

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1. PROBLEM STATEMENT

A variety of research projects on characteristics of Augmentative and Alternative Communication (AAC) symbols have been conducted over the years as the awareness of factors influencing symbol learning in AAC became more apparent (Fuller, Lloyd & Stratton, 1997; Mizuko & Reichle, 1989). Characteristics that are widely researched include iconicity, complexity, perceptual distinctness, size, degree of ambiguity, and the number of messages that can be encoded by an individual in a particular set or system. These characteristics influence symbol use, reception and/or cognitive processing and affect the learnability or acquisition as well as the retention (recall and recognition) of the symbols.

The effective learning and retention of a graphic symbol system (GSS) will facilitate the communication of the AAC user and improve interpersonal contact. Schlosser (1995) defines Blissymbol learning as a cause-and-effect relationship between a teaching strategy and the outcome represented via accuracy. Retention is defined as the percentage of correct responses retained subsequent to the last training session. The effective retention of a system will depend on the way in which the learnt symbols are recalled or recognised. In this particular study, the focus will be on recognition of the symbols. It entails recognising information when presented with it, rather than having to reproduce information from memory (recall), which is a more cognitively demanding procedure (Light & Lindsay, 1991).

According to Abrahamsen, Ronski and Sevcik (1989) the learning of an AAC system can have more far-reaching consequences than the primary function of communication. Attention span as well as social skills can improve and simultaneously decrease communication frustration. The effective learning and retention of a graphic symbol

system therefore provides the user with the necessary means through which communication and language learning can take place.

The continuous research and development of Bliss is proof of the benefits and use of the system for persons with little or no functional speech (LNFS). It has been successfully implemented with children with cerebral palsy, developmental disabilities, aphasia, deafness, autism, delayed language, auditory perception problems and in adult apraxia (Lane & Samples, 1981). Bliss has many benefits as a communication system, even though it is believed by some to be more difficult to learn than most graphic symbol systems (Mizuko & Reichle, 1989). The usefulness of the Bliss system lies in its relatively uncomplicated geometric components, which can be combined to form a generative communication system.

A relatively new graphic symbol system – CyberGlyphs – was developed in the early '60s and was initially called Jet Era Glyphs (Zavalani, 1995; Fuller *et al.*, 1997). CyberGlyphs are semantically based and can also be expanded via five rules. These symbols are mostly pictographic, but do contain ideographs and arbitrary symbols. The pictographic nature of CyberGlyphs as well as the fact that the symbols can be hand drawn aroused interest relating to the learnability of the system in comparison to the Bliss system. This is particularly relevant within the South African context where the majority of children come from poor backgrounds with relatively little literacy in the home environment. It seems logical that in this situation children might relate better to a hand-drawn system rather than a geometrical or typographical system.

The impact of cultural diversity in the assessment and intervention should be carefully considered when working with augmentative and alternative communication users (Hetzroni & Harris, 1996). This will ensure that the effectiveness of clinical or educational services is not diminished (Soto, Huer & Taylor, 1997). The study of different graphic symbol systems in the South African context can provide useful information on the manner in which culturally diverse populations experience these systems. Information about how children relate to different kinds of graphic symbols is therefore vital for providing a meaningful basis for the application of these systems to children with LNFS.

This study investigates the use of CyberGlyphs in the South African context. The comparison between learnability and recognition of Bliss and Glyphs systems will further enhance the understanding of issues that need to be considered in the selection of a GSS. The importance of comparing symbol systems lies in the fact that a better understanding is created of the strengths and weaknesses of the different systems, which might influence learnability and implementation of the systems.

1.2. DEFINITION OF TERMS

The following terms are frequently used in the study and are defined below:

1.2.1. Learnability

Learnability refers to the way in which an individual learns a communication system. It differs from acquisition to the extent that learning of a communication system is a conscious process and acquisition is the natural process of learning a language.

1.2.2. Retention

Retention refers to the degree to which information has been successfully encoded and resides in the memory of the learner.

1.2.3. Graphic symbol systems

Graphic symbol systems refer to all augmentative and alternative communication systems that use graphic presentation of referents.

1.2.4. Little or no functional speech

This term refers to individuals who cannot communicate through human speech. These individuals communicate via augmentative and alternative means.

1.2.5. AAC user

The AAC user is a person who uses augmentative and alternative communication means to either augment the limited communication that he/she has available, or to serve as an alternative communication system.

1.2.6. Northern Sotho

Northern Sotho is one of the 11 official languages of the South African population and is the mother tongue used by the subjects and teachers in the study.

1.2.7. CyberGlyphs

CyberGlyphs system is a graphic symbol system and is intended to be hand drawn. It consists predominantly of pictographs with a smaller number of ideographs and arbitrary symbols. The system is semantically based.

1.2.8. Blissymbols

Blissymbolics is an aided graphic symbol system that consists of 120 key elements (ranging from iconic to opaque) that can be combined to form new concepts. It is a semantically based system and predominantly non-alphabetic.

1.3. ABBREVIATIONS

- **GSS** – Graphic symbol systems
- **LNFS** – Little or no functional speech
- **AAC** – Augmentative and alternative communication
- **NS** – Northern Sotho
- **Glyphs** – CyberGlyphs
- **Bliss** – Blissymbols
- **BCI** – Blissymbol Communication International
- **TO** – Traditional orthography
- **PICSYMS** – PICture SYMbolS
- **PCS** – Picture communication symbols
- **PIC** – Pictogram ideogram communication
- **Rev** – Revision process after first training session during the research procedure
- **WD** – Withdrawal session following the first training session and revision period

1.4. SUMMARY

An introduction to the importance of learnability and recognition of graphic symbol systems is presented in this chapter. An introduction to Blissymbolics and CyberGlyphs is given with mention of the impact of cultural diversity in the selection of GSS. A list of definitions of terms, as well as abbreviations used in the study is provided.

2.1. INTRODUCTION

2.1.1. Scope of the chapter

The aims of this chapter are to discuss the characteristics of Blissymbolics and CyberGlyphs and to compare the systems to each other. Different characteristics influencing the learnability of GSS will be discussed and recall and recognition of symbols as an indicator of learnability will be highlighted.

2.2. COMPARISON BETWEEN BLISSYMBOLICS AND CYBERGLYPHS

There is a variety of GSS with different characteristics that influence the way in which they are learned, retained and used. Systems like PCS, PICSYMS, Rabus and Signos have been researched and compared to one another to identify the influence of different features on the ease of learning in typical and disabled populations. This study focuses on two graphic symbol systems namely Blissymbolics and CyberGlyphs.

2.2.1. Blissymbolics

Charles K. Bliss created Bliss to function as an international means of communication for people of different languages (Wood, Shorr & Heich, 1992) in order to surpass cultural barriers (Schlosser, 1967). The symbols have a geometric configuration and according to Wood et al. (1992) is described as a semantically based, pictographic, ideographic symbol system, which is generative in nature. Therefore, the development of new vocabulary is possible by combining the 120 key symbols in various ways to form new concepts. Several studies have focused on Bliss, its benefits and characteristics (Archer, 1977).