

## Chapter 5

### Results and Discussion

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### 5.1 Introduction

In this chapter the results of the questionnaire will be presented together with a discussion on the interpretation of the findings. This will address the main aim of the study, which is *to determine the content of the Occupational Therapy Module in a Master's Degree in Early Intervention*. A framework for the proposed curriculum will be presented in Chapter 6.

The results of the research will give consideration to the objectives of the study, which are:

- To determine the existing theoretical knowledge base of the occupational therapists working in clinical practice (5.3).
- To determine the existing levels of skills of occupational therapists in the assessment procedures for early intervention (5.4).
- To determine the existing levels of skills of occupational therapists in the treatment of children in early intervention (5.5).
- To integrate and prioritise the identified needs in order to establish a framework for the proposed curriculum in early intervention (6).

A profile of the *experience of the respondents* in the study was obtained in the first section of the questionnaire and these results will initially be presented (5.2). This data enables comparisons to be drawn between levels of experience and knowledge and skills.

## 5.2 Profile of Experience of the 87 Respondents

### 5.2.1 Years Experience in the Field of Paediatrics

The average years of experience of the 87 respondents are 9 years and 4 months with a minimum of 8 months and a maximum of 35 years. This constitutes a wide range of years, which could be considered as representative in a given sample.

The study results on the current status of training in early childhood intervention (refer to 3.3.2) indicated that newly qualified therapists on the whole are not sufficiently trained to deal with the specialised field of early intervention. In the sample for this study, it is evident that newly qualified therapists are, however, working in this field. This strengthens the viewpoint held by authors and respondents of surveys in 3.3.2 that further training should be undertaken in this field, especially by newly graduates.

### 5.2.2 Experience in Age Groups of Children

In this sub-section the respondents indicated whether they had experience in intervention in different age groups. Responses are indicated in Figure 1.

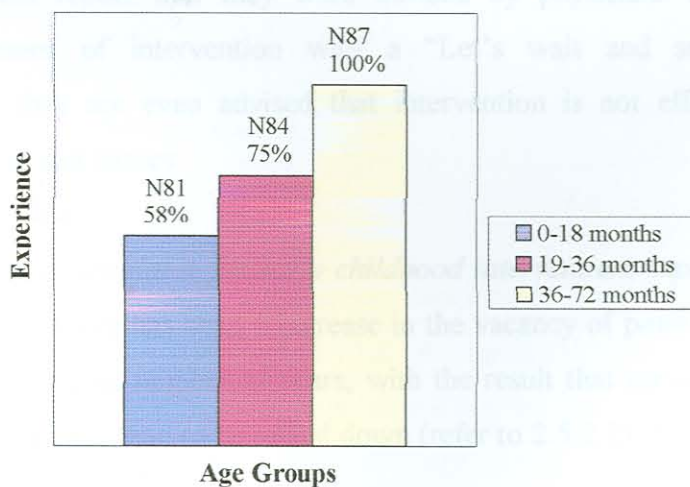


Figure 1: Experiences in age groups

All the respondents had experience in intervention of pre-schoolers but only 58% of respondents had experience with infants. In the study of Lawlor and Henderson<sup>50</sup> in 1989

(refer to 3.3.3) 80.5% of the occupational therapists in that sample from the USA had experience in working with infants. Taking the considerable time lapse between the two studies into consideration, it would seem that occupational therapists in SA have not caught up in the field of early intervention with infants after 11 years. This clearly indicates that very early intervention is not yet common practice in SA, as is the case in intervention with pre-schoolers. This could be attributed to different factors, namely:

### 3.2.3 Experience in Fields of Practice

- *Early referral is not yet common practice in South Africa and is not reinforced by legislation.* In contrast to the Public Law that was adopted in 1986 in the USA, which mandates early intervention services for infants and young children who have, or are at risk for, developmental problems<sup>15</sup>, the national policy in South Africa does not yet reinforce the early referral of children by law (refer to 2.5.2).
- *Lack of knowledge concerning the benefits of very early intervention among professionals who are dealing with infants in hospitals, primary health care clinics and private consulting rooms.* In spite of research results of the past 25 years, which indicate that early intervention is effective<sup>8</sup>, in the researcher's own clinical experience there are still a large number of physicians who are of the opinion that early intervention is unnecessary. Parents often report that they were advised by physicians to delay the commencement of intervention with a "Let's wait and see" attitude. Sometimes they are even advised that intervention is not effective and a waste of time and money.
- *Lack of services available for early childhood intervention, especially in the public sector.* There has been an increase in the vacancy of posts in the public sector over the past number of years, with the result that services that were previously available, had to be scaled down (refer to 2.5.2.2).<sup>29</sup>
- *Lack of training and competence in therapists dealing with infants.* Research studies, as were indicated in 3.3.2, indicated that under graduate training do not prepare therapists sufficiently for the field of early intervention and that,



unless further training is pursued, therapists are not always competent in dealing with the young child.

It seems, therefore, imperative that therapists in SA should become as experienced in intervention with infants as they seem to be with pre-schoolers.

### 5.2.3 Experience in Fields of Practice

In this sub-section respondents indicated in which fields of practice in paediatrics they are working or have previously worked. Responses are indicated in Figure 2.

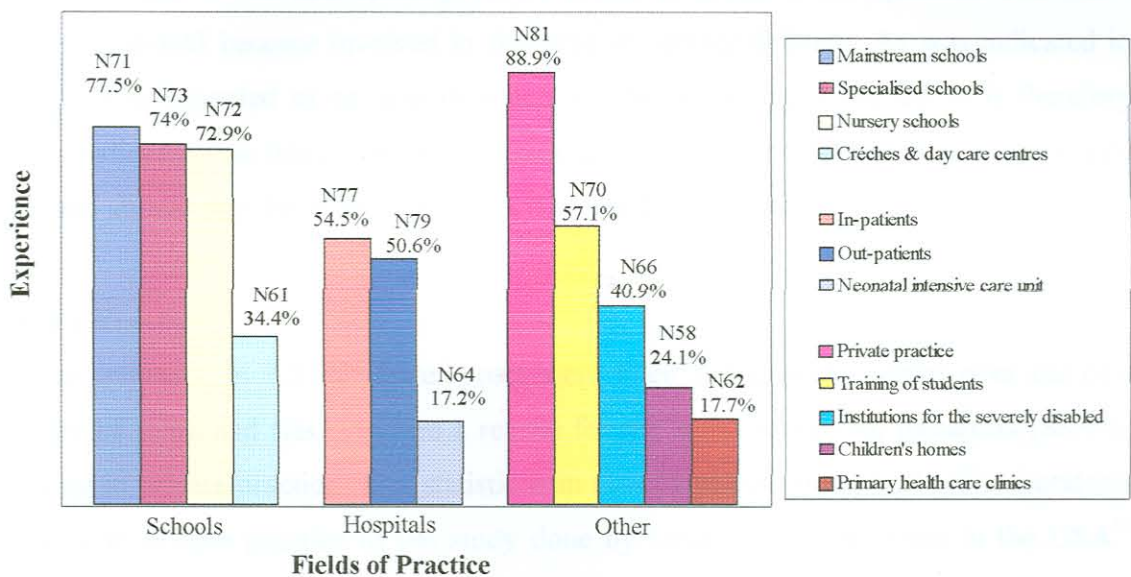


Figure 2: Experience in fields of practice

- Schools**

A high percentage of respondents have been/are working in mainstream (77.5%), specialised (74.0%) and nursery schools (72.9%). A considerably lower percentage (34.4%) of respondents have been/are working in crèches or day care centres. This correlates with the tendency that the younger the age group, the less experienced respondents were (refer to Figure 1).

The bureau of marketing research of UNISA<sup>66</sup> indicate a total of 5 548 120 children in South Africa to be under the age of six years. Although it is to be expected that a large

number of these children would not necessarily attend crèches or day care centres and could thus not be reached through these venues, a considerable number of children would be located there. Together with the children who are already being seen in the nursery schools, it would be desirable for a higher percentage of therapists to be also involved in these centres. In this way, young children could be screened and treated before they even reach nursery school age.

- **Hospitals**

An average percentage of respondents have been/are working with in-patients (54.5%) or out-patients (50.6%), but a considerably lower percentage were indicated with experience in the NICU (17.2%). Referring back to the discussion on the development and importance of service delivery in the NICU in 3.3.1, it is imperative that more therapists should become involved in this area of service delivery. As was indicated in 3.3.3, this is regarded as an area in which advanced training is needed. It is therefore clearly indicated that this is one of the major areas for further training on a postgraduate level and should thus be included in the curriculum for the Master's Degree.

- **Private Practice**

As was indicated in 2.5.2.2, fewer posts were filled in the public sector over the past number of years and this could be a reason for the high numbers of therapists (88.9%) working in private practice. This statistic is in direct contrast to the 5.1% of respondents working in private practice in the study done by Lawlor and Henderson in the USA<sup>50</sup> (refer to 3.3.3). The time lapse of the two studies must, however, be taken into consideration and it is therefore not possible to estimate what the correlation would have been should their study have been conducted at present.

The standard of service delivery in private practice is generally considered to be high, but this service is mostly inaccessible to a large percentage of the population, due to lack of transport or funds. Some practices offer services at a lower tariff to the less privileged members of the population in both school settings and in other institutions. These are, however, mostly limited to larger urban areas. The rural areas, where large populations in need of services exist, are mostly without services from either the public sector or from therapists working in private practice.



### • **Primary Health Care Clinics**

In spite of the emphasis in the National Health Policy in SA on prevention through primary health care (refer to 2.5.2), few respondents (17.7%) are/were located in these clinics where the larger part of the population are being seen on a day to day basis. Opportunities for early screening and treatment, which should ideally commence in the very early years, are being missed, due to the lack of appropriately trained personnel working in these clinics. Members of the transdisciplinary team for early intervention should be involved in these clinics for early identification of at-risk children. Furthermore, primary health care clinics are a valuable setting for gaining professional experience in issues such as multiculturalism and family-centred intervention as well as an ideal opportunity for transdisciplinary training between members.

### • **Institutions for the Severely Disabled**

The lower percentage of respondents (40.9%) who were involved in institutions for the severely disabled indicate the lack of treatment available to these children. Due to the fact that severely disabled children are also treated in other settings such as specialised schools, where 74% of respondents are/were involved, a larger number of severely disabled children would receive therapy. In Table 19, however, it is indicated that the respondents experience below-average skills in the treatment of neurological disorders. This seems improbable, because most children are admitted to special schools due to neurological conditions and it would be expected that respondents would feel more experienced and confident in dealing with severe disability.

### • **Children's Homes**

The low percentage of therapists (24.1%) involved with children's homes is to be regarded as a major problem. These children, coming from deprived and traumatic backgrounds, would all be in need of early intervention. Lack of funds to afford services in private practices would exclude them from intervention, unless it could be provided via the public sector or by institutions themselves.

Children's homes would be an ideal setting for fieldwork for therapists who are enrolled for the Master's in Early Childhood Intervention. For instance, one of the areas in which the respondents indicated a lack of experience was working with large groups of clients

(refer to Figure 4). Groupwork is important when few personnel are available to deal with a large part of the population. Training of students in this regard could ideally be done in children's homes.

#### 5.2.4 Experience in Models of Teamwork

- **Training of Students**

Slightly more than half (57.1%) of the respondents have experience in training of students. Having been in training would indicate that these respondents have a certain theoretical knowledge base as well as experience in conveying their knowledge and skills to other people. This is an important skill for aspects such as multiskilling, educating the community, advocacy, etc. In Figure 4, however, only 48.1% of the respondents indicated experience in educating the community. This would, therefore, seem that it could not be assumed that further training in the skill of conveying knowledge would not be necessary in the proposed curriculum.

- **Home Environment**

The home environment was not indicated in the questionnaire as a specific area of practice. In retrospect, it is regrettable that a mean for the sample cannot be obtained for this field of practice. In the open section provided in the questionnaire, two respondents indicated that they are/were involved in treatment in the home environment. In the study done by Lawlor and Henderson<sup>50</sup> (refer to 3.3.3), 52.5% of the sample was involved in part-time treatment in the home environment. In the contemporary move towards family-centred intervention, (refer to 2.4.1) the home environment would be an ideal situation for fostering family involvement and creating an individualised programme for the child.

In conclusion, the low percentages of respondents involved in crèches/day care (34.4%), neonatal intensive care units (17.2%) and primary health care clinics (17.1%), contribute to the perception that these settings, although ideal for very early identification and intervention, are not being utilised maximally for this purpose in South Africa.

In retrospect it is regrettable that respondents were not asked to differentiate between *previous experience* and their *current field of practice* in the questionnaire. In this way a distribution profile of the respondents' current areas of employment could have been



compiled. This could have been significant in determining where the greatest needs for services, as well as training, are at present.

### 5.2.4 Experience in Models of Teamwork

In this sub-section respondents indicated their experience in working in different models of teamwork. Responses are indicated in Figure 3.

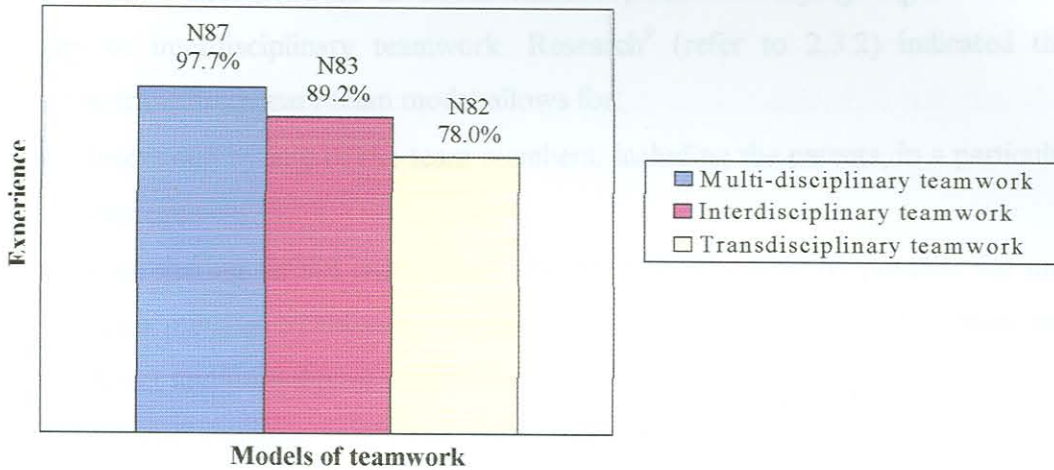


Figure 3: Experience in models of teamwork

The researcher has reason to doubt the accuracy of the high response obtained for experience in a transdisciplinary teamwork model. It seems possible that, in spite of descriptions included in the questionnaire, the difference between the first two models and the third one in practice could have been open to misinterpretation. This opinion is deduced from the fact that few practices in South Africa are conducive to transdisciplinary teamwork, as will be explained below.

The researcher formulated the following descriptions from the literature (refer to 2.3.2) for the questionnaire:

- **Multi-disciplinary** teamwork entails independent intervention from other team members, yet acknowledge their role and referring clients when necessary.



- **Interdisciplinary** teamwork entails independent intervention from other team members, but with shared responsibility and regular collaboration for formulating goals and providing a co-ordinated programme for therapy.
- **Transdisciplinary** teamwork entails intervention across disciplinary boundaries (role and skill sharing) and in close collaboration with other team members (including parents) to provide a fully integrated programme.

Most institutions and practices in South Africa operate in varying degrees from multi-disciplinary to interdisciplinary teamwork. Research<sup>9</sup> (refer to 2.3.2) indicated that the nature of the transdisciplinary team model allows for:

- leadership by any of the team members, including the parents, in a particular case management.
- role sharing to the extent that, should it be advisable or possible for only one team member to provide intervention for a period of time, other team members direct and train the responsible member to work across disciplinary boundaries.
- regular meetings with the team members involved in the case to evaluate outcomes and reformulate action plans.
- allowing the parents (and family) to take a very active part in the management of the intervention.

Although some elements of the above requirements may be present in varying degrees, intervention in South Africa seldom adheres to all of these. There are several possible reasons for this, for example:

- Fragmented services that prevail in SA, as was indicated in 2.5.2.1 and confirmed by various stake holders who attended the seminar programme presented by CAAC for the development of the proposed Master's Degree.
- Absence of team members due to economic reasons and inefficient professional-client rate in SA (refer to 2.5.2.2).
- Hesitancy of team members to share professional knowledge and a strong tendency to cling to role identity (refer to 2.3.3).
- The use of traditional models of teamwork and the upholding of the viewpoint that the medical practitioner is the leader of the team, still prevails to a large extent (refer to 2.3 and 2.4).

- Although therapists are more aware of the role of the family in case management and are willing to incorporate them more actively, parents are still mostly regarded as receivers of the service rather than leaders of the professional team (refer to 2.4.3).
- Family-centred institutions and services found in first-world developed and affluent countries<sup>3</sup>, are not commonly available in South Africa (refer to 2.3.5). Responsibility for the development and maintenance of these should be taken on at a national level and are only possible if funds are available.

As far as the proposed Master’s Degree is concerned, other means than referring clients to most of the current settings and practices will have to be found to bring team members closer to implementing a transdisciplinary team model.

### 5.2.5 Community Involvement in Early Childhood Intervention

In this sub-section respondents indicated experience in different kinds of involvement in the community. Responses are indicated in Figure 4.

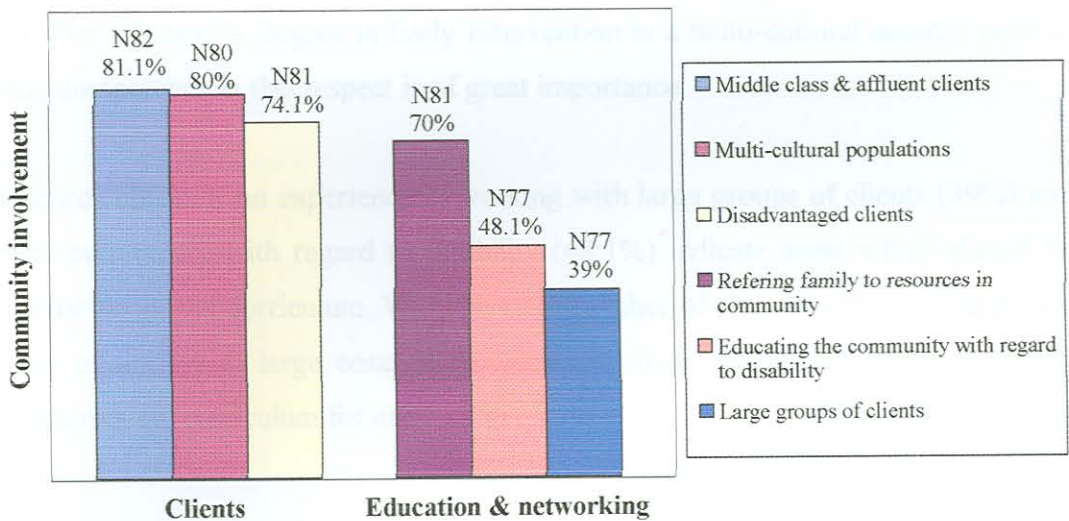


Figure 4: Community involvement in early childhood

Despite the description of the term *community* provided in the questionnaire, the researcher again came to the conclusion that some respondents misinterpreted the concept of community. This is deduced from the fact that there were a number of respondents who did not complete this section at all, which could indicate that they do not regard themselves to be



working in any kind of a community. As was indicated in the discussion in 2.5.3, there appears to be a lack of clarity on the use of terminology with regards to community issues.

The researcher formulated a description from the dictionary definition of *community* (refer to 2.5.3) for the questionnaire, which stated that a "... community is regarded as a group of people living and fulfilling their life tasks in a given area, regardless of economic class". The researcher hypothesises that in a South African context, many therapists associate the concept of "community" automatically with that part of the population who are regarded as previously or currently disadvantaged. It would, however, in most instances also refer to the lower socio-economic classes or underdeveloped populations. Very often these classes and populations are considered to be found mostly in the rural areas of South Africa. It is important for therapists to regard themselves as always functioning within given communities and to take cognisance of the ecological context (refer to 2.5.1) of that community in order to deliver a truly family-centred service to their clients.

Of further interest in the specific results, is the high rate of experience (80%) indicated in working with multi-cultural populations. Unfortunately, information was not required on the variety of different cultures they encountered or the level of competence that the respondents experienced. For a Master's Degree in Early Intervention in a multi-cultural country such as South Africa, competence in this respect is of great importance.

The lower scores obtained on experience in working with large groups of clients (39%) and educating the community with regard to disability (48.1%) indicate areas which should be addressed in the proposed curriculum. With the large number of clients to be considered and the ignorance of society at large concerning disability, these should become major focus areas in a postgraduate curriculum for early intervention.

### **5.3 Theoretical Framework for Early Childhood Intervention**

In this section respondents were asked to indicate whether they required further training on specific theoretical content.



As was indicated in Table 8, responses were originally rated on a 4-point scale ranging from no need to great need. After the pilot study the scale was changed to a yes/no response. The feedback that led to this change was that a yes/no response would simplify this section and that a positive or negative response would suffice in indicating training needs.

In retrospect, this change was unfortunate in so far as it appeared that respondents felt hesitant to indicate a negative response due to the belief the fact that “further training is always desirable”. This type of comment was indicated on various questionnaires that were received. A rating scale would have indicated the proportion of the need for further training as pertaining to the different aspects that were covered in the questionnaire.

The response to this section, as such, indicated a significant need for revision or further training on certain aspects. A percentage of between 50–74 positive responses would constitute a clear need, and between 75–100 an explicit need for further training, respectively.

### 5.3.1 Training Needed on Specific Theories

In this sub-section respondents indicated further training needs on specific theories. Responses are indicated in Figure 5.

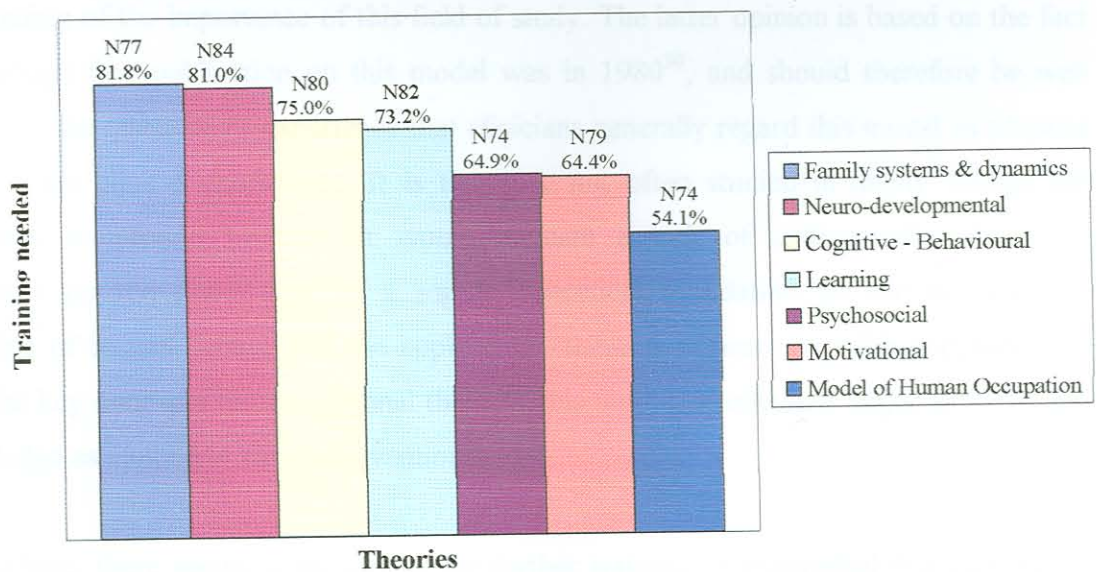


Figure 5: Training needed on specific theories

The concept of family-centred intervention is a contemporary development (refer to 2.4.3 and 3.3.1) and is only beginning to be incorporated into practices in South Africa. The positive response (81.8%) for further training in this respect underscores the concern in this regard expressed by clinicians<sup>22</sup> as was discussed in 2.4.3. Comprehensive study on family systems and dynamics has not traditionally been included in undergraduate curricula as was indicated in 3.3.2. The need for further training could, therefore, be regarded as a contemporary need of therapists to gain more knowledge about the family, as their understanding of the importance of a family-centred approach increases.

An explicit need for further training (81%) was indicated in neuro-developmental theories. Hopkins<sup>13</sup> points out that many treatment approaches and skills are based on developmental processes and theories. These theories have been considered as a cornerstone of occupational therapy for many decades. As such, the significant training need indicated for developmental theories should be addressed in a further study.

Explicit needs were also indicated for further training in cognitive-behavioural (75%) and learning (73.2%) theories while a clear need was expressed for psychosocial (64.9%) and motivational (64.4%) theories.

The relatively lower need (54.1%) indicated for information on the Model of Human Occupation may indicate either sufficient knowledge of this theory, or else a lack of understanding of the importance of this field of study. The latter opinion is based on the fact that, although first publication on this model was in 1980<sup>30</sup>, and should therefore be well known, it is the researcher's experience that clinicians generally regard this model as of more academic than clinical importance. It is therefore not often studied in depth. Should the researcher's assumption be true, it would indicate a lack of understanding by some respondents on the importance of a sound theoretical foundation on the occupational functioning of human beings, and the applicability thereof, in practice. With occupation as one of the key concepts in occupational therapy, this would constitute a major shortcoming in knowledge as applied to early intervention.

On the whole, there seems to be a need for further training on theoretical foundations for treatment as was indicated by the response on this sub-section. The significance of thorough knowledge of theories and approaches in treatment was indicated in 3.2.3.



### 5.3.2 Training Needed on the Causes of Developmental Delay

In this sub-section respondents indicated their need for further training on the causes for developmental delays. Responses are indicated in Figure 6.

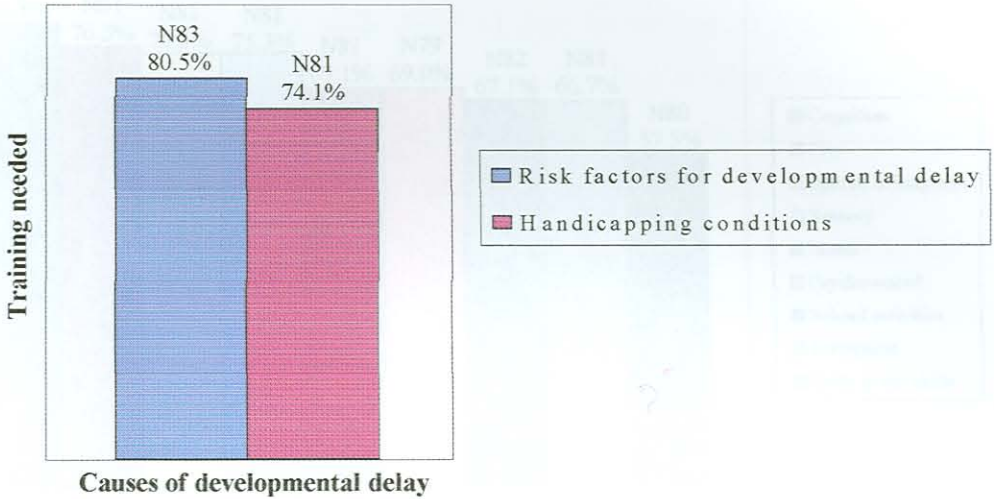


Figure 6: Training needed on causes of developmental delay

Ever increasing risk factors emerge as medical technology advances in keeping more babies alive, new diseases such as HIV/AIDS emerge, violence increases and families and society at large become less able to provide for the needs of the young (refer to 2.5.2.2).

Apart from revision of well established risk factors, the result in Figure 6 (80.5% and 74.1%) clearly indicates that therapists should be kept informed of the ever increasing complexity of risk factors and conditions causing handicaps which are prevalent. A description of what could be included under *risk factors* was, however, not given in the questionnaire and uncertainty amongst respondents about this concept could have caused an inflated response.



### 5.3.3 Training Needed on Early Childhood Development

In this sub-section respondents indicated needs for further training on different aspects of early development. Responses are indicated in Figure 7.

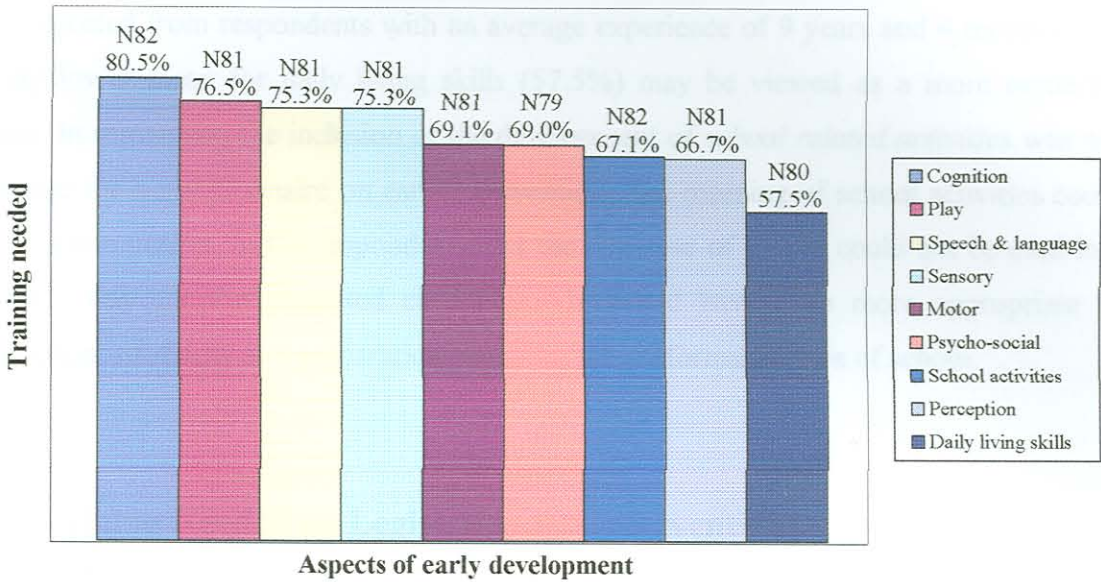


Figure 7: Training needed on early development

An explicit need is indicated for knowledge on cognitive development (80.5%). Language and perception could also be considered as being incorporated into cognitive development, and these scores should be considered in relation to one another<sup>67</sup>. Speech and language were grouped together in the questionnaire and a response of 75.3% indicates an explicit need for further training. Because this is not a specialised area of occupational therapy, a high mean on this may be expected. A relative lower need for additional training in perceptual development was indicated (66.7%), which is logical because this is a specialised field in occupational therapy. As such, an even lower mean should then be expected from qualified therapists. The overall high mean for further training in cognitive development is difficult to explain and in retrospect a description of terminology would have helped ascertain that all the respondents interpreted the concept in a similar way.

The expressed need for further training in sensory (75.3%), motor (69.1%) and psycho-social (69%) performance components is also to be considered high for qualified therapists. The overall high need for further training in this sub-section, in comparison with the level of

competency the respondents expressed in Table 17, shows a discrepancy between levels of knowledge and practical skills. This will be further discussed in 5.5.1.

As was described in 3.2.2.2, the relevant performance areas for occupational therapy in early intervention are play and daily living skills. The high mean for play (76.5%) would therefore not be expected from respondents with an average experience of 9 years and 4 months. The relatively lower mean for daily living skills (57.5%) may be viewed as a more moderate response. In retrospect, the inclusion of the development of *school related activities* was not appropriate for a questionnaire on early intervention. The meaning of school activities could also have been unclear to the respondents and the response of 67.1% could not be used in a meaningful way for the proposed curriculum. It would have been more appropriate to specify school readiness as a preparation phase for the performance area of school.

### 5.3.4 Training Needed on Legislation for Intervention

In this sub-section respondents indicated further training needs on legislation for intervention. Responses are indicated in Figure 8.

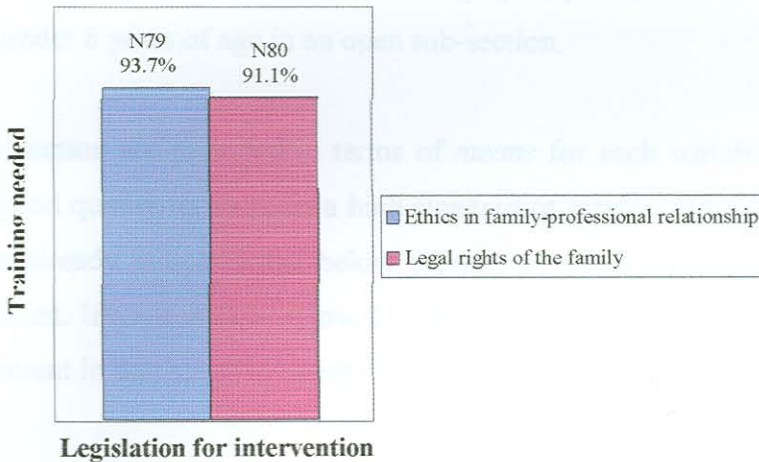


Figure 8: Training needed on legislation for intervention

The need for information on legislation (91.3%) and ethics (93.7%) as it pertains to the family, is very clearly indicated in this response. Legislation has continually developed and changed since 1994, as was indicated in the National Policy described in 2.5.2. With the



current emergence of a family-centred approach to intervention and the focus on the rights of the family and the child, as was stated in 2.5.2.1, therapists need to familiarise themselves with the most recent information in this regard. Ethics with regard to beneficence and autonomy of the client, competency of the service provider and professional conduct would be of particular importance in a family-centred approach (refer to 3.2.4).

In conclusion to this section, it appears that the respondents are in need of further training in the theoretical framework for early childhood intervention. Training needs were indicated for all the specific theories as was indicated in Figure 5, the causes of developmental delay in Figure 6, early childhood development in Figure 7, and legislation and ethics in Figure 8. In spite of a possible inflated result in this section due to the yes/no response, instead of a rating scale, cognisance should be taken of the distribution of responses on specific aspects to be considered for the proposed curriculum in Chapter 6.

## 5.4 Assessment in Early Childhood Intervention

In this section respondents had to rate their skills on different aspects of assessment according to the following scale: 1 = No skills, 2 = Below average skills, 3 = Average skills, and 4 = Good skills. Respondents could additionally specify tests and surveys being used to assess children under 6 years of age in an open sub-section.

Results for this section are provided in terms of *means* for each variable. As intervention should be of a good quality to maintain a high standard of service delivery, a mean below 3 for any variable already indicates that below average service will be provided and further training is indicated. If a mean falls below 2.5, it will be regarded as a clear indication that skills are insufficient in that specific variable and that further training is necessary.

Minimum and maximum responses on the rating scale are included to indicate the range that was obtained for each variable. The standard deviation (SD) of each mean are not used for further interpretation in this study, but are included should the response of an individual or a sub-group during future research be compared with the data obtained during this study.



### 5.4.1 Skills in Screening and Observation

In this sub-section respondents rated their skills in screening for different age groups and in observation of different aspects. The results appear in Tables 12 and 13.

**Table 12: Screening for developmental delays.**

Variables	N	Mean	SD	Min	Max
At risk infants [0-18 months]	85	2.61	0.74	1	4
At risk toddlers [19-36 months]	87	2.97	0.74	1	4
At risk pre-schoolers [3-6 years]	86	3.68	0.51	2	4

**Table 13: Observation skills.**

Variables	N	Mean	SD	Min	Max
Problems with regard to basic abilities	87	3.43	0.62	1	4
The effect of family-child interaction on the child	86	3.05	0.75	1	4
The needs of the family	86	2.92	0.81	1	4
The strengths/assets of the family	86	2.86	0.83	1	4

In the screening for developmental delays, the same distribution as was seen in the experience with different age groups in Figure 1 is prevalent. The younger the age group, the less experienced were the respondents and this is also reflected in the screening skills. Screening for developmental delays in infants (mean 2.61%) should be attended to in the proposed curriculum because early identification is of paramount importance for early intervention.

Of significance in the observation skills are the relatively lower means (2.92 and 2.86) on ascertaining the needs and strengths/assets of the family. As was indicated in Figure 5 and addressed in the discussion of the results in 5.3.1, knowledge is needed on family systems and dynamics, and a family-centred approach is still regarded as a contemporary development in most practices. Further training in this area is generally needed, as was also indicated in this sub-section.

### Skills in Functional Assessment Procedures

In this sub-section respondents rated their skills in functional assessment procedures. These procedures are used in addition to formal tests in a clinical setting. The results are indicated in Table 14.

**Table 14: Functional assessment procedures.**

Variables	N	Mean	SD	Min	Max
Using everyday tasks, events and situations to assess	86	3.12	0.68	2	4
Assessing the child in the home environment	86	2.60	0.79	1	4
Assessing performance areas in ADL	86	3.26	0.60	2	4
Assessing performance areas in play	85	3.29	0.69	1	4
Assessing performance areas for school readiness	85	3.54	0.72	1	4

The only variable that indicates a lower mean in functional assessment procedures, is assessing the child in the home environment (2.60). As was discussed in 5.2.3, the home environment was not specifically included as a field of practice in the questionnaire and a representative response is not available. It is therefore not clear whether the emphasis of the response is on the setting which is not being utilised, or on the skill of assessing in an informal environment such as the home. As was seen, only 2 respondents added the home as an area of experience to the field of practice. Assessment in the home environment would, amongst other aspects, be ideal for ascertaining needs and strengths/assets of the family as was indicated in 5.4.1. This is an area that could be addressed in further training.

#### 5.4.2 Skills in Interpretation and Documentation.

In this sub-section respondents rated their skills in interpretation of test results and documentation. The results appear in Table 15.

**Table 15: Interpretation and documentation.**

Variables	N	Mean	SD	Min	Max
Interpretation of formal test results	85	3.56	0.63	2	4
Identification of specific disorders	87	3.17	0.73	2	4
Evaluation of family's insight into the disability	87	3.22	0.75	1	4
Report writing	87	3.34	0.59	2	4
Verbal communication of results to team members	87	3.45	0.59	2	4

Respondents indicated competence in interpretation of test results and documentation skills. With reference to the tests that the respondents indicated in Table 16, most of these tests are structured with clear instructions for use and interpretation. Workshops on the use of most of these tests are also available on a regular basis in South Africa and should therapists have



attended these, it could further have aided them in their competency in interpretation and documentation of test results.

### 5.4.3 Use of Developmental Tests and Surveys

In an open sub-section therapists were requested to fill in the norm-related tests and surveys which they are currently using to assess children between 0 and 6 years of age. A variety of tests and surveys were indicated by the respondents. Some of these tests are not applicable to pre-schoolers and they were omitted. In this sub-section N = 84.

Results included only those tests or surveys which were used by 4 or more respondents. The respondents have not consistently indicated the specific edition of the test being used and information on this is therefore not available. Table 16 illustrates tests most frequently used as well as the percentage of respondents using these tests.

**Table 16: Tests or surveys being used for assessment.**

Test / Survey	Abbreviation	Author	Age group	%
Developmental Test of Visual-Motor Integration	VMI	Beery, K.E. <sup>68</sup>	3-17 years	94.04
Developmental Test of Visual Perception	DTVP	Hammill, D.D. Pearson, N.A. & Voress, J.K. <sup>69</sup>	4-11 years	90.47
Test of Visual-Perceptual Skills	TVPS	Gardner, M.F. <sup>70</sup>	4-13 years	71.42
Clinical Observations adapted from Ayres	-	SAISI <sup>71</sup>	5 years >	54.76
Southern California Sensory Integration Test	SCSIT	Ayres, A.J. <sup>73</sup>	4-8 years	47.6
Goodenough – Harris Drawing Test	-	Harris, D.B. <sup>73</sup>	3-15 years	41.66
Miller Assessment for Pre-Schoolers	MAP	Miller, L.J. <sup>74</sup>	2-6 years	30.95
Gesell Preschool Test	-	Haines, J., Ames, L.B. & Gillespie, C. <sup>75</sup>	2.5-6 years	26.19
DeGangi-Berk Test of Sensory Integration	TSI	Berk, R.A. & DeGangi, G.A. <sup>44</sup>	3-5 years	23.80
Developmental norms [not always specified]			0-6 years	22.61
Strive towards achieving results together	START	Solarsh, B., Katz, B. & Goodman, M. <sup>76</sup>	0-3 years	16.66
Movement Assessment Battery for Children	MABC	Henderson, S.E. & Sugden, D.A. <sup>77</sup>	4-12 years	16.66
Test of Motor Impairment	-	Stott, D.H., Moyes, F.A. & Henderson, S.E. <sup>78</sup>	5-11 years	7.14
Motor-Free Visual Perception Test	MVPT	Colarusso, R.P. & Hammill, D.D. <sup>79</sup>	4-11 years	7.14
Test of Visual-Motor Skills	TVMS	Gardner, M.F. <sup>80</sup>	2-13 years	4.76
Bayley Scales of Infant Development	-	Bayley, N. <sup>81</sup>	1-42 months	4.76

According to the *Authentic Curriculum-Based Approach* in assessment, as described in 3.2.1, tests and surveys should be functional and compatible with the goals and aims of treatment. Bagnato<sup>36</sup> evaluated numerous tests and surveys according to their criteria for authenticity in their publication on this approach. None of the tests or surveys that were mentioned by the respondents in this study, was included in their evaluation. This could indicate that these tests are not regarded as appropriate for early intervention in the USA. According to the list of tests that were included for evaluation, it seems that developmental scales, profiles, and inventories, as well as checklists for parents, are more prevalent. These are also more applicable for the infant and the very young pre-schooler.

Of the tests and surveys that were mentioned by the respondents, it is significant that few are applicable to the 0 to 3 years age group. Most of the tests only commence in the later pre-school years and continue to middle childhood years. This gives the impression that they are actually intended for the older child. Referring back to Figure 1, the fact that less respondents indicated experience with the younger age groups correlates with a greater use of tests for the older pre-schooler. Perusal of these tests also indicates that they are more diagnostically orientated and require individual attention from the tester in a clinical setting. Parental participation is minimal and information on the child's strengths and assets are not necessarily derived from them.

In the study done by Lawlor and Henderson<sup>50</sup>, the respondents had also to indicate the tests they used in the field of paediatrics (refer to 3.3.3). Of the ten tests that were mentioned, four tests correlate with the tests mentioned in this study. These were the *Miller Assessment for Pre-schoolers*, the *Bayley Infant Scales*, the *Gesell Developmental Test* and the *Test of Visual Motor Integration*. Whereas the VMI was only used by 11% of the respondents in their study, 94.4% of the respondents in this study indicated that they used the VMI. These differences further strengthen the perception that there is little conformity amongst therapists in the choice of tests in this field.

A problem area for therapists in South Africa is the lack of tests that have been standardised for the local population. One of the standards for selecting tests is that it should be field tested with children similar to those being assessed<sup>1</sup>.



- The *Bayley Scales of Infant Development* has been researched in South Africa<sup>82</sup> to provide local norms for black infants. Only 4.76% of the respondents indicated the use of this test and it is unknown whether they use these adapted norms.
- Richter, Griesel and Rose<sup>83</sup> investigated *The McCarthy Scales of Children's Abilities* in 1994 for adaptations and norms applicable to black South African children. Although this test is used between ages 2 to 8 years, and would therefore be applicable for early intervention, none of the respondents indicated use of this test.
- The *START*<sup>76</sup>, which was indicated by 16.66% of the respondents, is a survey that was compiled in South Africa. The norms were, however, taken from international developmental tests and surveys and were not researched and adapted for local populations.
- The *Herbst Test for Nursery School Children*<sup>84</sup> is a test that was standardised on a black and coloured population in SA, but none of the respondents indicated the use thereof.
- Helm and Concha<sup>85</sup> published their results on a study conducted to establish norms for a sample of South African urban black children on the *VMI* in 1990. Their conclusion that the original standardised norms of the test should be used with caution with urban black children, confirm the perception that tests should be appropriate for the population for whom it is intended.

In Table 4 the respondents indicated confidence in their skills to assess performance areas, but no tests for ADL or play were mentioned in the survey. The fact that confidence was also displayed in the use of everyday tasks, events and situations to assess could partly explain this, because these could be used to assess performance areas. However, there seems to be a lack in the use of standardised or norm related tests for the assessment of performance areas.

## 5.5 Treatment in Early Childhood Intervention

In this section respondents could rate their skills on different aspects of treatment according to the following scale: 1 = No skills, 2 = Below average skills, 3 = Average skills, 4 = Good skills.

Results for this section are provided in terms of *means* for each variable. The same cut-off points explained in 5.4, will be used for this section. A mean below 3 for any variable indicates a need for further training. A mean below 2.5 is regarded as a clear indication that skills are lacking in that specific variable.

### 5.5.1 Skills in Treatment of Basic and Functional Abilities

In this sub-section respondents rated their skills in treatment of basic (performance components) and functional (performance areas) abilities. The results appear in Table 17.

**Table 17: Treatment of performance components and areas.**

Variables	N	Mean	SD	Min	Max
Sensory performance components	87	3.18	0.69	1	4
Motor performance components	85	3.47	0.54	2	4
Oral-motor performance components	85	2.24	0.78	1	4
Perceptual performance components	87	3.61	0.54	2	4
Cognitive performance components	87	3.25	0.63	1	4
Psycho-social performance components	87	2.83	0.77	1	4
Play performance areas	87	3.09	0.74	1	4
ADL performance areas	82	3.24	0.60	2	4

The respondents displayed an overall competence in the treatment of performance components and areas. The means on only oral-motor (2.24) and psycho-social (2.83) performance components were below average.

In the study done by Case-Smith USA<sup>58</sup>, further training in feeding and oral-motor performance components was one of the areas indicated for further training as it was felt that it had not been sufficiently dealt with in undergraduate occupational therapy training (refer to 3.3.2). In South Africa oral-motor components are generally regarded as the domain of the speech pathologist, in contrast to the USA where it is the domain of the occupational



therapist. Only occupational therapists who have attended postgraduate courses in this field, therefore, feel themselves competent in providing the intervention. In dealing with severely disabled children, it is imperative for the training of ADL that therapists should be competent in the treatment of feeding and oral-motor components.

Of further interest in these results are the relative contrasts between the high percentages indicated in Figure 7 for training needs in these components and areas, and the competence shown in the assessment and treatment thereof. For cognition, for instance, 80.5% of the respondents indicated a need for further training, but the mean for the competence in treatment skills is 3.25, which is average. Another example is play, where the percentage for further training is 76.5, but the mean indicated in Table 14 for competence in assessment is 3.29 and for treatment is 3.09, both within the average range.

A possible explanation for this could be that clinicians become experienced in the practical execution of procedures but gradually become ignorant of the theoretical foundations thereof. This view would strengthen the need for theoretical training in a Postgraduate qualification. An emotional status of insecurity about their theoretical knowledge and the ability to explain or even defend their practical skills on a theoretical level, could also have been present. As was explained in 5.3.3, training needs could not be rated as was the case with practical skills and respondents could have felt hesitant to give a no response, implying that they have adequate knowledge and need no further training.

## 5.5.2 Skills in the Application of Approaches and Techniques for Treatment

In this sub-section respondents rated their skills in the application of approaches and techniques for treatment. The results appear in Table 18.

**Table 18: Application of approaches and techniques for treatment.**

Variables	N	Mean	SD	Min	Max
Sensory Integration [SI]	87	2.94	0.91	1	4
Neuro-developmental Therapy [NDT]	86	2.57	0.86	1	4
Learning techniques	87	2.80	0.68	1	4
Behavioural-adaptation techniques	87	2.69	0.78	1	4
Bio-mechanical techniques	85	2.59	0.82	1	4
Play therapy	86	2.63	0.81	1	4
Group therapy	86	2.71	0.78	1	4
Baby therapy	85	2.11	0.90	1	4

None of the means for this sub-section falls within the average range. The nearest to average is a competency in Sensory Integration (2.94). Competency in baby therapy is the lowest (2.11), which is in accordance with the results up to this point on this age group. The below average score (2.59) on bio-mechanical techniques stands in contrast to the above average scores in Table 21 for *Structuring of the environment* and *Positioning of the child*. It indicates that these are not associated with each other. The below average score for group therapy (2.71) could be regarded in relation to the response on *Working with large groups of patients* in Figure 4. It would appear from the responses to both these variables that the respondents need more training in groupwork. With the prevalent time and economical restrictions, treating patients in groups should be more commonly used.

These results further strengthen the conclusion that clinicians, although they may feel competent in some practical skills, experience a need for theoretical foundations and the application thereof.



### 5.5.3 Skills in Treatment of Specific Disorders

In this sub-section respondents rated their skills in the treatment of specific disorders. The results appear in Table 19.

**Table 19: Treatment of specific disorders.**

Variables	N	Mean	SD	Min	Max
Sensory modulation disorders	87	3.01	0.81	1	4
Developmental dyspraxia	87	3.03	0.75	1	4
Attention deficit disorder and hyperactivity	87	3.38	0.67	1	4
Visual impairment	87	2.51	0.88	1	4
Learning disorders	87	3.39	0.58	2	4
Behavioural and emotional disturbances	87	2.87	0.79	1	4
Psychiatric disorders	86	2.34	0.85	1	4
Neurological disorders and damage	86	2.76	0.81	1	4
Progressive disorders	87	2.43	0.76	1	4
Traumatised child	86	2.40	0.90	1	4

An explicit indication is given for further training in psychiatric disorders (2.34), progressive disorders (2.43), and the traumatised child (2.40). Clear indication is given for visual impairment (2.51), behavioural and emotional disturbances (2.87), and neurological disorders and damage (2.76).

Of interest is the below average mean on neurological disorders and damage, as this constitutes a large percentage of the population requiring early intervention. As was argued in 5.2.3, a large portion of the population which are seen for early intervention in different fields of practice, falls within this category and therapists should be well equipped to treat these disorders. At present, the circumstances of a violent and disturbed society, as described in 2.5.2.2, would only add to the category of neurological disorders and damage, as well as to intervention for the traumatised child. One respondent added the child with congenital disorders in the open section of this list.

## 5.5.4 Skills in Planning for Treatment

In this sub-section respondents rated their skills in planning for treatment. The results appear in Table 20.

**Table 20: Planning for treatment.**

Variables	N	Mean	SD	Min	Max
Planning aims of treatment	87	3.53	0.55	2	4
Evaluating effectiveness of treatment for adaptation	87	3.38	0.63	2	4
Analysis for requirements of tasks and activities	87	3.37	0.59	2	4
Formulation of home programmes	87	3.29	0.63	2	4
Stimulation programmes for larger groups	87	2.84	0.83	1	4

In the area of planning for treatment, it was only the stimulation programmes for larger groups that indicated a below average mean (2.84). This is an important skill in providing a service in a community-based approach as these programmes can be well applied to larger numbers of the population. Economic, time and logistical factors necessitate the use of large groups in South Africa. This should, therefore, be included in the curriculum.

## 5.5.5 Skills in Application of Principles and Adaptations in treatment

In this sub-section respondents rated their skills in application of principles and adaptations in treatment. The results are in Table 21.

**Table 21: Application of principles and adaptations in treatment.**

Variables	N	Mean	SD	Min	Max
Grading of treatment	87	3.41	0.64	1	4
Structuring of the environment	87	3.53	0.57	2	4
Adaptations to activities	87	3.51	0.59	2	4
Positioning of the child	87	3.40	0.58	2	4

Results indicate that respondents are competent in the application of principles and treatment as presented by the above mentioned variables. Principles and adaptations are derived from different theories and approaches as was indicated in 3.2.3. According to the results in Figure 5 and Table 8, the respondents indicated a need for further training in specific theories and approaches. In contrast to these responses, Table 11 reflects a positive response on the application of principles and adaptations in treatment. The contrast in these responses



could either imply that the relationship between the theories/approaches and principles and adaptations are not fully understood by the respondents or it could, again, reveal a discrepancy between theoretical foundations and practical skills.

### 5.5.6 Skills in Adaptation through Assistive Technology

In this sub-section respondents rated their skills in adaptation through assistive technology. The results appear in Table 22.

**Table 22: Skills in adaptation through assistive technology.**

Variables	N	Mean	SD	Min	Max
Splinting	87	2.23	0.89	1	4
Equipment for ambulation	87	2.31	0.92	1	4
Equipment for positioning	87	2.68	0.78	1	4
Power switch devices	87	1.84	0.83	1	4
Appropriate paper technology [APT]	87	1.92	1.01	1	4
Computer technology	87	2.15	0.87	1	4
Assistive devices for ADL	86	2.63	0.78	1	4

Means for all the skills for adaptation through assistive technology indicate an explicit need for training. In the study done by Case-Smith<sup>58</sup>, the use of assistive technology was also indicated as one of the areas that needed further training (refer to 3.3.2). Respondents feel most competent in providing equipment for positioning (2.68) and assistive devices for ADL (2.63), but these are still below average.

The use of assistive devices is especially important in the treatment of severely disabled children. According to Figure 2, it was evident that only 40.9% of the respondents are/were involved in institutions for severely disabled children. This could explain the higher need for training in assistive devices. It was, however, also argued in the discussion of this result in 5.2.3 that the high percentage of respondents in Figure 2, which are/were involved in specialised schools, would also encounter a large number of severely disabled children in their work. As all of the above-mentioned variables in Table 22 are important for early intervention for disabled children, these need to be addressed in the proposed curriculum.