

## Augmentative and Alternative Communication in South Africa: Accessibility and Implementation

Erna Alant

*Centre for Augmentative and Alternative Communication  
Department of Speech Pathology and Audiology  
University of Pretoria*

### ABSTRACT

*This paper deals with the development of a community-based service for the implementation of augmentative and alternative communication (AAC) strategies for people with severely limited verbal expression. The concept of community-based intervention is explained and the process of training as done in the Centre for Augmentative and Alternative Communication (CAAC) is described. Data of pre- and post- training evaluations is discussed as well as follow-up data obtained in the various training contexts. Finally, critical issues related to the follow-up data are discussed.*

### OPSOMMING

*Hierdie artikel handel oor die ontwikkeling van 'n gemeenskapsgebaseerde diens vir die implementering van Aanvullende en Alternatiewe Kommunikasie (AAK) strategieë vir mense met ernstig beperkte verbale ekspressie. Die konsep van gemeenskap-gebaseerde intervensie word verduidelik en die prosesse van opleiding soos dit plaasvind in die Sentrum vir Aanvullende en Alternatiewe Kommunikasie (SAAK) word beskryf. Data van voor- en na-opleiding evaluering sowel as opvolg inligting verkry binne die verskillende opleidingskontekste, word bespreek. Laastens word sekere kritiese vraagstukke met betrekking tot die opvolg data, uitgelig.*

The difficulties involved in sustained use of Augmentative and Alternative Communication (AAC) strategies within the broader community have recently received much attention in the literature (Calculator & Lucko, 1983; Miranda, 1992). Various authors have pointed out the limited use of communication boards (Calculator & Dollaghan, 1982) and gestural and electronic systems in real life situations (Allaire, Gresard et al. 1991). Reasons for failure in using these systems range from client characteristics (for example, no ability to generalize skills), to a stronger environmental emphasis (for example, limited training in significant others' use of the systems), to attitudinal problems of people relating to the disabled and nonspeaking person (Blackstone, 1989; Gorenflo & Gorenflo, 1991). These authors agree, however, that failure to implement a system can usually be attributed to a combination of factors within the person's environment. Although primary caregivers are important in the training of AAC strategies, they also need a supportive framework that is conducive to reinforcing the use of the communication systems. The involvement of peers, educational staff and other interested parties is vital to the successful implementation of a communication system (Cumley & Beukelman, 1992; Van Tatenhove, 1992).

The concerns in South Africa, as in other developing countries, with problems of affordability, equitability, accessibility and appropriateness of health services, necessitate a cautious approach when rendering AAC services. Improvement in communication ability has to do with the increase in the quality of life of the individual and cannot be separated from the infrastructure for health and social development

within a particular country. This is particularly relevant when addressing issues of technology and sustainability.

The aims of the paper are threefold:

1. to discuss the issue of community-based rehabilitation as a background to the proposed service model
2. to describe the service model used for the implementation of AAC strategies in the Centre for Augmentative and Alternative Communication (CAAC) based at the University of Pretoria, by focussing on the aims and the process used for training
3. to highlight critical issues relating to the follow-up visits to various training contexts.

The concern about making technology more appropriate for developing countries has become a major issue in the socio-economic development debate concerning less developed countries. Rifkin and Walt (1986) have identified two schools of thought in relation to the implementation of technology in developing countries. The first maintains that if technology could be successfully implemented, it would transform the society so that a new value system would develop. This approach focusses on the efficacy of interventions and the need to transfer existing technologies as quickly as possible. Intervention models and approaches are emphasized, for example, the centre-based models of AAC (Blackstone, 1989) in which the team of experts evaluate and recommend appropriate intervention strategies within a particular context. The second school of thought holds that the society must evolve in its own way and must therefore develop its own infrastructure for dealing with and using technology. In this way the techno-

logy would be adapted or changed to suit the particular culture and resources. Technology is effective or appropriate when, within itself, it is an integral part of the development of the society to which it is transferred. This approach focusses on the process through which intervention might be accepted.

This second approach can be described as the Primary Health Care approach, also known as "comprehensive health care" about which Rifkin and Walt (1983, p.560) have the following to say: "Briefly, we see primary health care as being concerned with a developmental process by which people improve both their lives and life-styles. Good health is a key factor to this process." Central to the second approach is the concept of equality, implying accessibility to health services; the need of a multi-sectoral approach to health problems; and community involvement. Snell and Browder (1986) have referred to community-referenced instruction and focus on the philosophy of normalization and applied behaviour analysis. They have stated that normalization assumes the importance of teaching skills for adult life in the community and sets some guidelines for social validation of the results.

According to the second model, AAC implementation can only succeed if integrated within the existing health network and based on active community involvement or participation. This implies that all decision-making and initiative should be taken by the community itself in order to assume responsibility for the intervention procedure as well as for the maintenance of the process. The stress placed on involving significant others in the training of disabled people in the use of AAC strategies emphasizes the importance of understanding and recognizing the infrastructure of the community within which individuals live. The issue is not so much one of introducing people to AAC, as the maintenance and extension of a communication system once it is in use.

The involvement of the community in the decision-making and in the implementation of AAC strategies is thus mandatory. Abrams (1992, p.3) has emphasized this aspect by stating that "the essential element which determines a genuine developmental process is who ultimately makes the decisions". A significant issue, however, revolves around who should constitute the community that is involved. The heterogeneity of opinion within a specific community necessitates the careful description of which people are involved in a particular decision-making context. It is clear that there is need for an infrastructure or network that can reinforce the programme. However, it has been stressed that such infrastructures can not be sustainably developed on their own without all others progressing simultaneously (Abrams, 1992). To use the infrastructure of health seems logical, although Rifkin (1986, p.241) has emphasized that it is not possible to build self-sustaining community participation through health services activities alone. Firstly community participation is a process of changing individual perceptions in the course of time as the dynamics of community members change. Also, when asked what communities want, health services are not necessarily regarded as primary needs. In addition, not many people in the community have had any experience in providing health care and they see little scope for involvement. While the provision of a single-section health service programme (e.g. an immunization programme) often builds credibility, it also limits the possibility of widespread and sustained community participation because these programmes tend to be more specialized in nature. "Community people will gladly accept the benefits, but not as easily accept the responsibility people have expected" (Rifkin 1986, p.243). It is against this background that the introduction of an AAC service model for developing countries becomes interwoven with a very complex set of social networks.

The definition of the term "community" as used in this paper refers to all people involved in the training context, e.g. a school or training centre context including, for example, the staff, parents, aides and other interested parties.

### THE INTERVENTION MODEL

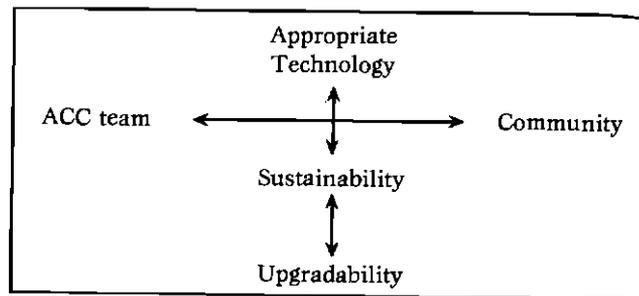


Figure 1: AAC intervention model (adapted from Emmett et al., 1991)

Figure 1 represents the basic components of the AAC service model to be discussed. It centres around making intervention and technology an integral part of community participation and decision-making in order to provide a basis for a sustainable service that has some potential for upgradability.

The aims of the project in the CAAC are to evaluate and develop a community-based service for the implementation of AAC strategies for people with limited verbal expression. In this paper, the process used in the CAAC is illustrated in terms of the evaluation of both the training sessions and the changes that took place as observed during follow-up visits within three specific contexts. It is important to emphasize that working with severely handicapped people implies a long-term commitment as most of these clients will need assistance for the rest of their lives. Data presented therefore are those of the initial stages of ongoing interaction with the training contexts.

### Process of Training used in the CAAC

Institutions or individuals approach the CAAC for information relating to AAC strategies. This is followed by an informal visit of CAAC staff to the particular venue. Discussions centre around motivating people to see that "the way things are now, is not the only way they could be" (Hope & Timmiel, 1984, p.4). If a request for training is received, the following steps are followed.

1. A visit to the institution/ school or home in order to familiarize the staff with the environment of the trainees and to make a video-tape recording of the children with specific problems to which the CAAC staff should pay special attention during training. The reason for this is that much emphasis is placed on the relevance of training in each context. The language preference of the trainees as well as the clients is determined in order to adjust training to the needs of the context.
2. The trainees are asked to fill in a questionnaire on attitudes and skills/ knowledge of AAC in order to provide some background to the trainers in terms of the level at which training should be directed, as well as to the extent of homogeneity of the group.
3. A one-day training session is held, mostly in situ, focussing on AAC principles and multi-component communication systems. Graphic, gestural and technological systems are introduced (See an example in Appendix 1).
4. After the training sessions an evaluation questionnaire is developed in order to assess the efficacy of the training session

in terms of knowledge in AAC.

5. Approximately three months after training, the first follow-up to the training context is done in order to determine the status of trainees regarding the use of AAC. This informal process is aimed at documenting what has occurred within the context since the first visit and at identifying the variables responsible for the occurrence (Meyer & Janney, 1989; Wacker, 1989). An important additional aim is the identification of needs within the context for further training and support.

**Content of Training Programmes**

The primary aim of the training sessions is to expose people to the concept of AAC, multi-component communication and the various ways in which normalization into the community (Snell & Browder, 1986) can be achieved. Emphasis is placed on a number of issues.

1. The importance of developing an infrastructure for the disabled person within which s/he can communicate. In order to achieve this, no fewer than five people (preferably more) from a particular community have to be selected for any one training session. Everyone in the individual's environment, teachers, aids, friends or caregivers, is encouraged to attend (Cumley & Beukelman, 1992). During the training session, it is strongly suggested that the trainees establish an AAC interest group within their context in order to establish an organizational structure which would facilitate further regular contact with the CAAC as well as disseminate information on a local level. Various authors (Abrams, 1992; Hope & Timmel, 1984) have emphasized that the sustainability of development of a service is far more dependent upon organizational capacity than appropriate technology or State support.

2. The purpose of AAC is discussed in terms of two aims: firstly, augmenting verbal interaction in situations where the individual has little or no functional speech; and secondly, using AAC strategies to give entrance into literacy in cases where people cannot read, but will be taught to read in future. This function of AAC strategies is receiving much attention in the international AAC community at present as reflected in the number of papers presented on this topic at the fifth conference of the International Society for Augmentative and Alternative Communication (ISAAC) (1992) in Philadelphia.

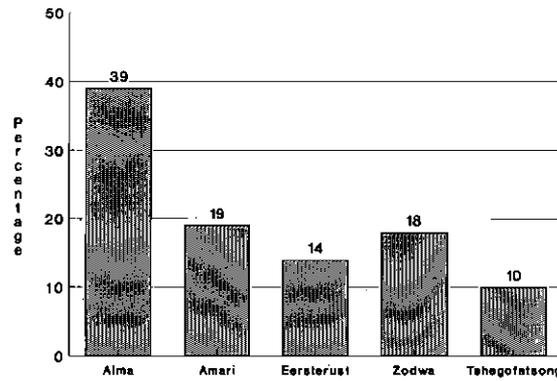
3. In teaching communication, the focus is on facilitating community-referenced skills (Snell & Bowder, 1986). The usefulness to the individual of what is taught is emphasized in order to facilitate normalization.

4. Much use is made of stories and role-playing (Werner & Bower, 1982) in order to help trainees act out problem-solving situations similar to those encountered in their own context and in this way to increase the relevance of the teaching context.

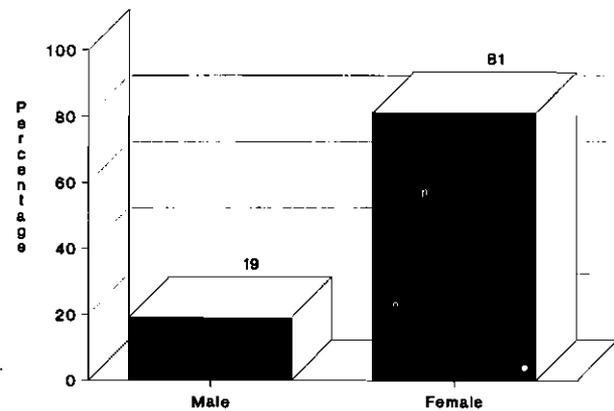
**DESCRIPTION OF SPECIFIC TRAINING CONTEXT**

Figure 2 provides an analysis of the training contexts used in the data presented in this paper. Three of the contexts are Afrikaans speaking (Welkom, Pretoria and Eersterust) while two contexts are Northern Sotho- and Zulu- speaking (Atteridgeville and Mamelodi). All these training contexts were schools for severely handicapped children.

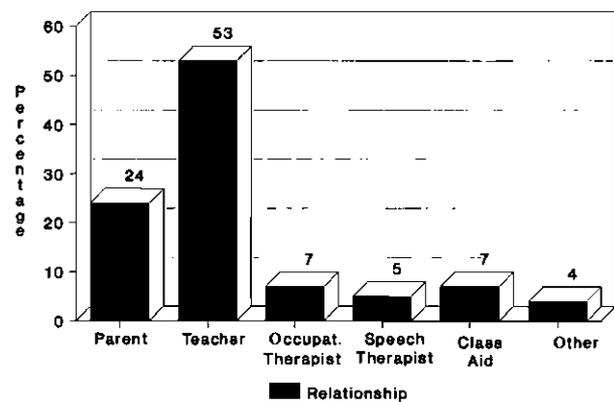
Information given during the training sessions reported on in this paper, centred around the use of graphic symbol systems as most trainees were ignorant of the use of these systems for communication. Due to exposure to the deaf community, most of the trainees had some superficial exposure to gestural systems before. Even so, the main emphasis was on multi-



**Figure 2: % Respondents from various schools**



**Figure 3: Sex of respondents**



**Figure 4: Relationship of respondent to disabled person**

component communication, thus emphasizing that the aim is to facilitate communication or to facilitate literacy and not to teach the child "Bliss Symbolics" or any other symbolic system.

**Trainee Characteristics**

Most of the trainees in these schools were female teachers, with parents forming the second biggest group (Figures 3 and 4). Although most of the people trained had some form of post-matric training, 18 % of them had only between 8 - 10 years at school (Figure 5). It is interesting to note that although the importance of including peers in training sessions is emphasized, none of the contexts have included these participants on an initial training level. This can be attributed to two factors: firstly, to the non-disabled people's need to acquire knowledge about AAC strategies before introducing them to disabled

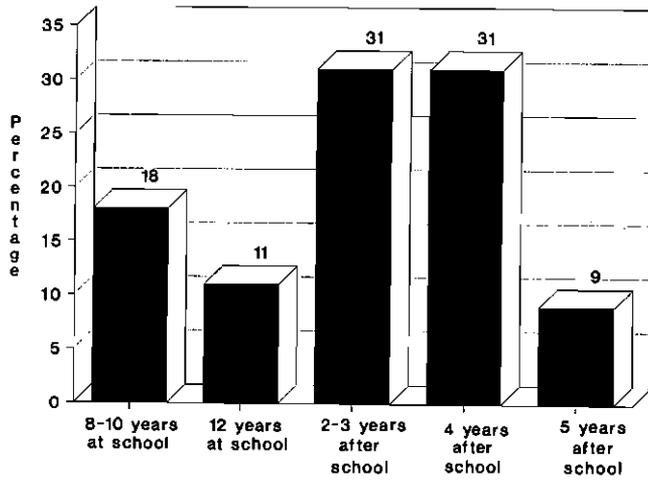


Figure 5: Qualifications of respondents

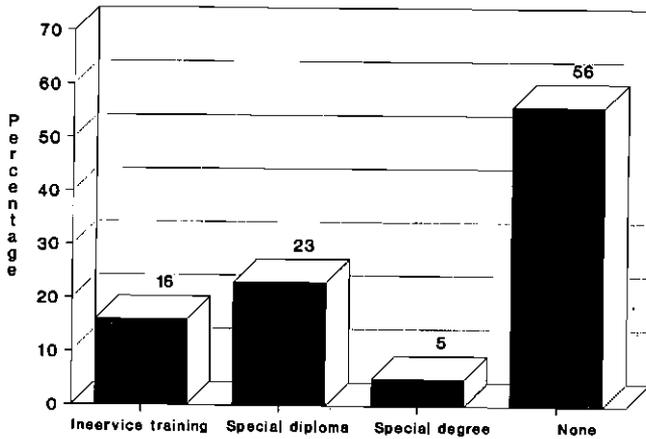


Figure 6: Respondents' special training received

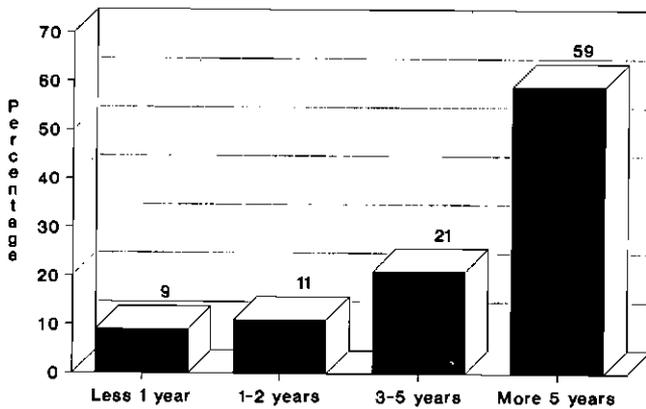


Figure 7: Respondents' exposure time to disabled people

people and peers; and secondly, to the nature of the specific population at these training centres, most of whom are severely cognitively restricted. Fifty six percent of trainees had had no previous training to work with disabled people (Figure 6), although 59% (Figure 7) had been working with disabled people for more than five years.

**Pre- and Post- training Evaluations**

Figures 8 to 10 indicate pre- and post- training differences in responses to attitudinal questions towards nonspeaking people and AAC strategies. Although it is acknowledged that attitudes are not changed overnight, these differences in responses reflect an openness to information and training that is a most valuable starting point for intervention. They also indicate that the training provided in the initial stages has made

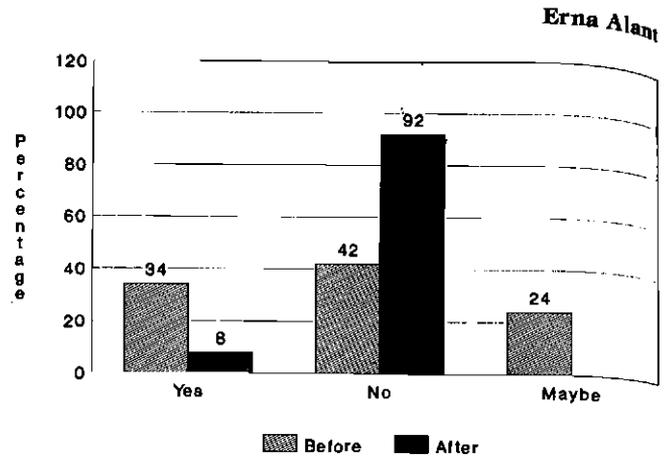


Figure 8: Will using nonverbal means of communication prevent talking?

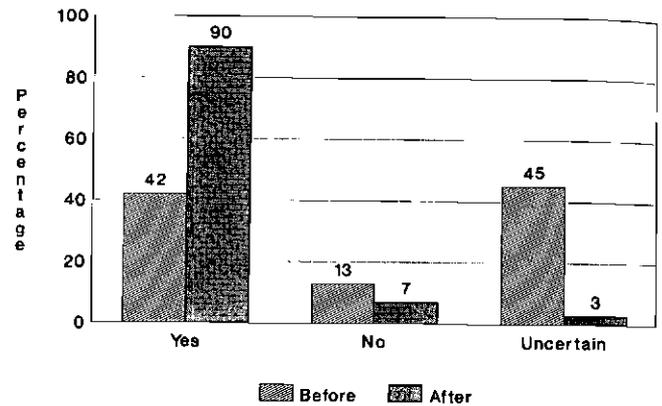


Figure 9: Will people who cannot talk ever learn to read?

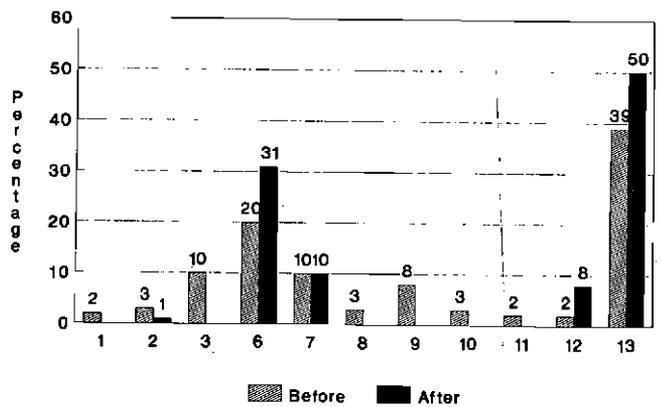


Figure 10: Who should teach disabled people to communicate?

some positive impact on the trainees.

Figures 11 to 14 relate more specifically to the training in graphic symbol systems. Once again, the differences in pre- and post- training responses are clear and reflect a positive change. Although encouraging in the initial stages of intervention, these results do not guarantee successful intervention. The supportive structure, appropriate knowledge and skills of all involved as well as the disabled person him-/herself will determine whether this potential for change will manifest

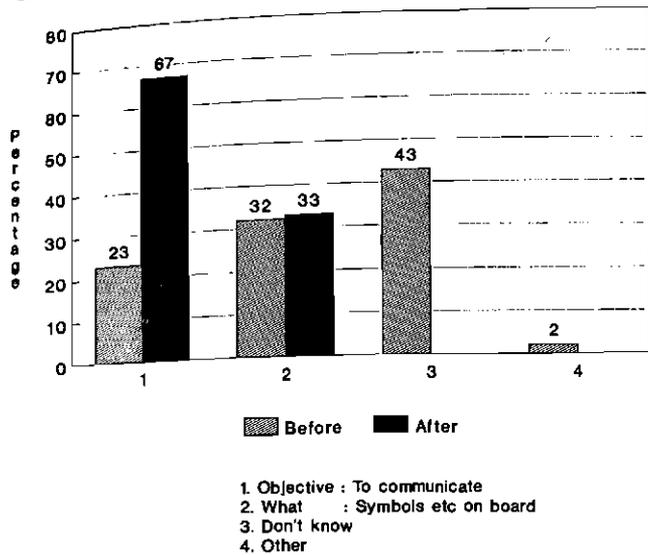


Figure 11: What is a communication board?

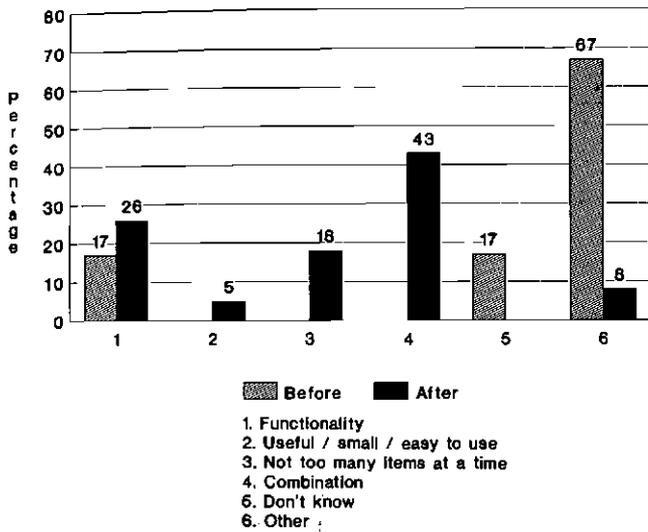


Figure 12: What important features should a communication board incorporate?

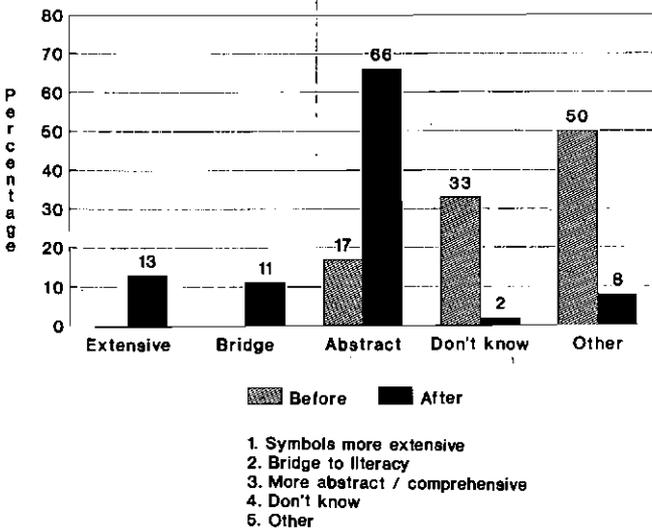


Figure 13: How does a symbol system differ from pictures?

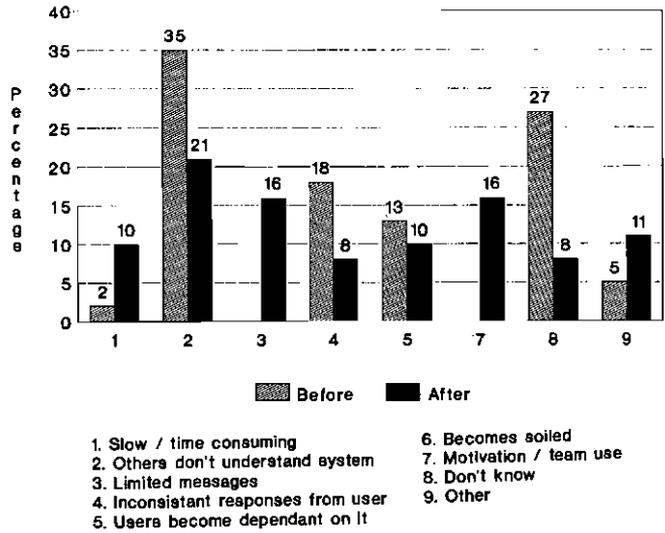


Figure 14: What are the biggest problems in using a symbol system?

Follow-up Data at Three Training Contexts: Discussion of Issues

Table 1 represents the data after the first formal follow-up visits done by CAAC staff to three of the five contexts in which training took place. Various important issues are highlighted in these observations.

1. All the training contexts had implemented some AAC strategies in the work context. Although the implementation was limited, it was clear that the need for the use of these systems was realized. This response to the initial exposure appears to reflect the intensity of the need experienced by nonspeaking people and their significant others to make contact with each other.
2. Few additional efforts were made to obtain information on AAC or to make contact with other institutions using AAC. In fact, the isolation of institutions working with severely handicapped people and the lack of supporting infrastructure could be seen as a reflection of the fragmentation that characterizes South African communities at present.
3. The extent to which people in the various contexts attempted to make technology suitable for their clients could be related to their general orientation in terms of resources. People who were mainly focussed on using internal resources found it easier to make adjustments for clients e.g Context 1. Context 2, however, in which no attempt at making communication technology had been made, was strongly orientated towards external resources with a preference for buying 'ready made' equipment. The fact that there are no financial resources to do this at present therefore limits their efficacy. These differences indicate the heterogeneous nature of communities not only in orientation, but also in terms of empowerment (the ability to take control over one's own life). Context 3 represents a more affluent financial context. What is interesting, however, is that even though the financial constraints may be less, the overall evaluation of AAC and supportive structures are very similar to the other two contexts. Very limited parent contact after the initial training was evident, together with limited implementation. The fact that most of the better qualified people were from this institution also made no difference.

Finally, and perhaps the most significant issue in terms of further intervention, is related to the fact that none of the contexts was able to develop an AAC core group or committee to take responsibility for further contact and dissemination of

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**Table 1: Follow-up Data of Three Training Contexts**

1 = Poor 2 = Average 3 Good

CRITERIA	CONTEXT 1	CONTEXT 2	CONTEXT 3
Potential AAC Clients	21	12	24
Number of trainees	14	18	39
Language	Afrikaans	Northern Sotho	Afrikaans
Time laps	6 months	4 months	4 months
Present feeling about AAC	3	2	3
Attempts at implementation	3	2	3
Number of clients introduced	8	3	8
Attempts to obtain additional information	2	2	2
Attempts at making relevant technology	3	1	2
Nature of technology	Boxes for object boards Books, Pictures, Adapted switch for tape recorder	None	Communication Boards Tins
Contact with other institutions using AAC	1	1	2
Has an AAC core group been established?	No	No	No
Who are involved in the AAC group	All teachers	Selected teachers	All who want to participate
Contact with parents after AAC training session	2	1	1
Nature of parent contact at present	Limited: Parents work late & children stay with domestic helpers	Parent contact identified as problem: They are not involved & do not come to the school	Limited
Problems experienced with AAC implementation at present	Problems identified with individual children: no general problems identified	Teachers not orientated towards individual children: only general problems identified	Teachers identify their own problems in class. No general problems identified.
Nature of problem in implementation	Limited expertise Limited time for implementation Too many children in class Carryover: parent & domestic worker involvement limited	Teachers are not really orientated towards individual children More class aides needed Limited parent involvement Negative attitudes in environment - Guilt - No interest	Limited expertise Limited use of switches Carryover: limited parent contact Poor positioning of children for communication
Comments/Impressions of CAAC team after follow-up interaction	Good participation from all involved Non-threatening discussion between CAAC and participants Good problem solving developing between people Orientated towards <b>internal</b> resources	Good participation Much pride in school - little focus on individual children Parent contact needed for raising funds Positive attitudes - not specific to AAC Strong orientation towards <b>external</b> resources	Good participation from people attending No general problems identified - only individual cases Group support amongst staff limited

information. Although various aspects could be contributing to this, it could be seen as reflecting an insecurity amongst people in establishing an infrastructure for the ongoing support of AAC strategies. This problem may be consistent with Rifkin's statement (1986) that as few people have had any experience in providing health care (or related therapeutic services) they are unsure whether they can make a meaningful contribution. The development of such an infrastructure obviously demands much more support and effort from all involved in order to ensure that whatever was implemented would be sustained over a long period of time. It could also be a reflection of the complexities involved in the process of community participation as highlighted by Tumwine (1989).

The focus on implementation of AAC strategies could be described as a single section health service because it deals with the implementation of specific communication strategies. Although this could be negative in that it is a specialized intervention process, the emphasis on networking with other social and health contexts as well as sharing responsibility in creating and maintaining these networks would ensure that AAC services would be accessible and meaningful to all those in need. This raises the issue of whether a selective technology approach (for example, focussing on AAC strategies) and a primary health care approach are mutually exclusive concepts as described by Rifkin and Walt (1986). The need for both these approaches is emphasized in the following: "just as much as we have an awareness of the need to alleviate pain and suffering by developing better technical facilities and more specialized services, so too is there a growing concern about the preponderance of ... infectious diseases that relate to poverty and squalor of a large section of our population" (Alant 1989, p.132). The importance of maintaining and developing specialized treatment and technological advancement can therefore not be disregarded in the process of providing primary health care for all. This suggests a creative interaction between externally-orientated involvement (e.g. the emphasis on technology or specialized treatment) and internally-orientated approaches (primary health care with a strong community-based focus) in order to develop a humanistic approach towards community-based rehabilitation. A humanistic perspective implies that people become conscious of the alternatives available to them, become motivated to choose and produce the necessary structures to make these alternatives possible.

Community-based rehabilitation is a creative interaction between community members and professionals and is characterized by a process of mutual understanding and respect, vital to any meaningful intervention. Mutual understanding implies ongoing critical appraisal of the models used by both therapist (or developer) and community. Certainly, in the CAAC experience the fundamentals in working with communities lie in the acknowledgement that "the view of the community - how communities view problems and the solutions that make sense are often worlds apart from the views of institutions or professionals" (Grace 1991, p.1) and similarly, that "no conception of development that aims to project solutions onto society can succeed in humanizing society" (Alant 1989, p.132).

## ACKNOWLEDGEMENT

I would like to express my sincere appreciation to the CAAC team and the communities who are partners in this process. This research project is funded by the Human Sciences Research Council Programme for Social Affordability.

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## APPENDIX 1

## LAUDIUM

24 June 1992

## ONE DAY COURSE: INTRODUCTION TO AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

## PROGRAMME

**Aim:** To expose staff and parents to the use of AAC systems in teaching and communication. The purpose of this session is to introduce people to the concept of AAC. This initial course will not be adequate preparation for the implementation of AAC strategies. Further support for implementation will be necessary.

**Objectives:**

- To give a summary of why AAC strategies are important for use with severely disabled people
- To identify the different problems relating to communication with severely disabled children
- To discuss briefly different symbolic and gestural systems
- To discuss certain ways of implementing these systems in a school and home context
- To discuss the importance of the establishment of an AAC core group in Laudium to ensure further follow-ups and exchange of information between CAAC and the Laudium Centre staff and parents.

**Time Schedule:**

08.00	:	Registration
08.30-09.30:		Introduction: What is Augmentative and Alternative Communication (AAC)?
09.30-10.30:		Problem statement: What are the problems confronting us when working with the severely disabled person?
10.30-11.00:		What can be done about these problems? Roleplay
11.00-11.30:		TEA
11.30-12.30:		How can these strategies be implemented? The importance of establishing a core group for AAC at the Centre
12.30-13.00:		Filling in of evaluation questionnaire