



CHAPTER 6

CONCLUSIONS, EVALUATION AND RECOMMENDATIONS

6.1 INTRODUCTION

The purpose of the study was to develop a peer training programme and to evaluate the effects of the peer training programme on the interactions of an adolescent who uses AAC with his peers. An analytic approach to the description of (a) the psychosocial background of the interactions of the adolescent who uses AAC with peers and (b) the description of the actual interactions needed to be developed to meet the specific purposes of the study. This chapter commences with a synopsis of the basis for the development of the peer training programme and how the effect of the training could be evaluated. The results obtained are then integrated with related research findings.

The goal of research in AAC is to improve the service delivery to clients by (a) increasing our understanding of the processes involved, (b) developing new hypotheses to test or (c) suggesting new techniques for clinicians to try. By defining the clinical implications of AAC research we provide a means towards the development of best practice. In discussing the clinical implications of the current study aspects of peer partner training are discussed. The limitations and the strengths of the present study are discussed in the evaluation of the research and suggestions for further research are then proposed.

6.2 CONCLUSIONS

6.2.1 The Value of Peer Training to Facilitate the Social Interaction of Adolescents who use AAC

The peer training programme proved to be effective in increasing the number of messages per hour (frequency) and the number of messages per interchange (extent) of the interactions of the adolescent who uses AAC with peers within the classroom setting. Changes were also noted in the nature of the interactions, for example there was an

increase in the use of certain communication functions such as showing emotions and feelings. The peer training focused on social communicative skills and peer training has proved an effective means of developing social communicative skills for adolescents with social, emotional or behavioural deficits as well as for typically developing adolescents facing family, interpersonal or academic difficulties (Cartledge & Milburn, 1995; Hess, 1993; Rose, 1988). Research into the social interaction of children using AAC has indicated that most children who use AAC have deficits in terms of their social and communicative interaction with peers (Buzolich & Lunger, 1995; Harris, 1982; Kraat, 1987; Light, 1988). Studies involving the perspectives of individuals who use AAC have confirmed the inability of AAC implementation to meet socio-communicative needs effectively (McCall et al., 1997). Effective partner training is an important issue that has been widely identified in the AAC literature as requiring additional investigation (McEwen & Karlan, 1990). Training of communication partners has been identified as an essential component if persons using AAC are to become socially competent (Light, 1997). Furthermore, as Sack and Mclean (1997) explain the daily communication partners of persons using AAC are not likely to be communication professionals but rather, family members, primary caregivers, peers, friends or support staff. Adolescents spend progressively more time with peers and considerably more time interacting with peers than with parents and other adults (Rubin et al., 1998). Thus, peer training for partners of adolescents who use AAC would appear to be an essential component of AAC intervention if adolescents who use AAC are to develop the social competence required for adulthood. The need for the implementation of similar programmes with both children and adolescents who use AAC is supported by this study.

6.2.2 Consideration of Pertinent Communication Functions.

Analysis of the observational data showed changes in the use of various communication functions throughout the phases of research within the different contexts. There was for example an increase in the use of requests by the adolescent who uses AAC. Following the pilot study certain categories of communication functions were eliminated and only nine were coded in the analysis of the observational data of the main study. Pertinent communication functions will differ according to the developmental level of the children

or adolescents being studied. Light et al. (1985b) used different categories of communication functions in their study of eight boys who were under the age of six years, had physical disabilities and had LNFS.

6.2.3 The Importance of the Multimodality of AAC- Including Aided and Unaided Modes

In the present study the adolescent who uses AAC often used several unaided modes simultaneously, for example a vocalization accompanied by a facial expression and body movement. Only the dominant mode or modes was coded. He also had access to aided modes including a VOCA, the DeltaTalker™ and his computer. As in the study of eight boys, aged between 4 and 6-years of age, by Light et al. (1985c), the adolescent in the present study preferred to use his natural voice as his dominant mode of communication. This was despite the fact that the results of the PACT user and partner scales indicated that he was aware that many of his peers could not understand his speech. A follow up to the study has included measures to increase his access to the VOCA for purposes of clarification when his speech has not been understood by peers. Many clinicians and researchers in AAC have discussed the importance of teaching the person using AAC to vary modes of communication to facilitate greater success in different contexts or with different partners. However, this study suggests that not only should the person using AAC be taught strategies to improve his/her communicative competence in this way but that the familiar partners, including peers, should be taught to suggest a change in mode when the need for clarification exists.

6.2.4 The Possible Effect on Self Concept

Given the design of the study it was not possible to determine whether the noted improvement in self esteem of the adolescent who uses AAC was as a result of the implementation of the peer training programme and the resultant increased interaction of the adolescent. It seems reasonable to suggest that, as one's social competence is an important factor of one's global self concept, the improvement in the primary participant's interactions within the classroom may have been associated with the

improvement as noted on the MSCS and the SDQ 11. Evaluation of psychosocial factors such as self concept may well be important considerations in future AAC research.

6.2.5 The Lack of Peer Training Programmes for use with Children and Adolescents who use AAC

One of the foremost barriers of implementing peer training for the partners of children, adolescents or adults who use AAC is the lack of validated training materials or procedures (Sack & Mclean, 1997). Materials and programmes that would be appropriate for some communication partners would not be appropriate for other groups of communication partners (Sack & Mclean, 1997). This would imply that partner training programmes need to consider not only the person who uses AAC but also the partners. The development of the peer training programme in the current study was an attempt to design a programme that would be effective in increasing the social interaction of the specific participant. However, principles and strategies utilised could be adapted by other researchers and clinicians. For example the process of defining the goals in terms of the desirable behaviours of peers by consulting the primary participant to establish the difficulties he was experiencing with his class mates, or the use of co-operative games could easily be applied and adapted by other clinicians.

6.2.6 The Viability of Peer Training

The persistence of the intervention effects post withdrawal following what was a relatively short period of intervention suggest that peer training is a viable option to include in the intervention of children and adolescents who use AAC. This is substantiated by the maintenance for two to three weeks of interaction gains noted by Light et al. (1992) after intervention of four 1-hour sessions with facilitators. Similarly, the respondents in the final field trial of the partner training programme, Developing Communicative Interactions, indicated that partner training had a positive ongoing impact on the interactions of persons who used AAC and who had severe developmental disabilities (Sack & McLean, 1997).

6.3 CLINICAL IMPLICATIONS

6.3.1 Peer Training Promotes Social Competence for Adolescents who use AAC

The main implication of the study is that peer training should be considered an integral part of the AAC intervention for adolescents who use AAC in order to facilitate socio-communicative competence. This implication is supported by the results of studies involving partner training for adolescents and children who used AAC and had severe cognitive disabilities. Conversation training with three adolescents with severe cognitive disabilities that included interactions with typical students resulted in positive gains in abilities of initiation and turn taking and a concurrent reduction in inappropriate behaviours (Hunt et al. 1988). A later study by Hunt et al. (1991) with younger students with severe disabilities showed that generalisation of conversation skills only occurred when training of peers was implemented. The authors concluded that peer training was essential to generalise the gains made by the participants (Hunt et al., 1991).

In the current study the increase in the social interaction of the peers and the adolescent who uses AAC were not generalised to the playground at recess. Peer training needs to be structured to facilitate generalisation across partners, and settings.

6.3.2 Socio-communicative Competence and Self Concept

Although the improved self concept of the adolescent who uses AAC cannot be directly linked to the implementation of the peer training programme it is regarded as a potential effect of the programme. Socio-communicative competence has been linked to the self concept of speaking adolescents (Romaine, 1984; Whitmire, 2000). In the current study the programme was aimed at improving not only the social interaction of the adolescent but also the socio-communicative skills of the peers.

6.3.3 Need for Additional Training Materials

The need for clinicians and researchers to develop appropriate materials and training programmes is evident. This implication is supported by other authors such as Carter and Maxwell (1998) and Sack and McLean (1997). Where there are existing programmes to teach socio-communicative skills to adolescents it may be possible to adapt the programme to also facilitate interaction with a peer who uses AAC.

6.3.4 Need to Train Peers of Children who use AAC

This study has highlighted the importance for adolescents to interact socially with their peers. Typically, adolescents have already learned a range of socio-communicative skills in childhood to the extent necessary for social interaction with their peers. But it is widely accepted that children who use AAC are at risk of having inadequate socio-communicative skills as a result of reduced opportunities, and therefore in adolescence their peer interaction is hampered and their social integration may suffer adversely. The implementation of peer training programmes with children will support the successful inclusion in educational and training establishments of children who have disabilities and require AAC, by facilitating his/her social integration. Within the South African context peer training programmes should form part of the inclusion package provided by the support services of the education department for children who have LNFS and who are being integrated into the inclusive education and training system.

6.4 EVALUATION OF THE RESEARCH STUDY

6.4.1 Positive Aspects of the Research

- i. The extensive nature of the different methods of recording data relating to the actual interactions and the psychosocial background of the interaction of the adolescent who uses AAC and his peers added depth to the study. The multiple sources of evidence allowed for a process of triangulation of data increasing the construct validity of the study.

- ii. The robust nature of the observational data collection was a strong point of the study. Extended videotaping was completed for each phase of treatment and each videotape was transcribed, coded and analysed in full. This increased the internal validity of the study.
- iii. The effects of the peer training were not only documented in terms of the frequency and extent of interactions but also in terms of the peer partners' responsiveness as well as the discourse and communication functions and the modes used by the adolescent who uses AAC. As Buzolich and Lunger (1995) stated analyses of interactions between persons who use AAC and speaking partners are essential to promote our understanding of the processes involved, and to build on both the research and clinical foundations of AAC.
- iv. The analytical model used in the description of the interactions of the adolescent who uses AAC with his peers could well serve as a framework to be adapted by other researchers. Adaptations could include a different range of communication functions pertinent to the particular age range or purpose of the research. Additional categories in the framework could include contextual factors and AAC system factors. Also, the category of partner responses may well need to be expanded.
- v. Three different contexts were identified as occurring naturally within daily classroom routines. These were teacher directed time, OBE small group discussions and informal times. The opportunities for peer interaction with the adolescent who uses AAC varied in degree from one context to another, and therefore it is with greater confidence that the results of analyses in each context could be compared.

6.4.2 Limitations of the research

The limitations of the research included:

- i. Lack of replication of the study is a major limitation. There was no other adolescent subject available. This is a difficulty encountered in the field of AAC research and was exacerbated by previous education policies in South Africa that resulted in children with LNFS being unable to meet admission

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- criteria for admission into special schools. Replication of the study with other adolescents who use AAC and their peers would enable one to verify that the intervention was responsible for the changes in the social interaction of the adolescent who uses AAC and did not arise by chance or due to other variables. A result of the lack of replication is that it is not possible to generalise the findings. However, the procedures and the process are carefully described and should allow for the study to be readily repeated or adapted.
- ii. The peer training programme integrated many components including raising the awareness of peers, teaching specific strategies and the familiarisation of the peers with encoding strategies, and the study gives limited insight into the significance of each component.
 - iii. A further limitation is that the analysis of interactions in terms of discourse and communication functions and the modes used did not fully analyse the complex nature of the interactions. The coding of partner responses could have been more detailed; additional psychosocial information on the background of the peers could have been included and more information detailed regarding contextual information with respect to each interchange.
 - iv. The analytical model used for the description of the psycho social background of the interactions of the adolescent who used AAC with his peers was comprised of various components such as the PACT partner rating scales. Other assessment tools such as the *Social networks: Augmented Communicators and their Communication partners* presently being developed by Blackstone, Berg, Soto, and Liboiron (2002) may well prove more effective for this purpose.
 - v. Finally, the results showed greater and more frequent interactions of the adolescent who uses AAC with his peers but were not analysed in terms of how many or with which specific peers interactions took place. The impact of peer variables was not addressed.

6.5 RECOMMENDATIONS FOR FURTHER RESEARCH

The following research options were suggested by the current study:

- i. Further research is required to determine whether extending the intervention to include additional natural settings, for example the playground, would result in greater generalisation of the social interaction gains of the child or adolescent who uses AAC.
- ii. Further research is also required to identify instructional and motivational factors that are essential for the success of peer training programmes and how these factors would differ in importance according to the age of participants.
- iii. Additional research is needed to clearly define which variables are relevant to the peer training process and the impact of each on the interaction skills of the child or adolescent who uses AAC.
- iv. Further studies may identify how the child or adolescent who uses AAC can facilitate the competence of peers in interactions. Speaking persons differ in the way they interact with persons who use AAC and we need to identify and define which strategies used by speaking partners improve interactions.
- v. Additional research to determine the effectiveness of different techniques in peer training would assist in determining which techniques are most effective. For example, a comparison of peer training programmes would be instructive, where one programme included activities in which peers have to communicate using AAC in simulated interactions, and another programme does not include this kind of activity.
- vi. In practice it would be impossible to make extended videotapes in natural settings of the interactions of each child or adolescent who used AAC. Further research to develop viable clinical procedures, that are both valid and reliable, to describe the interactions of children and adolescents who use AAC in natural settings is required.
- vii. The evaluation of the peer training programme when included as part of an inclusion programme for an adolescent who uses AAC, would usefully explore and compare the experiences and perceptions of the child, peers, teachers and

parents. Of additional interest would be the impact of peer training on the interaction of siblings with the child or adolescent who uses AAC.

6.6 CONCLUDING STATEMENT

Communication is essential for participation in daily life situations. Studies have shown that the implementation of a multimodal AAC system for children with LNFS has resulted in an increase in their interactions with adults, developed their language abilities and had positive effects on literacy development. However, the provision of an AAC system cannot guarantee increased social interaction, the main goal of AAC.

Implementation of peer training programmes in addition to training the child or adolescent who uses AAC in social skills and strategies may result in increased social interaction with peers. There have been few studies describing the effects of peer training on the interaction of persons who use AAC. Specifically, no studies were found pertaining to the training of peers of adolescents who used AAC and who did not have cognitive impairments. Given the widespread acceptance that including learners with disabilities in inclusive educational settings will offer opportunities for developing complex socio-communicative and other skills, the lack of research is disappointing.

Social interaction is fundamental to success in inclusion (Carter & Maxwell 1998). The ability to communicate socially is essential to the goal of participatory inclusion. The White Paper 6 of the Department of Education states that it is committed to establishing an inclusive education system for the 21st century in which all learners, with or without disabilities, must be supported to achieve their learning potential to the fullest (Department of Education, 2001). The White Paper 6 is committed to implementing the values of the Constitution (Act 108 of 1996) including the value of human dignity and the human right of communication (Department of Education, 2001). To facilitate social integration and thus positive inclusion of children who require AAC a peer training programme should be implemented as soon as a child who uses AAC is accepted into a classroom. In implementing effective AAC intervention we must provide the means to a richer quality of life for our learners who have little or no functional speech.



6.7 SUMMARY

This final chapter begins with a synopsis of the multiple descriptive means by which the peer interactions and the psycho-social background of the interactions of the adolescent who used AAC were determined. The integration of the results was then discussed followed by the clinical implications suggested by the study. A discussion of the limitations and positive aspects of the research preceded recommendations for further research. The concluding paragraph highlighted how essential communication is for participation in everyday contexts and the need for peer training if we are to meet our educational goal of including all learners in an inclusive educational system in South Africa.