-specific constructs; referring to the domains of communication (e.g. *speech, language, fluency, voice*) when others do not use them in the same way, rather than the aspects of communication that others can observe, mean others do not understand our role
	Labelling the profession	Attempting to find a single, comprehensive, accurate, scientifically-based, logical term for a term predominantly for public use is not necessary
Professional development (Unit 7)	**Establishing prevalence**	Attempting to 'sum' different types of 'communication conditions' which actually refer to different types of information (e.g. different dimensions); this doies not meet data management requirements of referring to discrete and stable categories; failure to take account of influences outside speech pathology
	Classifying the phenomena of interest to the field (Taxonomy)	Developing classification systems which inappropriately group different types of conditions which refer to different dimensions of communication; Developing classification systems without regard for sound taxonomy principles (e.g. classifying discrete, stable and logically related entities with appropriately grouped or contrasted granularity); Including *constructs* in classification systems with *things*; Including categories that are overlapping
	Intra-professional discourse – describing communication domains; analysing speech/ language; describing communication modes or prosthetics	All of these areas of discourse involve professionally-derived constructs which do not actually refer to real entities/things. Necessary for professions-specific discourse, but can lead to major problems when used outside the profession; Sometimes people conflate the communication act with the communication mode and/or with the communication message.
	Delineating research subjects	Research subject labels are created for specific hypothesis testing situation; such 'terms of convenience' usually refer to the Activity or Participation dimension of communication; however they can too easily move into use as diagnostic terms without research of the necessary rigour for establishing a discrete clinical entity (or diagnosis).
	Articulating research aims, methodologies and outcomes	Inference about the Body function dimension can lead to circular arguments in research (see page 36).
	Delineating the scope and role of the profession (internal-use only)	Terms for profession-specific constructs should be for professional use only; these may vary between cultures; difficulties arise if we treat our profession-specific constructs as though they were real entities/things