CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter provides a short summary of the results of this study as well as a discussion of the implications for practice. The study is critically evaluated in terms of limitations and strengths, and finally recommendations for further research are made.

5.2 Summary of the results

The purpose of this study was to determine how accurately typically developing rural Zulu-speaking children could identify 36 PCS symbols, to describe error patterns and to investigate possible influences on results. Data were obtained by means of a test task where participants had to select a symbol from a commercially available communication overlay in response to a spoken label.

The results of the present study indicated that the 36 PCS symbols that were presented were generally low in iconicity for rural Zulu speakers between 10 and 11 years. The average iconicity of the 36 symbols was 2,8% or 11,1% or 22,2%, depending on the criterion used. In the light of the argument by Lloyd et al. (1985) that the criterion suggested by Hoemann (1975) (iconicity values ≥ 25%) was too lenient, it is suggested that only the criteria suggested by Doherty et al. (1985) be used. Accordingly, it seems reasonable to say that the symbols on the overlay were between 3% and 11% iconic on average.

Error analysis showed that symbols could be described along the iconicity continuum at the same time as being described as distinctive or indistinctive. "Distinctiveness" is a term that was coined for use in this study and describes whether a symbol evokes precise meaning or multiple/no meanings in the mind of a viewer. The influence of distinctiveness on learnability is unknown, but it is hypothesised that high distinctiveness would aid learning of symbols.

It seemed that some symbols scored low on iconicity and/or distinctiveness due to the nature of the task. Presentation of an array of symbols related to the same theme possibly resulted in overlap between the conceptual features of some of them. Previous iconicity studies presented a smaller selection of symbols and the symbols were generally unrelated to each other. It can be reasoned that such a task would be easier than the one employed in this study, possibly resulting in better iconicity scores.

Apparently participants did not make maximum use of the information afforded them by arrows in symbols. Either participants did not interpret arrows as indicating movement, or they did not utilise information about *direction* of movement. A finding by Moolman and Alant (1997) correlates with this observation. They taught selected Blissymbols to six mildly cognitively impaired children according to global and analytical teaching methods. Retesting a month after the training revealed that participants from the analytical group could use many of the elements, but paid no attention to the indicators. They suggested that the opaque nature of indicators could serve as explanation for this. Duncan et al. (1973) found that cultural differences were most prominent when pictures contained cues to imply motion. They argue that most Western pictorial conventions like indicating depth and the use of shadows are realistic, meaning that the drawing looks like what the real object would have looked like from that angle. Since action is really a series of pictures, it is unnatural to depict it in one picture, necessitating the use of 'unrealistic' and arbitrarily chosen cues such as vibration marks and arrows. Likewise Luftig and Bersani (1985) found that there was no significant difference between translucency values for verbs and objects in Bliss, while in ASL verbs were significantly more translucent than objects. They blame the action indicator employed in Blissymbols for this. The lack of experience with pictures including such conventional cues, added to the opaqueness of the arrows may explain why participants did not use the information offered by them (Miller, 1973).

The total frequency of selection of symbols did not influence the frequency of correct responses (iconicity values) of symbols, neither did the position of the symbols on the communication overlay. It was found that as a whole the noun category was the most iconic grammatical category. Gender did not play a significant role in the outcome of this task.

5.3 Clinical implications

5.3.1 The use of PCS

The iconicity of the selected PCS symbols was generally low for the population studied. This finding serves as a reminder that although PCS had been described as one of the most iconic symbol sets (Mirenda & Locke, 1989; Mizuko, 1987), the meanings of these symbols are still not entirely guessable. A factor that could have contributed to low iconicity in this population was the presence of arrows in many of the symbols. It might prove profitable to use a symbol set/system that employs more postural cues and fewer arrows. Alternatively, clinicians must be aware that special training in the use of arrows might be needed (Moolman & Alant, 1997).

5.3.2 The use of commercially available communication overlays

The results yielded by this study indicate that the unmodified use of commercially available communication overlays containing PCS symbols may not be ideal in the South African context. Many of the themes of the overlays and the concepts depicted on them do not promote experiential equivalence with Southern African cultures. The fact that the researcher and judges had difficulty in finding an overlay that contained no concepts that would obviously be foreign to rural Zulu speakers serves as a case in point. It is suggested that clinicians choose themes that are relevant to their clients, and then compile communication overlays relating to those themes and the experiential background of the client.

Considerable difficulty was experienced in translating the labels of the 36 symbols. In an attempt to design messages that were generic and also not authoritarian, the source phrases were short and non-specific. These sentences did not contain enough information to make accurate translation possible, confirming that the shorter a sentence, the more difficult it is to translate (Retief, 1988). It is proposed that clinicians consider using word-based PCS symbols rather than sentence-based PCS symbols if material is to be translated. Alternatively, modification of the source phrases as described in 3.4.2.2 (see also Appendix G) could be considered.

5.3.3 Methodological concerns in the testing of iconicity

It has been mentioned that the presentation of an array of symbols all related to the same theme, may have had an influence on iconicity and distinctiveness values (see 2.8). Yet symbols are most often used in such a context. It is therefore argued that whatever influence these factors had on the values obtained, served to make the values more functional and socially valid. It is suggested that this form of presentation be considered in future iconicity studies.

5.4   Critical evaluation of the study

This study constitutes the first step towards obtaining culture-specific iconicity information in South Africa. It seems that the translation process employed yielded a reliable translation (see Appendix C), thereby strengthening the validity of the results. The novel method of presentation (in the context of a communication overlay) is regarded as an advantage because it yielded functional and socially valid results.

The relatively small sample is seen as a limitation of the study.

5.5 Recommendations for future research

Recommendations for future research are:

- The iconicity of PCS for South African cultures needs to be further investigated. The present study can be replicated on Zulu-speaking persons from other parts of the country or from urban areas in order to obtain a more representative body of data. Future iconicity studies should also focus on other cultures indigenous to South Africa.

- The construct of "distinctiveness" should be validated in future research. Consequently the influence of distinctiveness on the learnability of symbols should be investigated. It has been suggested that there may be a positive correlation between these two variables.

- Iconicity should be investigated in the context in which it will be used, for example a communication overlay. This will not replace other methodologies, but yield additional information about iconicity.

- It would be interesting to investigate the influence of such a methodology on iconicity values obtained. For example, two communication overlays containing several overlapping symbols, could be presented to the same sample of participants on different occasions. A comparison of the iconicity values for those symbols that appeared on both communication overlays may prove to be valuable.

- Alternative methods for obtaining culture-specific iconicity information in the context of a communication overlay should be explored. One option would be to present an overlay and ask participants to produce a label for each symbol. Another suggestion is to present participants with a matrix-36 communication overlay without symbols, read the labels one by one and request participants to draw a 'picture' for each label in the squares provided.

- Children's perceptions of indicators like arrows need to be further explored. Performance on tasks containing indicators across culture groups should be compared. The influence of schooling and urban or rural living on the interpretation of indicators, should be further investigated.

5.6 Summary

In this chapter the conclusions of the research are presented and the clinical implications of these conclusions are discussed. A critical evaluation of the study is followed by recommendations for further research.