CHAPTER 6

DISCUSSION OF RESULTS

6.1   INTRODUCTION

In the present research the aim of the BCIP training was to equip community health nurses with the knowledge and skills to function as transdisciplinary professionals, enabling them to train the primary caregivers of CSDs. It places multiskilling centrally in this research as this is one approach by which transdisciplinary skills are acquired.

The aim of this chapter is to discuss and integrate the results related to the primary outcomes (knowledge and skills) and the secondary outcomes (attitudes, exposure and service delivery, and self-evaluation) and their impact on the four multiskilling levels. Finally the specific training principles employed in the BCIP training that facilitated the achievement of these outcomes will be highlighted.

6.2   MULTISKILLING LEVELS AND ACCOMPANYING OUTCOMES

Outcomes can be defined as clear learning results that participants in training should be able to demonstrate at the end of the learning experience (Spady, 1994). The Department of Education (1997, p.24) expanded this definition: "*The 'outcome' is the result of the learning programme; what the learner knows, can do, values and wishes to be like.*" This implies that all learning experiences should aim at integrating knowledge, skills and values. Multiskilling was selected as the approach by which community health nurses were trained to move beyond the boundaries of their specific discipline, enabling them to function as transdisciplinary professionals. They had to move beyond Level 1 which involves basic client care skills) to Levels 2 (involving professional non-clinical skills), 3 (administrative skills) and 4 (clinical skills). This was necessary in order to equip them with the skills to provide services to CSDs and their primary caregivers. Figure 6.1

depicts the outcomes achieved following the BCIP training on each of the nursing tasks within the four multiskilling levels.
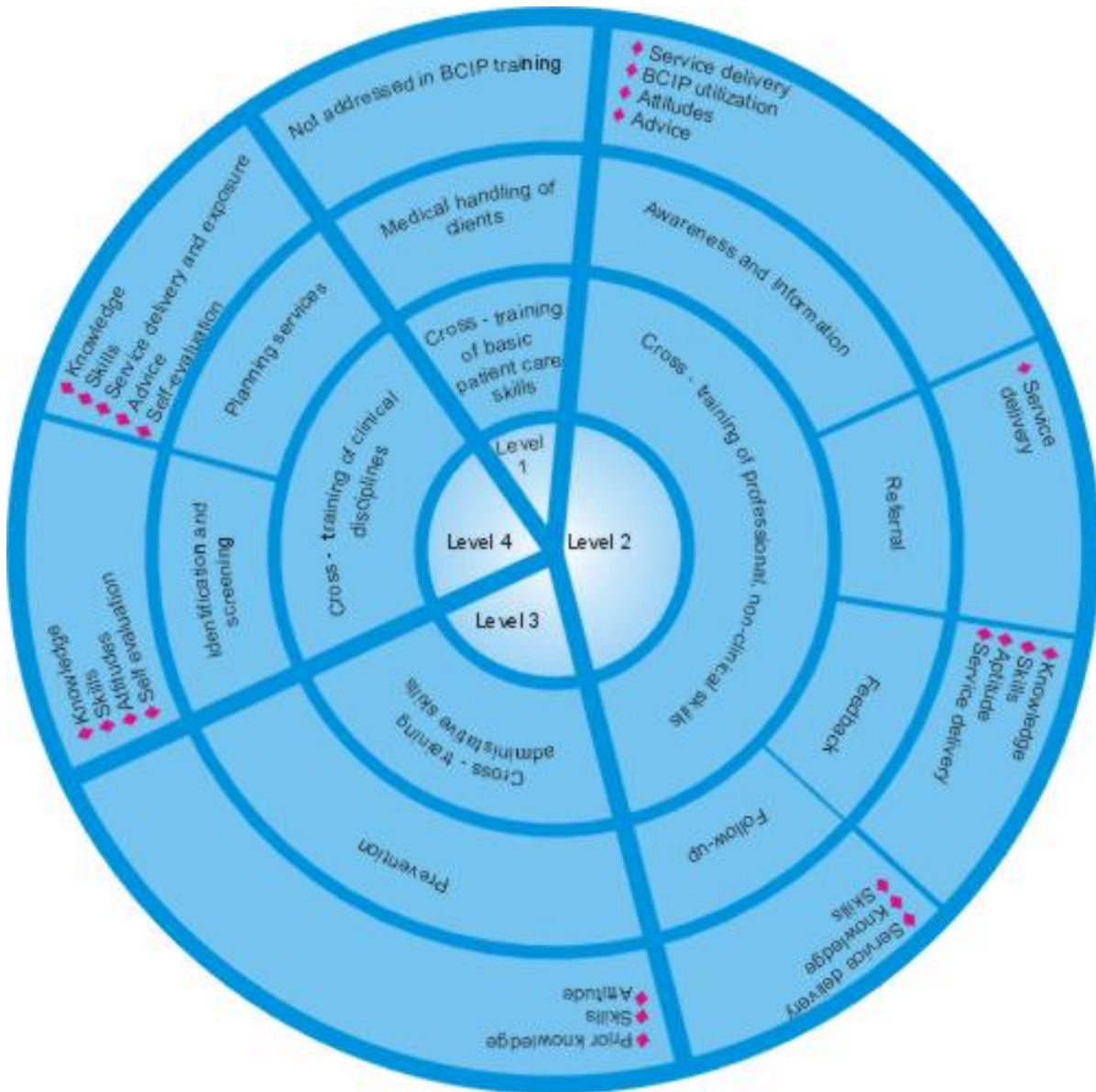

Fig 6.1: Multiskilling levels, nursing tasks and BCIP training outcomes

Nursing tasks have been described in literature (ASHA, 1996; Wilkey & Gardner, 1999). In practice, however, it is very difficult to separate these specific nursing tasks as they impact on and influence each other, e.g. referral can only be effective in the

presence of raised awareness and information. It should also be noted that these four levels are hierarchical, so that a person will not be able to function on Level 4 (e.g. planning services) without having the skills to also function on Level 2.

Regarding outcomes, it should be noted that training programmes have specific foci, and some forms of teaching will result predominantly in skills enhancement, some predominantly in knowledge development and some in attitudinal change. As mentioned in Chapter 5 the BCIP training was deliberately planned and organised with the intention of changing knowledge and skills, and is not focused on changing attitudes. The outcomes achieved with the BCIP training were therefore separated in terms of primary outcomes (directly trained outcomes) and secondary outcomes (aspects that changed although they were not directly trained, e.g. attitudes). However, the impact of each of these outcomes on the other, should be acknowledged, e.g. increased knowledge impacts on all the different multiskilling levels (and nursing tasks). The fact that it is difficult to separate these outcomes therefore impacts on the construct validity of the present research. It also impacts on the content validity, e.g. what all the different variables that impact on service delivery are and how they were measured. The nursing tasks assigned to each of the multiskilling levels and the outcomes achieved within each of these nursing tasks following the BCIP training will now be described.

6.2.1 Level 1 Cross-training of basic client care skills

This level refers to the medical handling of clients by providing specific nursing tasks and since the training focused on beginning communication skills for CSDs and their primary caregivers, this aspect was not addressed during training.

6.2.2   Level 2 Cross-training of professional non-clinical skills

Five nursing tasks that relate to this level were applied to disability (ASHA, 1996; Dublinske, 1983; Freeman & Heinrich, 1981). Specific outcomes were related to each of these nursing tasks, namely awareness and information, referral, feedback and follow-up. Each will now be described in more detail.

6.2.2.1   Awareness and Information

In this specific context it is difficult to separate these two nursing tasks. First of all nurses had to receive information to ensure that they became knowledgeable about CSDs and their needs and abilities before they could provide information to caregivers of CSDs, other professionals and the community at large which would lead to raised awareness of disability issues. Following the BCIP training, information dissemination (which is the start of raising awareness) began at the personal level with informal discussions and demonstrations with their own families (Table 5.40 and Appendix P).

However, raised awareness at the personal level is only the first step. This was followed by formal talks and demonstrations to colleagues and health talks to the community at large to expose the issue (disability) and to educate for action, demonstrating raised awareness at the professional level. Table 5.40 shows how the number of health talks to the community increased over time. During self-evaluation of their skills, community health nurses maintained their focus on education through health talks throughout the different research phases (Table 5.41). During the post-withdrawal period two nurses also reported that they had conducted in-service training of nursing assistants as they felt this information had to be available at times when they were unavailable themselves "*when we get that type of patient and I am not present, they can use these things*" (BCIP).

Afterwards information dissemination (and consequently raised awareness) became more specific in nature and was conducted at the level of the primary caregivers of CSDs. Nurses provided them with information (about disability and available services) and

training (about communication for CSDs) (Blumberg, 1987; Eggbeer, 1995; Lequerica, 1997; Meisels, 1992). During the BCIP training it became clear that awareness of disability and the needs of CSDs and their primary caregivers increased. This is evident from the fact that the number of children who received service delivery by community health nurses increased (Table 5.38 and 5.39). In addition, Table 5.39 shows that the number of nurses who stated that they could not use the BCIP independently due to the fact that no CSDs were available decreased from eight (during the first follow-up) to three (during the post-withdrawal). This might indicate that nurses became more aware of CSDs at their respective clinics and/or that the health talks had paid off and more CSDs were referred.

In addition, nurses became more specific on information that they would provide post-training, e.g. "*teaching parents to communicate with their CSD*", "*information on a disability grant*" and "*demonstrating communication functions, means, partners and opportunities*" (Table 5.42 and 5.41). Homan (1999) states that good information is accurate, interesting, relevant and important. In the present research this implies that the focus is on the **abilities** of the child (as opposed to the **dis**abilities) and to highlight the fact that all children **can** communicate (irrespective of how this is done). The information that nurses would provide to CSDs and their primary caregivers is reflected in the advice they would give (Table 5.24). It became clear that post-training nurses became clearer on how communication means and functions could be increased through the use of communication temptations, as well as the importance of increasing social interaction (by increasing communication partners). Nurses also highlighted the importance of increasing the independence of CSDs. The BCIP training thus facilitated a change in the nurses' perceptions regarding CSDs as witnessed in the way they facilitated the interaction between primary caregivers and their CSDs.

Focus group discussions (Appendix P) showed that nurses became clearer on their role as it pertains to information dissemination and awareness raising of the needs and abilities of CSDs and their primary caregivers and that the new information facilitated a change in their perceptions *"it was an eye opener / affected me as a person."* The nurses underlined

the importance of raising community awareness in disability issues and their role in this "*… and then we talk to the community at large.*" They also highlighted the importance of increasing awareness amongst typically developing children "*… teach these children to play with the disabled children."* The importance of social inclusion and the training of the community at large in accepting these children also came to the forefront "*… they should be included in the community and accepted.*"

6.2.2.2   Referral

Pre-training, a high rate of referral of CSDs was seen without any direct services (Table 5.24). In some instances advice was given with the referral (Figure 5.5), although the nature of the advice is unknown. Providing information and support at the time of referral is a crucial element in effective service provision (Lequerica, 1997; Solomon *et al.*, 1994). Post-training, nurses verbalised the importance of support to these primary caregivers "*...the parents should also be given the support that we can help the children…*" (Appendix P).

Post-training, it became clear that nurses were able to be more autonomous during service delivery and that referral was accompanied by advice or by obtaining a case history and screening (Figure 5.5). This tendency continued during the post-withdrawal phase. As was seen from the quality of advice the community health nurses would give primary caregivers (Tables 5.24, 5.41 and 5.42) it was assumed that primary caregivers would be able to understand better why the particular referral was necessary and comply with it. During the focus group discussion nurses voiced their pre-training belief that they could only conduct referrals and their assumption that the BCIP training would focus on the referral process "*I thought we were just going to be taught how to refer these children…*". They felt empowered because they could train the primary caregivers of these CSDs post-training "*…it helps me deal with them…*"

Despite the provision of services to CSDs and their primary caregivers, the availability of more extensive developmental assessment on referral basis will always exist (Eggbeer,

1995). Secondary health care provided at the Jubilee Community Hospital and tertiary health care provided at the Pretoria Academic Hospital for the particular health district was mentioned during the BCIP training. At the end of the BCIP training four nurses expressed the need for more information about the referral route and each team member's role while three requested more information about referral to special schools (Table 5.43).

6.2.2.3   Feedback

It has been noted that whereas primary caregivers take their children to PHC clinics regularly during the first year, there is a gradual fall-off in the attendance rate as the child gets older (Powell, 1984). This might be due to the fact that the need for feedback and reassurance declines as the immunisations are completed. However, this demand for feedback depends on the quality of the services provided and literature suggests that parents (primary caregivers) are more likely to attend community health clinics if they experience feedback to be sensitive and quick (Solomon *et al.*, 1994). Primary caregivers thus need to see and experience that the information they receive will make a difference, as discussed in Section 6.2.2.1.

During the BCIP training it was evident that the nurses' knowledge and skills empowered them regarding the feedback they could provide to CSDs and their primary caregivers "*I learnt that I could, that one could easily communicate with disabled children*" and "*it helps me to deal with them*" (Appendix P). The positive aptitude that nurses reflect towards CSDs and their caregivers will facilitate the feedback process. The number of children receiving services by means of the BCIP implementation almost doubled (from five to nine) from pre-training to post-withdrawal (Table 5.39). This could possibly indicate that primary caregivers felt that they had gained something from the feedback they were receiving and thus wanted to continue with the training.

6.2.2.4   Follow-up

In the past nurses were often seen as the "*experts*" who had all the answers, with the result that follow-ups were to some extent based on fears of primary caregivers (Jennings, 1984). However, with the move away from the medical model of service delivery to the social model, the importance of primary caregivers as "*partners*" in the rehabilitation process came to the fore (Buysse *et al.*, 1994; Meissels, 1992). Nurses and primary caregivers should jointly identify the problem and plan service delivery (Downs & Walker, 1996). This is followed by a process of continuous follow-up by both partners to monitor progress and to modify services (Buysse *et al*., 1994). The extent to which caregivers thus attend follow-up visits is no longer driven by fear, but rather by empowerment as the community nurse is seen as a warm and sensitive partner in the rehabilitation process with empathy for the CSD and the family. In addition, for follow-ups to be successful, the nurses should be viewed as having specialised knowledge and expertise in the rehabilitation field. In other words, the caregivers should feel that the nurse has valuable information to share.

In the present research it was clear that nurses became aware of the importance of including primary caregivers as part of the team "*... to make them work together*" (Appendix P). In addition, nurses' knowledge and skills increased, as described in Section 6.2.2.4, facilitating follow-up. During the pre-training phase none of the nurses highlighted the importance of follow-up visits as a general nursing skill (Table 5.41), but post-training two nurses included it. The increase in the number of CSDs receiving services (Table 5.39) is possibly also attributable to closer collaboration between nurses and primary caregivers. This could possibly in turn be related to the improved knowledge and skills of community health nurses and their sharing of these knowledge and skills.

6.2.3   Level 3 Cross-training of administrative skills

On Level 3 of the multiskilling levels the nursing task that impacts on disability is prevention. Prevention can be defined as "*the elimination of factors which interfere with the normal acquisition and development of communication disorder*" (Stokes, 1997, p.139) which can be congenital (e.g. chromosomal abnormalities, hereditary conditions,

etc.), or acquired (e.g. trauma). Primary, secondary and tertiary levels of prevention should be available to families of CSDs, depending on how pervasive the problem is (Brandt & Magyary, 1995; Roberts *et al.*, 1998). Although all team members (including the primary caregivers and professionals) are involved in prevention, the focus differs throughout the phases. In primary prevention the primary caregivers (parents) are the most prominent, in secondary prevention the community health nurse takes the lead, while tertiary prevention is the domain of the therapists (physiotherapist (PT), OT and SLP).

6.2.3.1   Prevention

The primary focus of the BCIP training was not on preventing disability in the given health care district (Moretele), but it had tangency with prevention at all three levels with a focus on secondary prevention.

Primary prevention involves providing caregivers with information that will enable them to make decisions that will promote their child's development prior to the development of problems (Freeman & Heinrich, 1981; Roberts *et al.*, 1998). In this research it involved explaining the concepts *"disability"* and "*communication*" and its four major components to primary caregivers, so that they can monitor their children and bring them to the clinic betimes should any problems arise. Primary prevention also aims at reducing an individual's susceptibility to disability by eliminating conditions contributing to disability. This should start early, even before the birth of a child (e.g. foetal screening) (Kaplan-Sanoff *et al.*, 1991; Stokes, 1997). As part of the BCIP training, nurses were made aware of peri-natal factors that can cause disability. Prior knowledge revealed that nurses were aware of these factors (18 of the 20 nurses had this question correct pre-training) and 19 during the post-withdrawal period (Table 5.3). Fewer nurses were aware of environmental factors that could cause disability.

Secondary prevention is aimed at achieving early identification and thus early referral for further assessment and treatment (Clark, 1996; Stokes, 1997). This implies that the

community health nurse adopts the role of early detector and referral source by directing primary caregivers to other possible resources, e.g. the social worker (for information on disability grants), genetic counselling (for family planning), OT (for seating and mobility), etc. This aspect will not be further discussed, as the information pertaining to early identification is further discussed in Section 6.2.4.1 while referral was discussed in Section 6.2.2.2. In addition, secondary prevention also highlights the community health nurse's role as information source and role model as it entails the modelling of appropriate behaviours to families as well as providing them with relevant information to enable them to make appropriate and knowledgeable decisions about their child's rehabilitation (Freeman & Heinrich, 1981; Roberts *et al*., 1998). This aspect was discussed in detail in Section 6.2.2.1.

In the absence of available rehabilitation to CSDs by different professionals as seen in PHC clinics in South Africa, the need for community nurses to provide services to this population at a secondary level of prevention cannot be overlooked. The aim of the BCIP training, through multiskilling, was to enable community nurses to provide services to CSDs by means of training their primary caregivers in the utilisation of the BCIP. It should be highlighted that the aim is not for one professional (e.g. the community health nurse) to take over the role of another (e.g. OT, PT and/or SLP) but rather to provide them with the basic skills to facilitate service delivery. The outcomes of the BCIP training on service delivery will be described in more detail in Section 6.2.4.2.

Finally, tertiary prevention relates to the direct provision of rehabilitation services to CSDs and is aimed at restoring, as far as possible, the effective functioning of the individual (Roberts *et al*., 1998; Stokes, 1997). This is usually conducted by therapists, and was consequently not the main focus of the BCIP training.

6.2.4   Level 4 Cross-training of clinical disciplines

Early identification and screening is defined as the implementation of a formal plan for locating and identifying a disability as early as possible in a child's life (Ralls, 1987).

Simply locating and identifying these children is not enough. Service delivery to minimise the effects of disability should be provided. The purpose of identification is thus action. These two aspects will now be described in detail.

6.2.4.1   Identification and screening

Implicit in all identification and screening procedures with children is the idea of "*the earlier, the better*" (Shonkoff & Meisels, 2000). The first step in the identification of disability can be regarded as the location of these children (Ralls, 1987). Perhaps one of the most effective ways of doing this continues to be the education of the community by raising awareness on disability issues. Nurses provide valuable information to the community by means of health talks. This aspect was described in detail in Section 6.2.2.1.

In addition, nurses need to attend workshops and training to learn more about disability and how it impacts and limits active participation in the community. Nurses should also be made more aware of the services available to CSDs and the ways in which they can assist the primary caregivers of CSDs to access these services. These aspects were addressed during the BCIP-training. The ICIDH-II classification which emphasises community participation was used as a classification system. In addition communication for CSDs (with emphasis on communication means, functions, partners and temptations) was covered. In Tables 5.3, 5.4 and 5.5 it is clearly shown that nurses' knowledge increased statistically significantly between the pre-training phase and the phases that followed. Although the impact of increased knowledge on the identification of CSDs was not tested in the present research it is hypothesised that increased knowledge will impact positively on the location and consequent identification of CSDs.

Nurses also became more aware of the importance of obtaining a relevant and complete case-history as part of identifying a CSD. Pre-training, only six nurses regarded this as a nursing skill needed in working with CSDs (Table 5.42) but post-training eight nurses became aware of this. It is also important to note that pre-training thirteen nurses had

indicated that they would like to receive more training in interviewing primary caregivers and communicating with them (Table 5.43) but post-withdrawal this figure declined to only three. This might indicate that nurses felt that this need was addressed during the BCIP training.

Although the BCIP does not contain a formal screening tool, a progress checklist is included. This checklist covers the four most important aspects covered during the training, and nurses were instructed to use this as the first step of service delivery in order to obtain baseline data. Table 5.43 indicates that pre-training none of the nurses regarded screening and monitoring progress as important, but at the end of the training five nurses mentioned this aspect as did four at the end of the five month withdrawal period.

After this, community health nurses can refer the CSDs and primary caregivers if more specific information is required, e.g. on disability grants, sophisticated positioning equipment, etc. Nurses should be equipped to provide basic information regarding the disability and intervention for an interim period. Rural health clinics are often far from secondary or tertiary health care centres and transport difficulties are abundant, which may result in a long time lapse between the referral period and when the referral visit is actually done. Referral should thus never preclude the community health nurse offering the CSDs and primary caregivers advice and/or support (Jennings, 1984). Referral, and the way the BCIP training impacted on this aspect was described in detail in Section 6.2.2.2.

6.2.4.2   Service delivery

Once the disability has been identified, service delivery should commence. As CSDs and their families often live in remote rural areas community nurses are often the only persons available to provide services (Downs & Walker, 1996). Therefore CSDs and their primary caregivers should receive comprehensive holistic services "*on the spot*"(Lequerica, 1997). In order to achieve this, professional training should be expanded so that community health nurses become multiskilled enabling transdisciplinary service

delivery to primary caregivers of CSDs. This is the nursing task where community nurses required the most input as service delivery mostly focused on direct referral (discussed in Section 6.2.2.2). Consequently, this is where the emphasis of the BCIP training fell.

It is interesting to note that over the past two decades there has been a change from an unofficial taboo to official endorsement of primary caregiver involvement in the rehabilitation of their children as the positive effects of active caregiver involvement became clearer (Blumberg, 1987). A basic tenet of the BCIP training is that as primary caregivers are nurtured and receive more knowledge and skills through training, they become empowered to nurture and train their CSDs.

Two primary outcomes that impact directly upon service delivery were achieved with the BCIP training. The first pertains to the nurses' knowledge and the second to their skills. Figure 5.2 shows that there was a global increase in both of these aspects following the training, which continued to increase even after training had ended. When looking at knowledge specifically, it can be seen that prior knowledge regarding disability and communication increased over time (Tables 5.3, 5.4 and 5.5). It also became evident that nurses were able to apply their knowledge to specific case studies (Table 5.8). Applied knowledge was related to the identification of communication means (Table 5.11), communication functions (Table 5.13) and communication partners (Figure 5.3) as well as to the way communication opportunities for CSDs could be increased (Table 5.22). With all four these aspects it became clear that there was not only an increase in the frequency of responses (indicating that nurses identified these aspects easier and more regularly) but there was also an expansion of the range of all of the aspects they identified, i.e. pre-training only six communication functions were identified, which increased to ten post-training and to 12 during Follow-up 2 (Table 5.18).

However, in the PHC context, knowledge should be intertwined with skills. As expressed so aptly by Bruner *"It matters not **what** we have learned. What we can **do** with what we have learned; this is the issue…"* (cited in Brewer, 1985, p.3). During training the nurses received hands-on instruction in the utilisation of the BCIP. Results indicated that

statistically significant changes were obtained in their skills between the pre-training measurement and all the following research phases (Table 5.26). Specific skills that increased over time was the skill in representational level grading (Table 5.27) which indicates that nurses were aware of the appropriate level of representation at which to start training. Their skills in the use of the BCIP elements in providing the particular child described in the case study with choices during a mealtime activity also increased statistically significantly. This included elements such as using photographs for communication (Table 5.29), communication boards (Table 5.30), manual signs (Table 5.31) and skill in using the EasyTalk 4 Option digital speaker (Table 5.32).

It is also important to note that despite the increase in skills, nurses did not become more dependent on prompts. Figure 5.4 shows that the number of prompts required remained fairly consistent over time. Results also indicated that the nurses' confidence increased over time as there was a statistically significant improvement in confidence between the pre-training measurement and the fourth measurement (Follow-up 2) on the 10% level and a statistically significant difference between the pre-training and post-withdrawal period on the 5% level (Table 5.33). This indicates that confidence continued to increase over time as nurses became more familiar and skilled in using the BCIP.

6.3 IMPACT OF THE BCIP TRAINING ON ACHIEVING THESE OUTCOMES

It is clear from the above discussion that the BCIP training significantly impacted on community health nurses' knowledge and skills regarding service delivery to CSDs and their primary caregivers. Possibly the single most important measurement of the effectiveness of the BCIP training lies in the fact that 11 of the nurses stated that this training should form part of the basic nursing curriculum (Table 5.51). This was also emphasised during the focus group discussions (Appendix P).

Due to the profile of the participants (Table 4.15), the BCIP training incorporated principles of adult teaching and learning. It is, however, crucial to determine what the

specific training principles were that facilitated this change in knowledge and skills. Although the training methodology and training content were separated in Chapter 5 for easier reference and clarity, it is important to integrate these aspects when discussing the results as content and methodology impacted jointly on and influenced each other in achieving the outcomes. Each of the important BCIP training principles will be described in turn.

6.3.1   Interactive nature of the BCIP training

The BCIP training is interactive and aims to provide community health nurses with knowledge and skills that will enhance their service delivery to CSDs and their primary caregivers. A number of specific strategies were used to facilitate interactivity, as it is well-documented that participants are more motivated when a variety of teaching methods are used (Caffarella, 1994). Firstly, case studies were used (this is discussed in more detail in Section 6.3.2.).   Secondly, lectures were enhanced by the use of group discussions to facilitate the acquisition of knowledge. During the post-withdrawal period two nurses commented that the theory was one of the aspects that they most enjoyed (Table 5.50). Thirdly, role-play in small groups was used, during which time nurses were divided into groups of three, providing each nurse with the opportunity to take on the role of the nurse, the primary caregiver and the CSD. As there were twenty participants, the research assistant participated actively in one group to make up for the third person. This type of role-play requires the active involvement of each participant to fulfil a particular role during the activity. Three nurses commented that role-play was one of the aspects of training that they enjoyed most (Table 5.47). It should be noted that all of these techniques require high participant involvement (Caffarella, 1994). The nurses found this type of training demanding at first as they were not accustomed to it, but were later able to see the advantages (Appendix P). Fourthly, video observations with critical group discussions were included. Care was taken to ensure the authenticity of the videos, and during post-training four nurses commented that it was one of the aspects they most enjoyed (Table 5.47), while three nurses said that the use of videos could be increased

(Table 5.48). This comment was possibly made because the participants could see the advantage of using videos.

The fifth strategy that was incorporated into the BCIP training to ensure interactivity, relates to the relationship between the trainer and participants (nurses). This process should be characterised by facilitation and co-operation rather than control (Maehl, 2000). In addition, the trainer should also provide positive reinforcement (Heimlich & Norland, 1994). The presence of the trainer throughout the five-month training period impacted on the research, resulting in the so called Hawthorne effect as the participants wanted to please the trainer "*Let me not disappoint Juan*" (Appendix P). It can therefore be argued that the presence of the trainer throughout the training programme might be of value as it acts as a secondary motivation, while at the same time it might impact negatively on the sustainability of the programme as participants might only work for the praise of the trainer. A duplication of the training that does not use the same person as trainer and during the follow-ups will provide more information on this aspect. Directly post-training eleven of the nurses commented on the positive training atmosphere and the fact that they greatly enjoyed the training (Table 5.51). Finally, interactivity was underpinned by the logistical arrangements – a positive climate for learning was created from the moment the participants arrived with training orientation and appropriate introductions (Heimlich & Norland, 1994). All participants wore name labels on the first and second days to facilitate interaction, after which it was no longer necessary as everybody was on first-name terms.

6.3.2   Use of a problem-based approach

One of the basic principles of problem-based learning includes the use of case studies based on real life experiences (Givens-King, Sebastian, Stanhope & Hickman, 1997; Savin-Baden, 1997). Care was taken to ensure authenticity of the case studies used in the BCIP and they were compiled after focus groups had been conducted with nurses, primary caregivers of typically developing children and primary caregivers of CSDs in the particular health district. All the nurses (100%) commented on the appropriacy of the

case studies (Table 5.46). This was further emphasised during the final focus group with nurses (Appendix P) when they commented that the case studies were relevant and that it *"makes us not to forget some of the things"*. However, 16 of the nurses stated that the use of live case studies would have further enhanced the quality of the training (Table 5.48).

6.3.3   Repetition and review

Each morning of the five-day in-service training started with a review of the most important concepts discussed the previous day. Complete handouts were given and during the focus group discussion nurses stated that the handouts enabled them to do independent review (Appendix P).

Case studies were revised in a creative way. As mentioned in Chapter 4, four different case studies were used for the different training periods to combat overfamiliarity and boredom and to stimulate creative thinking and problem-solving. The content of the case studies remained fairly consistent, with minor variations, e.g. the names of the CSD and the primary caregiver differed as did the CSDs gender and age (ranging between five and six), the objects used for communication (e.g. mug, spoon, plate) as well as the mother's occupation (hairdresser from home, clothing alterations done from home, spaza shop from home and selling food from home). The same case study was used for the pre-training and post-withdrawal periods as it was assumed that with the five-month lapse, nurses would not remember the details.

6.3.4   Transfer of learning

Any effective training programme aimed at making a difference in current practices should assist with the transfer-of-learning (systematically think about how the programme can be applied in their own work context) (Caffarella, 1994). In the BCIP training this was achieved by means of follow-up sessions that involved case studies. These follow-ups provided interactive hands-on skills and practise opportunities which

optimised learning. Post-training six nurses said that the follow-ups were fruitful and should continue (Table 5.48). During the focus groups nurses spontaneously verbalised what the advantages of the follow-ups were without the facilitator probing for this information (Appendix P). Nurses felt that follow-ups helped them to problem-solve difficult cases, that it served a review role "*makes us not to forget some of the things*", provided them with the opportunity to practise new knowledge and skills if they did not have any other exposure to a CSD "*helped us to visualise*" and it also acted as an independent trigger for review "*after the follow-up I started to recall them and I started to read*". Due to the fact that the trainer was regarded as a partner in the training process and nurses were not threatened by the nature of the follow-up "*it wasn't a big deal*".

Transfer of learning is embedded within the content of learning and is usually identified by the specified learning objectives (Heimlich & Norland, 1994). Each of the handouts used in the BCIP training contained the objectives for the particular day (Appendices O_1 – O_5). These objectives were discussed at the beginning and end of each day. During the focus group discussion it was mentioned that the initial in-service training objectives had been met and that this impacted positively on their expectations during the follow-up phases (Appendix P).

Various sources were used to compile the content of the training. This was necessary in order to ensure that the training content was authentic and also to ensure that the most important theoretical concepts were covered. Authenticity was ensured by conducting focus groups with community health nurses and primary caregivers of typically developing children and primary caregivers of CSDs respectively in the particular area. A sound theoretical base was ensured by consulting the relevant, reputable literature and by discussions with experts in the field.

These strategies bore fruit as during the post-withdrawal phase 100% of the nurses felt that the handout was useful and 95% felt that the BCIP was useful and that it enabled the independent planning of services to CSDs and their primary caregivers (Table 5.49). Four nurses were still unsure of the ease of using the BCIP during the post-withdrawal phase

while one said that it was difficult to use. This might be because these nurses did not have the opportunity to practise using the BCIP, or the fact that they had started implementing it and became more aware of the pitfalls and difficulties involved in service delivery to CSDs and their primary caregivers. Aspects that nurses would have liked more information on related to communication means, working with primary caregivers, strategies to use with specific disability types and the planning of a service delivery programme for a CSD and monitoring progress (Table 5.51). It is interesting to note that during the post-training phase none of the nurses had commented on working with primary caregivers, but during post-withdrawal four nurses had regarded this as a need. This might possibly be due to the fact that they became more aware of the challenges when working with primary caregivers as partners in the training of their CSDs. Nurses also commented that the length of training was too short and suggested that it be expanded to at least two weeks (Appendix P). In addition they found the whole day training tiring. This might be due to the fact that they were mostly older and not used to spending a whole day in training. Despite the fact that half of the nurses felt that the training time should be increased (Table 5.48) all of them felt that there was sufficient time for questions and answers (Table 5.46). This possibly implies that they found the content to be overwhelming at first and that they needed more opportunities for role-play, videos and group discussions.

Apart from the specific techniques included in the BCIP training to enhance the nurses' acquisition and retention of new knowledge and skills, it should also be noted that learning is affected by a number of extrinsic factors. This includes the amount of past learning of the individual and his/her intrinsic motivation (Heimlich & Norland, 1994). Although years of experience and previous training in the disability field was asked in Response Form II, this information is difficult to quantify and control. These aspects impacted on the specific outcomes that were obtained.

6.4   SUMMARY

Chapter 6 interpreted and discussed the most important findings of the research. It clearly demonstrates the impact that the BCIP training had on the knowledge and skills of community health nurses. Although attitudes did not change statistically significantly, focus group's discussions indicated that community nurses perceived their role regarding services towards CSDs and their primary caregivers more positively. It was not anticipated that attitudes would change significantly, as this was not the focus of the BCIP training. Outcomes of the BCIP training were integrated with the various nursing tasks required from community health nurses working with CSDs and their caregivers. A final conclusion is that specific aspects of the BCIP training facilitated the process of knowledge and skills acquisition in adult learners, namely taking an interactive, problem-based approach to training that includes creative repetition and revision to facilitate the transfer of learning.