A FORMATIVE EVALUATION OF THE NDINOGONA "I CAN" STIMULATION PROGRAMME

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COMPULSORY DECLARATION:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this research proposal from the work, or works of other people has been attributed, cited and referenced.

Signed by candidate

Signature: Signature removed Date: 16th May 2016.

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EXECUTIVE SUMMARY

This dissertation reports an outcome and process evaluation of the Ndinogona ''I Can'' Stimulation Programme. The programme caters for children with disabilities by targeting Early Childhood Development (ECD) centres attended by children with disabilities. The programme facilitators provide training to the caregivers within these centres in terms of the importance of play and how to handle and position children with disabilities correctly. The centres are also provided with stimulation kits including a variety of toys and activities aimed at children with all types of disabilities. The programme aims to encourage stimulation and inclusion of children with disabilities as well as to improve child developmental outcomes. The programme has been implemented in several centres since it began in 2011. This dissertation focused on 18 centres within the Western Cape which received the programme during 2015.

The Ndinogona ''I Can'' Stimulation programme theory was investigated for its plausibility in the form of a literature review. The evaluation focused on evaluating programme outcomes to determine the programme's effectiveness as the programme requires an independent evaluation for a funder. This evaluation therefore primarily addressed two outcome evaluation questions and one process evaluation question.

The outcome evaluation used secondary data which was set to be collected by the programme's facilitators using data collection forms developed by the evaluator in collaboration with the programme staff. This outcome evaluation could not be realised due to a lack of empirical data stemming from inadequate data collection tools and procedures. The available data was analysed using the SPSS statistical programme. The descriptive statistics and the initial exploration of the data are presented.

The results for the outcome evaluation questions are limited due to the lack of empirical data. Preliminary findings for child assessments showed a positive trend however more data is needed to confirm this. As a result of the lack of data the evaluator engaged with additional process questions in the discussion chapter and presents a revised monitoring and evaluation framework for the programme to facilitate an in-depth outcome evaluation

in the future. This includes a clear and simple set of data collection tools which cater for all the organisation's information needs whilst taking into account their monitoring capacity.

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Chapter One: Introduction

The prevalence of childhood disabilities is a widespread societal issue and it is on the rise. Houtrow and colleagues found a 15.6% increase between 2002 and 2011 with nearly 6 million children being categorised as disabled in 2011 (Houtrow, Larson, Olson, Newacheck & Halfon, 2014). The experience of living in poverty increases the risk of disabilities, especially neurodevelopmental conditions and 75 - 85% of individuals living with disorders are not receiving treatment (Houtrow et al., 2014; Singer, 2002). This suggests South Africa is at risk for large numbers of children with disabilities who are in need of treatment or interventions. One organisation that focuses on addressing these needs is the Uhambo Foundation.

Programme Description

The Uhambo Foundation and its umbrella organisation Shonaquip, form a social enterprise that was founded in 1992 by Shona McDonald aimed at addressing the needs of children with disabilities. The Ndinogona ''I Can'' Stimulation programme was developed by the Uhambo Foundation in 2011. The programme seeks to address difficulties faced by children with disabilities through the provision of education surrounding disabilities and positioning of children, education surrounding the importance of play, and the provision of disability-friendly resources. The resources are provided in the form of the Ndinogona ''I Can'' Stimulation Kit (as seen in Figure 1), as well as training to accompany the kit. The resources are provided to caregivers within the centres which cater for children with disabilities in the hope that they will then use the skills in their own engagements with the disabled children in their centres. Therefore the primary beneficiaries of the programme are the centre staff (caregivers), and the secondary beneficiaries are the children with disabilities within the centres.

The kit contains toys and equipment that can be used to engage children with disabilities in play activities. During training, the programme's facilitators demonstrate how the equipment should be used and for which activities. The programme targets caregivers in Early Childhood Development (ECD) centres that cater for children with disabilities.

Figure 1: Ndinogona ''I Can'' Stimulation Kit

In 2012 the programme was piloted within two disability centres. In 2013 it was rolled out to ten centres in the Western Cape and received the ABSA award for Early Childhood Training and Intervention. In 2014 it was rolled out to a further 12 centres also in the Western Cape and the Ndinogona Stimulation kits were purchased by other centres and organisations which utilised the kit without undergoing the training. The Uhambo organisation also trained a further 17 caregivers from 17 centres to work with the Ndinogona Stimulation kit in 2014. Due to the positive response the programme received from the centres, the Uhambo Foundation was funded to provide the programme to a further 50 centres in 2015. This was planned to include 18 disability centres in the Western Cape, 12 in Gauteng, 10 in the Northern Cape and 10 in the Eastern Cape. The centres in the Western Cape received a 16 week programme, running from the end of January to the end of May. The other 38 centres were to receive a 3 day intensive version of the programme and a telephonic follow-up.

ABSA is one of the programme's key funders, however the programme has many other funders and partners, including Shonaquip, the Christian Blind Mission, DG Murray Trust, Department of Social Development and Uhambo USA.

The Uhambo Foundation's vision is an inclusive society without barriers for children with disabilities. Their mission has three parts which all concern children with disabilities, namely, to encourage their equal participation within their communities, to create

developmental opportunities for them, and to provide need-driven services to improve their quality of life. The Ndinogona ‘‘I Can’’ Stimulation programme aims to address all three broadly, but specifically the latter two. Its primary objective is to assist in providing and creating a more inclusive and stimulating environment for children with disabilities, especially with regards to play. Uhambo believes that this, in turn, improves their potential physical and intellectual development and quality of life. (Uhambo Foundation (n.d.) Retrieved from: www.uhambofoundation.org.za).

The Uhambo Foundation states that play is an important medium through which children learn about their world and practice life skills. Unfortunately, the Uhambo Foundation has found children with disabilities often face exclusion within their families, schools and communities. They believe this is due to a lack of knowledge about play’s importance, the fact that disabled children can still engage in play or how to position a disabled child to optimise function. The programme states that there is also often a lack of time, resources and energy when it comes to engaging in play with children with disabilities (L. Frost, P*ersonal Communication*, February 24, 2015). The Uhambo Foundation seeks to address these issues through the provision of the Ndinogona ‘‘I Can’’ Stimulation programme.

Programme Content and Suggested Implementation

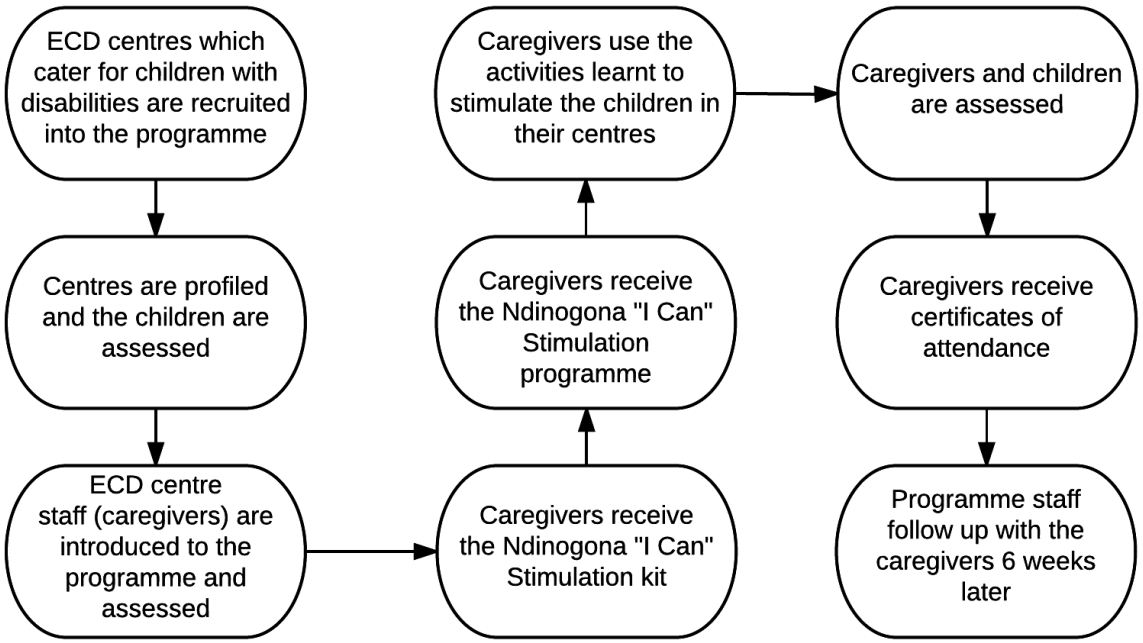

Figure 2: Service Utilisation Flowchart for the Ndinogona “I Can” Stimulation Programme as intended

The programme process is illustrated above in Figure 2. Once the ECD centres are voluntarily enrolled into the programme each centre receives a Ndinogona ‘’I Can’’ Stimulation kit of their own and training for the caregivers within the centre worth R20 000. Kits are also available for purchase at R5000 should the centres wish to purchase additional kits. These kits are also available to any other centres that may be interested. Each kit contains four themes, namely:

Theme 1: All about me. This teaches the child about his/her own body.
Theme 2: All about food. This is about food and everyday eating and drinking activities.
Theme 3: All about family and community. This teaches children about the world around them.
Theme 4: All about learning. This introduces children to basic learning concepts.

Each theme has a separate bag of resources within the complete stimulation kit and these themes each take two to four sessions to teach which occur once a week for 1.5 hours. The programme duration is 16 weeks in total. Each 1.5 hour session involves 10 minutes of information relay, 50 minutes of teaching stimulation kit activities and 30 minutes of practical application which may be with the children. The kit manual details all the activities within each theme with their varying difficulty levels. The kits also include information on how to accommodate different disabilities and how the caregiver and child should physically position themselves for the optimal activity outcome. A detailed proposed programme schedule is shown in Table 1. The initial three weeks of the programme are set aside for introductions and initial assessments. Weeks four to thirteen consist of the manual activities. The fourteenth week deals with homemade toys and the last two weeks cover mentoring and post-programme assessment.

Table 1

Planned 16 Week Schedule for the Ndinogona ''I Can'' Stimulation Programme

Visit	Information Sharing (10minutes)	Stimulation Kit Activities (50minutes)	Practical Session (30minutes)
1-2	Centre profiling and child assessment		
3	Introduction to manual and caregiver assessment	Caregivers explore kit themselves	
4-6	Exposure, fun, how to stimulate children, communication, waiting for a response, repetition, praise, assistance	Theme 1 – e.g. washing clothes and line, play dough	Practical applications of activities
7-8	Grading, goal setting, rights of children and carer's responsibility, societal barriers, inclusion	Theme 2 – e.g. wiping face, vegetable poster	Practical applications of activities
9-10	Safe play space, caregiver and parent roles, Cerebral Palsy and Epilepsy	Theme 3 – e.g. play dough	Practical applications of activities
11-13	Autism, Down Syndrome, Spina Bifida, and Hydrocephalus	Theme 4 – e.g. money box, colourful objects, communication apron	Practical applications of activities
14	Intellectual disabilities, and Foetal Alcohol Syndrome	Homemade toys	Practical applications of activities
15-16	Visual and hearing impairments and feedback	Mentoring and caregiver assessment	

The programme's facilitators work through the training manual, training the caregivers so that they are able to perform the taught activities with the children in their centres. These weekly training sessions with the centre staff work towards developing activities that the staff can do with the children in the centre. The programme hopes the activities and kit will continue to be used after the programme is complete and aims to have the centre staff engaging in at least one hour of the taught stimulating play activities every day with the children. The programme is believed to promote more responsive caregivers and a more interactive, stimulating environment for the children with disabilities. This improved

relationship and stimulation is believed to, ultimately, improve child development and their inclusion in society. Examples of activities include the use of a mirror to interact with a child surrounding their body parts from theme 1 and the use of play dough to build a family member from theme 3. These activities aim to improve the child's physical strength, knowledge, imagination and representation skills.

Programme Assessments

The facilitators of the programme undertake regular assessments of the children and caregivers. These involve observational assessments before the programme begins, mid-programme, post-programme and six weeks after the programme has finished in order to follow-up on the progress. The aim of the follow-up is to determine whether the caregivers are still using the kits and whether the caregivers feel they need more training (L Frost, *Personal Communication*, 24 February 2015).

Programme Theory

Programme theory, also known as a programme's theory of change, refers to assumptions surrounding the relationship between the activities a programme delivers and the ultimate benefit they wish to produce (Funnell & Rogers, 2011; Rossi, Lipsey & Freeman, 2004). It is important to detail the concrete goals and objectives of a programme within a programme theory for many reasons. Firstly, in order to aid the evaluation process and keep it focused and relevant. Secondly, the theory attempts to explain the links between the programme's activities and the intended outcomes, i.e. it explains *why* activities will lead to the desired change in the beneficiaries or the processes which cause change (Funnell & Rogers, 2011). These assumptions can then be evaluated in terms of available literature to ensure they are theoretically plausible otherwise the programme activities may not be deemed an appropriate use of resources. Lastly, if the intended outcomes are realised one can say with greater confidence that the pre-stated activities caused these outcomes (Bickman, 1987; Rogers, 2008).

There is no general consensus surrounding how to depict a programme theory (Donaldson, 2007; Rossi, Lipsey & Freeman, 2004). One method of depiction is the logic model which can be useful for many reasons. Firstly, its simplicity allows one to summarise a programme at a

basic level whereby any individual may understand it regardless of how well they know the field in which the programme operates (Dearden, 2005; Grove & Zwi, 2008). Secondly a logic model forces thought about a programme's theory of change (Grove & Zwi, 2008). Lastly, the model shows a line of causality and indicates the different aspects within the programme that are necessary in order to achieve results. Once identified, these aspects can be measured which aids programme accountability, data collection and the monitoring process as well as staff understanding for monitoring and evaluation purposes (McLaughlin & Jordan, 1999; Renger, Wood, Williamson & Krapp, 2012).

Logic models are descriptive and can take different formats (Patton, 2002). Typically the model graphically depicts a logical sequence from programme inputs, to programme activities and outputs, to immediate outcomes and longer-term outcomes (Patton, 2002; Rossi, Lipsey & Freeman, 2004). For the purpose of this dissertation outcomes and outputs are defined using Kusek and Rist's definitions (2004). These definitions state that outputs relate to the products that result from a programme i.e. the product the programme staff deliver and outcomes relate to the change in programme recipients i.e. the effect of the intervention.

The programme's theory was implicit with the Ndinogona programme, meaning it was not fully articulated and recorded therefore it was elicited from the programme staff verbally by the evaluator (Rossi, Lipsey & Freeman, 2004). The evaluator asked questions surrounding the programme activities and sequencing as well as what the programme staff aim to achieve with the programme. The programme is multifaceted including many aspects, such as:

1) Education about disabilities in general and handling and positioning of disabled children,
2) Play, as a form of stimulation and interaction,
3) Training the trainer techniques involving caregivers and parents, and
4) The provision of resources such as toys and disability-friendly equipment.

The ideas of what the programme wants to achieve were confirmed by a thorough search of the programme's website, the vision and mission (as described in the programme description) as well as the stimulation kit manual used to train the caregivers. This

information was then translated in a logic model format for ease of reference which was confirmed by the programme staff to fit their conceptions of the programme's theory. The logic model for the Ndinogona programme is illustrated in Figure 3.

Figure 3 illustrates that the programme seeks to give the caregivers in the disability centres knowledge and equipment so as to improve their interactions with the children with disabilities. This knowledge includes information surrounding the importance of play and how to play with children with disabilities appropriately. Equipping the caregivers involves the provision of the Ndinogona stimulation kit, which includes equipment to aid positioning and movement of disabled children and training. The provision of knowledge and equipment is expected to improve caregiver-child interactions. The improved interactions are characterised by caregivers engaging in more stimulation and play, and using the equipment provided in an appropriate manner i.e. handling the children correctly. This stimulation and inclusivity is expected to result in better physical and emotional developmental outcomes for children with disabilities which will ultimately lead to a more inclusive society.

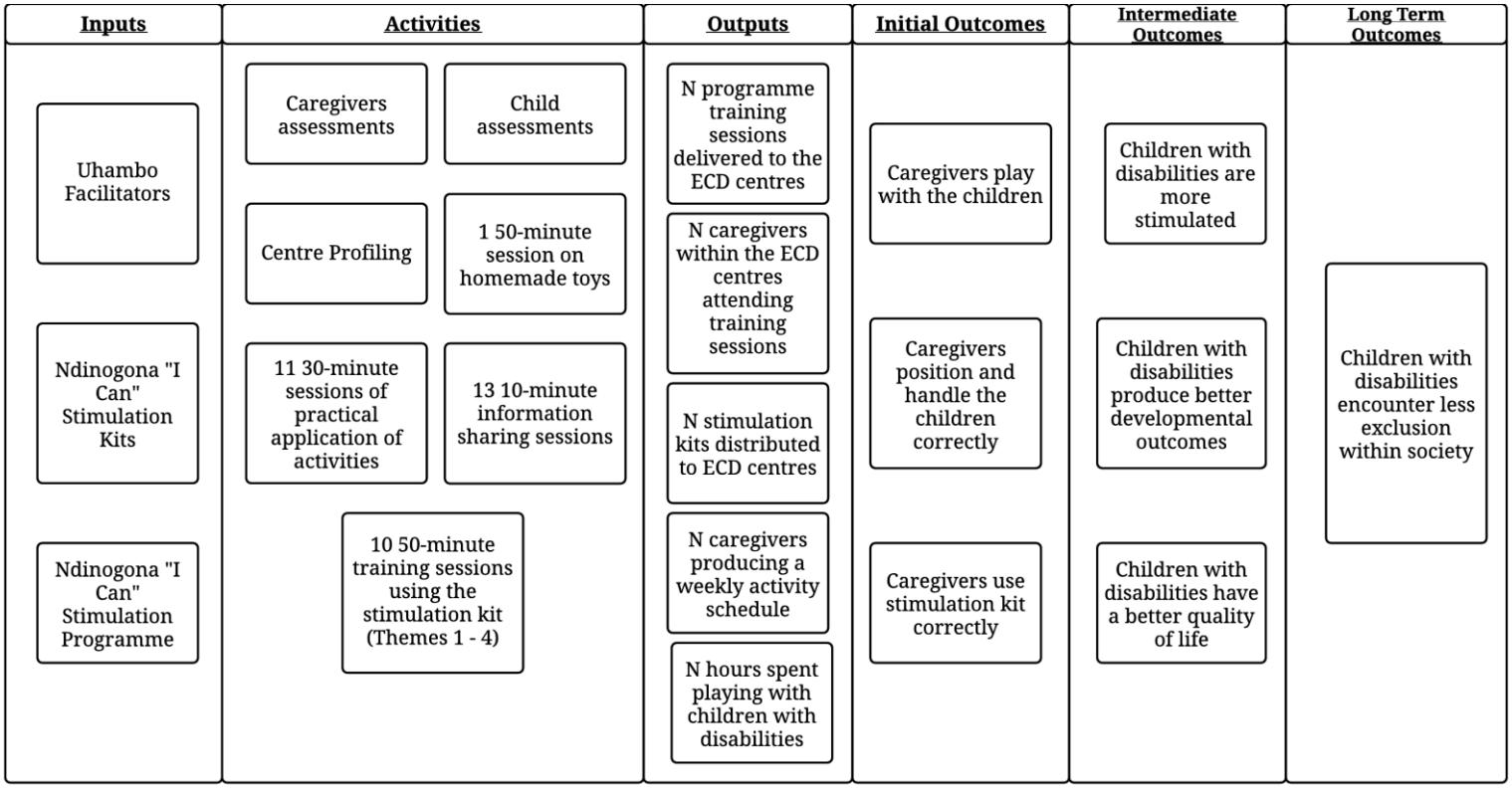

Figure 3: Logic Model for the Ndinogona "I Can" Stimulation programme

Plausibility of Programme Theory

In order to assess whether the programme theory is plausible, a review of the relevant literature was conducted. Engaging with the logic model as well as the programme staff it became clear that the Ndinogona's programme theory is based on three assumptions.

1) Equipping caregivers with knowledge and appropriate resources will lead to them providing a more stimulating, inclusive and/or disability friendly environment for children with disabilities;

2) Engaging in stimulation and play activities will improved developmental outcomes for children with disabilities, and

3) 24 hours of instruction is adequate to cause a change in the caregivers.

In order to test empirical support for these assumptions and ultimately the programme theory's plausibility, literature relating to interventions for disabled children was reviewed and common themes are discussed. It should be noted that the Ndinogona programme deals with all types of disabilities therefore literature relating to many different types of disabilities is reviewed and the term disability is not used to refer to any one specific disability.

Successful Interventions/Activities for Children with Disabilities

Stimulation interventions. Many interventions aimed at children with disabilities involve the use of motivation to inspire desired actions, this often takes the form of stimulation. Stimulation is important as a lack of stimulation and interaction can lead to both a stunting of potential development and/or deterioration in a disabled child's condition (Jull & Mirenda, 2011; Lancioni et al., 2013).

Response-contingent stimulation, stimulation that is provided only when a certain behaviour is performed, can include lights, music or positive feedback and praise from a caregiver (Dunst, Raab, Hawks, Wilson & Parkey, 2007). Dunst and colleagues found that this type of stimulation brought about and maintained desired behaviours for longer in children with disabilities (2007). The response-contingent stimulation was also associated with positive social behaviour (Dunst et al., 2007).

Many interventions attempt to stimulate physical movement specifically as the desired behaviour. It is emphasised that children with disabilities spend a vast amount of time either lying or sitting which has negative consequences for their physical development (Lancioni et al., 2014). It also put them at risk of mortality, obesity, hypertension and cardiovascular disease (Taylor, Baranowski & Young, 1998), therefore targeting physical movement is important.

In relation to physical movement, children with disabilities rely on technical interventions including specialised education services and assistive devices more than other children with the use of assistive technologies improving daily functioning through participation in normal activities (Wise, 2012). Lancioni and colleagues investigated the use of support devices to enable physical movement in children with disabilities (2007). It was argued that these support devices, whilst useful, were not enough to promote adaptive movements in children with physical disabilities (Lancioni et al., 2007). In one study looking at foot-leg movements, two children with physical disabilities used support devices but were seen as passive in them. Lancioni and colleagues (2007) fitted the children's shoes with sensors to detect movement and provided the children with 5 seconds of their preferred stimulation (for example clapping, encouraging messages or songs) every time they moved their feet. They found that both of the children moved much more frequently during this intervention phase than during baseline measures when no stimulation was received. This argues the point that the appropriate child motivation is important (Lancioni et al., 2007).

Children with disabilities usually only receive their preferred stimulation to improve their moods, i.e. make them happier, which in itself can have positive emotional and social implications (Lancioni et al., 209). However, stimulation can also be used to foster ''functional and adaptive responses and motor schemes that are essential to promote their fitness and reduce their risk of physical deterioration'' (Lancioni et al., 2013, p. 237). Lancioni and colleagues attempted to prove that technology, in the form of microswitches which would detect movement and automatically supply preferred stimulation, could help a programme achieve both. They looked at head movements, foot-leg movements and locomotive behaviour and in each case the desired movement was picked up by a sensor which caused the child's preferred stimulation to be provided. Each of these studies proved

successful in that the child subjects all displayed more of the desired movements when they were coupled with their preferred stimuli (Lancioni et al., 2009; 2013; 2014). The importance of technology was reiterated by Wise (2012) who stated that technologies designed to ‘’improve the functional abilities of children with cognitive and motor disorders and to enhance education, social functioning, and lifelong learning’’ are important in terms of cerebral palsy especially (Wise, 2012, p.173).

Relationship-based interventions. Relationship-based interventions are extremely popular when addressing children with disabilities. Resolving enmeshed relationships has shown to cause a significant reduction in distress and increase in the child’s range of social relationships and increased exploration of their physical environment (Rhodes, 2003). These are important concepts when one considers the fact that the Ndinogona programme ultimately aims to help produce an inclusive society for children with disabilities.

Promoting peer engagements is a relationship-based intervention recognised as positive, especially engaging peers with and without disabilities (Case-Smith, 2013; Kim et al., 2003). Kim and colleagues (2003) found that the use of social toys in interactions between children with disabilities and typically developing children enhanced the social skills of the children with disabilities. They also found that using unstructured toys like building blocks had more positive effects on social interactions than structured toys such as puzzles (Kim et al., 2003).

A popular type of relationship-based interventions is parent-based and parental involvement in an intervention is linked to the interventions effectiveness (Barton & Fettig, 2013). The reality of parents and caregivers living with children with disabilities involves many challenges, the most frequent of which include a lack of equipment and aids, a lack of know-how, discriminatory attitudes of others and a limited choice of activities (Piškur et al., 2015). There are many different types of parent-based interventions. Jull and Mirenda (2011) looked at parents’ abilities to become facilitators of play dates for their children with disabilities and normally developing peers. The study focused on training parents to host play dates which involved activities which were motivating to both children, i.e. activities that they were both interested in, as well as activities that required both children to participate. This intervention proved successful in that parents were taught to be able to

facilitate productive play dates with positive outcomes (Jull & Mirenda, 2011). Another study implemented a parent-based music therapy intervention for those with children with disabilities (Williams, Berthelsen, Nicholson, Walker & Abad, 2012). The authors aimed to (a) develop positive parenting behaviours towards children with disabilities, (b) improve parent-child interactions and (c) stimulate child development. They aimed to achieve this through the provision of one hour a week of music therapy for ten weeks (Williams et al., 2012). The intervention was found to be effective as parents reported increased child communication and social play skills and observations showed increased parental responsiveness, sensitivity and acceptance towards the child. Observational reports also showed increased child responsiveness, interest and social engagement, all of which were statistically significant (Williams et al., 2012).

Additionally, coaching parents to improve their responsiveness, positive moods and sensitivity towards their children is associated with increased positive moods, attention, co-operation and initiation responses in their children with disabilities (Case-Smith, 2013). In line with responsiveness is attention, attentive parenting is important and has proven effective. In one study involving weekly intervention for one year for children with autism and developmental disabilities, all children made significant gains (Case-Smith, 2013). It was shown that 20% of the variance in outcomes could be accounted for by the mother's responsiveness to her child (Case-Smith, 2013).

It is important to recognise the whole family's needs not just the child with disability (Dempsey & Keen, 2008), family inclusion and/or participation in interventions is important (Caroll, Murphy & Sixsmith, 2013; Dempsey & Keen, 2008). According to Dempsey and Keen (2008) there are many reasons to implement family-centred services when it comes to children with disabilities. Some of these reasons include the fact that the family is a constant in the child's life, helping the family as a whole will also inadvertently help the child and the family are in the best position to help the child and determine their well-being (Dempsey & Keen, 2008). Parental interventions increase practise and learning of intervention behaviours and they can be generalised and maintained within the child's natural setting (Woods, Kashinath & Goldstein, 2006). They are also cost effect as they ensure the child has unlimited access to intervention (Wainer & Ingersoll, 2012). Parent-based interventions have proven effective in many studies showing that teaching parents can have positive and

long-term outcomes (Barton & Fettig, 2013; Reichow, Servili, Yasamy, Barbui & Saxena, 2013; Sofronoff, Jahnel & Sanders, 2011). A review of interventions aimed at parents with autistic children stated that studies tend to suggest that ''parent training leads to improved child communicative behaviour, increased maternal knowledge of autism, enhanced maternal communication style and parent child interaction'' (McConachie & Diggle, 2007, p.120).

Other successful relationship-based interventions look at play interactions. Symbolic play has been proven to be associated with higher level developmental play (Case-Smith, 2013). Another interactional play-based 12-week intervention resulted in more attentiveness and social initiative behaviours (Vismara, Colombi & Rogers, 2009). A further intervention aimed at improving play behaviours targeted choice, turn taking and reinforcement of attempts in the context of play (Whalen, Schreibman & Ingersoll, 2006). They found that the children with autism who received the intervention showed increased social initiation and responding when assessed using a structured joint attention assessment. They also showed a more positive affect and more empathetic responses (Whalen et al., 2006). The context of play can also be used as modelling, reinforcing appropriate behaviours and prompting such behaviours during play can support the developmental of their social skills (Case-Smith, 2013).

Intervention Relevance. It is worth noting disability literature has some limitations, for example, although disabilities are more prevalent in low- and middle-income countries (LMIC) with the experience of living in poverty increases the risk of disabilities, especially neurodevelopmental conditions (Houtrow et al., 2014; Singer, 2002) research in this field is mainly focused on wealthier countries (Reichow et al., 2013). This can render many researched interventions quite redundant in a South African setting due to the fact that many overseas interventions involve the use of expertise and technological equipment that is just not available or realistic for a low-resource country.

It should further be noted that the majority of the research cited concentrates on one or two specific disabilities as opposed to interventions which tackle disability in a holistic manner as the Ndinogona programme does. For example autism (Jull & Mirenda, 2011;

McConachie & Diggle, 2007; Meadan & Daczewitz, 2015) and physical disability (Bult, Verschuren, Jongmans, Lindman & Ketelaar, 2011; Olswang et al., 2014).

Holistic Interventions. The Ndinogona programme is a holistic intervention which caters for all types of disabilities. An example of this type of intervention within the literature is the social-emotional intervention run by Groark and colleagues (2013). This intervention addresses disability in children more generally, within real settings, using ordinary caregivers and can be applied in low-resource countries, which is the reality for the Ndinogona programme. This intervention also provides resources to the programme recipients.

The social-emotional intervention targets both caregivers and children with disabilities. Groark and colleagues (2013) focused their research on housing institutions for children that hold disproportionate numbers of disabled children. The study employed a longitudinal pre-post test design using two institutions. It was a pilot study and therefore there was no control group, the ethics of withholding the programme would have presumably been taken into consideration too. The caregivers within these institutions are often also faced with unreasonable workload demands which can contribute to detrimental developmental outcomes for children with disabilities due to a lack of interaction/stimulation. The intervention's principal aim was to improve caregiver-child interactions in order to improve developmental outcomes for the disabled children. The intervention took a holistic approach with many components, including the provision of training and coaching for the caregivers as well as materials such as appropriate toys, beds and reading material (Groark et al., 2013). The sample size involved in the longitudinal aspect of the study was six caregivers and eleven children with disabilities. The outcomes that were measured included caregiver-child interactions, physical development, behavioural development and child behaviours. All assessors received extensive training on the measures used to determine these outcomes. The results showed improvement in all aspects measured, especially the interactions, handling and positioning, which became more appropriate. The study concluded that the intervention was successfully implemented. Change can be difficult, especially using ordinary institutions and staff, yet the intervention still made a significant impact. The intervention was also argued to be financially viable for even low-resource

countries as it works on a train-the-trainer basis and can reach vast numbers (Groark et al., 2013).

On the basis of this evaluation, the programme designers concluded that the holistic approach of their social-emotional intervention was both effective in its merits to improve outcomes for disabled children and was cost-effective enough to be applicable worldwide even to low-resource countries. It highlighted that promoting a ‘’warm, sensitive, contingently responsive, respectful caregiver-child interaction’’ (p.301), coupled with simple resource provision and education surrounding disabilities can have an effective and beneficial impact on children with disabilities (Groark et al., 2013).

Overall, the studies reviewed in this section provide evidence that stimulation in the form of play may be an effective motivator for desired behaviours or movements. They also show that motivation is an important aspect of intervention: motivation in the form of desired stimulation may increase positive behaviours which in turn may increase the likelihood of the success of the intervention. The studies also indicate that caregiver and parental involvement in interventions produce positive outcomes for children with disabilities. The studies show a focus on parental involvement stating that parents are in the best position to help their child, presumably due to the bond and time spent together. In the case of the Ndinogona programme, the centres which are targeted care for the children with disabilities on a daily basis in an extremely involved manner. The relationship these caregivers have with the children in their centres can be likened to a parental bond as the caregivers fulfil the parental role whilst the children are under their care. One study also refers to facilitating play dates between children, stating when caregivers are engaging the children in their care in the activities prescribed by the programme, this can be seen as facilitating play. In sum the studies indicate that knowledge provision for caregivers, which can take many forms, can have positive outcomes for children with disabilities. Additionally the social-emotional intervention provides evidence that a holistic approach providing education and resources to caregivers can also be effective.

Monitoring and Evaluation Efforts

In order to determine whether interventions are successful some form of evaluation must take place. Controlled research is essential as it helps rule out alternate explanations due to decrease in threats to internal validity and they are necessary for important individuals, such as policy makers, to take the findings seriously (Singer, 2002). This can be difficult depending on the intervention and there is to a certain degree a paucity of assessments in this field. The impact of assistive technologies for example is poorly assessed (Wise, 2012). Van Der Heyden and Snyder state that there is a real need for outcome measures that can reliably ''indicate a child's skill level on tasks that are functionally meaningful'' (2006, p. 529). They also state that progress monitoring tools for children are sorely needed and that there are relatively few standards against which observations of children with disabilities can be compared. This suggests that literature surrounding developmental improvement in children with disabilities lacks adequate measures.

Carroll, Murphy and Sixsmith (2013) looked at ECD services for children with disabilities in Ireland. They examined a wide range of interventions including empowering families, carrying out specific interventions and teaching techniques. They found that the provisions of intervention was inconsistent and that, even though it is seen as best practise to allocate funding to monitoring and evaluation, there was no standardised way to assess the quality of early childhood interventions in Ireland (Carroll et al., 2013).

There have been some thorough evaluations done. One example of a quasi-experimental design was an intervention implemented by Tuzin and colleagues (1998). They used a quasi-experimental design with multiple baseline measurements targeting physical activity such as cycling, skipping and swimming in children with cystic fibrosis. Tuzin and colleagues (1998) implemented a 4-6 week intervention and their results showed that 8 out of 10 children had increased activity levels at the end of the intervention with activity points at 43-321% over baseline.

In an example of a non-randomised study Daunhauer and colleagues (2008) examined institutionalised children with disabilities and found that higher level play skills were

associated with caregivers who engaged in structuring activities and were responsive and assistive to the children (Daunhauer, Coster, Tickle-Degnen & Cermak, 2008).

There have also been randomised control trial (RCT) evaluations for parent-based interventions for children with disabilities. In a meta-analysis Reichow and colleagues stated that 5/8 RCT's for parent interventions were statistically significant (2013). Another parent intervention involving the promotion of adult imitation for children with autism was evaluated using an RCT with the control group just engaging in unstructured play (Field, Field, Sanders & Nadel, 2001). The RCT showed the intervention resulted in the autistic children spending less time playing alone and more time smiling and vocalising with the adults after just three sessions.

Optimal Intervention Time Frame

In terms of an optimal time frame for interventions aimed at early childhood development the literature shows that generally they are more effective when they run for longer periods of time (Engle et al., 2011). Studies show that longer interventions produce larger effect sizes (Nores & Barnett, 2010) and some state that ECD interventions should last the entire early childhood period (Britto, Yoshikawa & Boller, 2011).

A meta-analysis of studies examining the impact of interventions on learning disabilities for children in the US found a relatively large average effective size of 0.79 with an average intervention study length of 22.47 minutes of daily instruction offered 3.58 times a week over 35.72 sessions (Swanson & Hoskyn, 1998). This is approximately 13.4 hours which is just over half the length of the Ndinogona programme yet produced a large effective size. This study highlights a pattern of instruction or intervention on several occasions over numerous weeks.

Sofronoff and colleagues examined the impact of two 2-hour seminars on the reduction of problematic behaviours in children with disabilities (2011). Whilst there were no significant differences, the child behaviour and parenting skills results were in the expected directions, i.e. the intensity of problem behaviours decreased and the parenting skills improved, these parenting behaviours were also maintained 3 months later (Sofronoff et al., 2011). This

shows that the 4 hours of contact time did make some degree of difference but not necessarily enough.

Reichow and colleagues conducted a meta-analysis looking at non-specialist interventions for children with disabilities (2013). The behavioural analytic interventions studied, lasted between 3 and 156 weeks but were typically over 100 weeks with contact hours of between 18 and 6420. Parent interventions on the other hand tended to be shorter lasting roughly 8-12 weeks with 5-52 hours of contact (Reichow et al., 2013). The results showed that behaviour analytic techniques proved effective for developmental and daily skill outcomes and these were particularly good for children with more severe cognitive impairment. Parental intervention proved most effective for developmental, behavioural and family outcomes (Reichow et al., 2013). This is a positive finding for the Ndinogona programme which is most similar to the parent interventions in content and structure.

Overall, the longer interventions targeting children with disabilities appear to be better. On the other hand, some short interventions have resulted in maintained improvement with as little as 4 hours contact time (Sofronoff et al., 2011), and Swansea and Hoskyn found an average effect size of 0.79 (1998) with an average contact time of 13.4 hours. Parent-based interventions, which tend to consist of 5-52 hours of contact with successful results according to Reichow and colleagues (2013), are most similar to the Ndinogona programme in structure and content.

Summary

The literature highlights some important themes in the disability-intervention literature which coincide with the multiple facets of the Ndinogona programme. The studies discussed indicate that the programme activities engaged in by the Ndinogona ''I Can'' Stimulation programme have the ability to be successful and to lead to improvements within the caregivers and children with disabilities. The provision of education and resources to caregivers, coupled with child motivation in the form of various types of stimulation, can lead to improved stimulating social interactions. These improved interactions can have positive effects on the lives and development of disabled children. Play activities, child motivation and praise, promoting caregiver-child or parent-child relationships, improving

interactions, stimulation and learning opportunities are all recognised in a positive light by the literature. Additionally according to the literature discussed above, the time frame of 24 hours is long enough to constitute an effective time frame. In sum, the programme's assumptions appear to be supported by the literature.

Chapter Two: Methodology

Evaluation Questions

The development of evaluation questions occurred in collaboration with the programme stakeholders. This process involved a series of preliminary scoping engagements with Ms. Frost, the programme manager at the beginning of the year. Ms. Frost explained that the Ndinogona programme required an independent outcome evaluation for funders, however the programme is still considered relatively new. Therefore it was concluded that an outcome evaluation would be carried out which would also form part of an ongoing monitoring process for the programme. The evaluation is therefore formative in nature as it is intended to aid programme performance rather than provide information on the programme's worth (Kusek & Rist, 2004).

The main focus is on evaluating programme outcomes, and subsequently the programme's impact, by determining the degree to which the programme is responsible for any improvement in primary and secondary beneficiaries. In addition, one process question is addressed in relation to the use of the stimulation kits. The stimulation kits provide the basis for all programme activities therefore one cannot evaluate the programme without assessing the use of the kits.

The evaluation questions that emerged are as follows:

Outcome

Primary Beneficiaries (Caregivers)

1. Are there early indications that the programme is effective in changing caregiver interactions with the disabled children to make them more disability-appropriate?
    a. Did the intervention promote play with disabled children?
    b. Did the intervention improve caregiver-child relationships?
    c. Are the caregivers engaging in planning activities for the disabled children as prescribed by the programme?
    d. Do the caregivers provide a safe environment in which the disabled children can engage with the activities?
    e. Do the caregivers handle the disabled children correctly and position them in such a way as to optimise functioning?

Secondary Beneficiaries (Children with Disabilities)

2. Are there early indications that the programme encourages developmental improvement within the children by aiding the achievement of child-specific developmental goals set by the facilitators?

Process

Service Delivery

3. Is there evidence that the stimulation kits are being used correctly and with sufficient frequency by the caregivers?

Research Design

The Ndinogona programme had already commenced in 18 centres and so there was no opportunity to implement a design with a pre-intervention measure. The programme itself did however collect baseline data of child-specific developmental goals using their original measures (Appendix 1). This data will be used to develop a reconstructed baseline measure for child-related goals (as described in the Procedure section of this chapter). Given the nature of the programme and the assessment routine already in place, this research will take the form of a single group, post-test only repeated measures design. This infers that assessments will be done on the same individuals using the same measures at different points in time. Whilst the lack of control group or counterfactual is a potential weakness in the design, it is strengthened by the use of multiple measurements over time (Rossi et al., 2004). It should be noted that without the use of a control group or counterfactual in the research design, one cannot comment on causality or rule out alternate explanations for any results found, therefore the research design is descriptive (Rossi et al., 2004). The design is shown in Figure 4 below.

(O_1)	X	O_2	O_3	O_4

Key: X: Ndinogona ''I Can'' Stimulation programme.
O_1: reconstructed baseline for child-specific developmental goals
O_2: mid-programme assessment.
O_3: post-programme assessment.
O_4: 6-week follow-up assessment.

Figure 4: Graphical Research Design

Participants

The evaluation includes 18 disability centres in the Western Cape, each of which typically would service between ten and 60 children and has between two and ten caregivers. The total sample size will therefore be between 180 and 1080 children, and 32 and 180 caregivers. Within each centre, repeat measures at mid-programme, post-programme and 6-weeks follow up will be taken at both the individual child and individual caregiver level.

Materials

Ndinogona's Original Measures and Limitations

At the point of entry into the programme by the evaluator, the programme was using the data collection forms for children and caregivers that are attached in Appendix 1 and 2 respectively. The original child assessment forms included:

- Child's demographics;
- A rating of the child's disability based on 5 categories namely, hearing, sight, mobility, response and autism;
- Individually-set child goals and actions plans to achieve the goals; and
- A space for a potential case study.

The original caregiver assessment forms included:

- Length of employment;
- Caregiver role;
- Previous exposure to training in disability sensitisation and stimulation programmes;
- A pre-programme assessment regarding the caregiver's comfort in working with and moving children with disabilities, and whether they are aware that these children can play;
- A rating of their level of understanding relating to 10 disabilities; and
- A post-programme observation section whereby facilitators assess caregivers in terms of the provision of a safe space, the handling of the child, the caregiver's position, and the caregiver's session plans, if available.

The main limitations with the original Ndinogona measures are:

- The use of only 5 factors included within the child disability rating,

- The qualitative nature of the goal and action plans for children and caregiver observations, i.e. the use of uncategorised text, which is difficult to quantify improvement,
- The use of a 3-point scale in terms of caregiver's knowledge and comfort levels which may not be wide enough to show distinct differences between individuals, and
- The lack of a post-programme measure of caregiver's knowledge and comfort levels which excludes any comparative analysis.

Revised Measures

Caregiver Assessment

One of the first activities the evaluator engaged in during the first contact with the programme was analysing the above measures in discussion with the programme stakeholders. These discussions as well as a review of the literature resulted in adjusted versions of two measures. These were an adapted version of the Caregiver-Child Social-Emotional Relationship Rating Scale (Appendix 3; CCSERRS; McCall, Groark, & Fish, 2010) and secondly, the incorporation of a new measure called Children with Disabilities Rating Scale (Appendix 4; CDRS; definitions of the items on this scale can be found at http://ocd.pitt.edu/EvaluationTools/223/default.aspx).

The CCSERRS measure originally involved a 30 minute observation of a caregiver split into 5 minute intervals, assessing caregiver-child relationships using a scale of 0 to 3. It assessed the caregiver in relation to free play, feeding and changing, dressing and bathing. This was altered by the evaluator in collaboration with programme staff to involve one observation per caregiver in the context of engaging in free play with a child due to time constraints and to avoid collecting unnecessary data.

The CDRS also used a scale of 0 to 3 and addressed the questions of positioning, handling, care routines and equipment, all in relation to feeding, bathing/dressing/toileting, and free play. The original measure consisted of six questions, three on positioning, one on handling, one on care routines and one on equipment. The irrelevant aspects of the scale (i.e. feeding, bathing/dressing/toileting) were removed but all six items were retained. Two additional

items were added, one addressing whether or not daily activities are planned and prepared for and one assessing the use of the Ndinogona stimulation kit.

Both measures were also edited to ensure the language used was as simple as possible. The Occupational Therapist also edited the language to make it more specific to Ndinogona, for example where the form had previously stated the "caregiver provides guidance", this was changed to "caregiver provides praise" instead. Praise is an important concept included in the Ndinogona stimulation kit manual used by the facilitators to deliver the programme in relation to the four themes discussed in the introduction (p 11). Another example is that the forms used the continuum of a child's placement to assess the caregiver ranging from awkwardly placed to properly placed. The Occupational Therapist felt this was inappropriate as physically disabled children can often appear awkward in their positioning and therefore suggested support be assessed rather than placement.

Child Assessment

In terms of the child assessment the measure needed to align somewhat with the programme's original forms in order to make use of the baseline assessments previously conducted by the programme staff. Therefore the Child Goal Plan and Assessment measure was produced which is similar to the programme's original measure, yet more quantifiable in assessment design (Appendix 5). This form allows the transfer of the individually-set child goals from the programme's original measures into this more quantifiable format to track progress.

Procedure

The first point of entry was discussions with the programme staff at all levels regarding the usability of the existing monitoring and evaluation platform and tools. The evaluator then outlined key outcomes, indicators, and a formative evaluation design. Draft data collection tools were then developed by the evaluator in consultation with the programme stakeholders, which are described in the preceding section (materials).

Caregivers and children within the 18 disability centres in the Western Cape who volunteered to be part of the programme from January to May constitute the sampling

frame for the formative evaluation. The programme runs for 16 weeks with assessments usually occurring at baseline, mid-way through the programme, at the end of the programme and six weeks later at a follow-up. All assessments will be conducted by the programme facilitators as part of their normal programme procedures. At each assessment, facilitators are required to rate caregivers interacting with the children using the data collection tools developed by the evaluator. The children themselves will also be assessed at each assessment to indicate whether or not there had been improvement relating to a child specific goal set individually for each child at the baseline point. The two goals per child will be transferred from the Ndinogona's original form (used in the programme's usual baseline assessment) directly onto the forms designed by the evaluator which will allow quantitative improvement in the goal to be tracked.

Data Analysis

The available data from the 18 disability centres currently enrolled in the Ndinogona programme will be analysed and reported on in the results section of this evaluation. The quantity and quality of the data will in part depend on the feasibility and acceptability of the data collection tools designed by the evaluator. Pending sufficient data quality and quantity, caregiver data, which will be collected at the mid- and post-programme assessment points, will be analysed using a dependent sample t-test. Child improvement data, collected on 3 occasions will be analysed using a one-way ANOVA. If there is not sufficient data, or the data is non-parametric, the Wilcoxon Signed-Rank sum test will be used as this is appropriate for small and non-normal data sets (Field, 2013).

Chapter Three: Results

The previous chapter (methodology) presented the measures designed by the evaluator which were utilised by the programme during the first half of 2015. Unfortunately the use was not successful and the programme staff did not collect the data as was previously agreed upon, subsequently the initial evaluation was not possible. This is discussed in more detail in relation to Question 1 below. In this instance the limited data is analysed as far as possible but it cannot be said to answer the evaluation questions. Subsequently the evaluator engaged with the staff and the social science/evaluation literature and has proposed a workable monitoring and evaluation framework, complete with revised tools, which is presented in Chapter 4.

Outcome Evaluation

Primary Beneficiaries (Caregivers)

1. **Are there early indications that the programme is effective in changing caregiver interactions with the disabled children to make them more disability-appropriate?**
    a. Did the intervention promote play with disabled children?
    b. Did the intervention improve caregiver-child relationships?
    c. Are the caregivers engaging in planning activities for the disabled children as prescribed by the programme?
    d. Do the caregivers provide a safe environment in which the disabled children can engage with the activities?
    e. Do the caregivers handle the disabled children correctly and position them in such a way as to optimise functioning?

The adapted versions of the CCSERRS and the CDRS measures presented in the methods chapter were aimed at answering the above questions. Unfortunately the quantitative data those measures would have yielded was not collected by the programme facilitators as expected and the evaluation could not be carried out as originally designed. There were a number of reasons for this. Firstly, it was found that baseline data forms were not always used and data was sometimes missing resulting in no baseline data being available for

analysis. Secondly, only one facilitator completed the forms designed by the evaluator. Caregiver assessments were filled in for just 3 caregivers, the CCSERRS was complete for the 3 caregivers and the CDRS was complete for 2. Thirdly, all assessments were only complete for the mid-point assessment and no information is available for the post-programme point. Therefore with no baseline or post--programme data available the planned comparative analysis was not possible. Subsequently there is not enough data to respond to these questions in an outcome evaluation format.

The reasons for lack of data collection that occurred were many, including staff turnover, possible miscommunication with the facilitators and the practical complexity of the refined measures designed by the evaluator. With regards to staff turnover, in March this year the long-standing programme manager (Lorraine Frost) left the organisation suddenly after five years working for the organisation. This affected the organisation on several levels including the implementation of the evaluation framework. The available data is dealt with below. Table 2displays the descriptive statistics for these 3 caregivers.

Table 2

Caregiver Details

Caregiver	Employment Length	Employment Position	Sensitisation Training?	Stimulation Training?
1	>5years	Supervisor	Yes	No
2	2-5years	Teaching assistant	No	No
3	2-5years	Teaching assistant	No	No

Table 3

Available CCSERRS and CDRS Scores for Caregivers at the Mid-Programme Assessment Point

	N	Minimum	Maximum	Mean
CCSERRS total Mid	3	14.00	16.00	15.3333
CDRS total Mid	2	18.00	18.00	18.0000

Note: The total scores possible are 24 and 27 for the CCSERRS and CDRS, respectively.

The forms also included a rating of how well the caregivers understood ten listed disabilities, the rating system used 1 to 3, 1 being that they understand very well, 2 being a basic understanding and 3 being a very limited understanding. The caregivers self-reported scores for these ten disabilities are displayed in Table 4.

Table 4

Caregiver Responses to Knowledge of 10 Different Disabilities

	N	Minimum	Maximum	Mean
Autism	3	2.00	2.00	2.0000
Cerebral Palsy	3	2.00	2.00	2.0000
Developmentally Delayed	3	2.00	3.00	2.3333
Down Syndrome	3	2.00	3.00	2.3333
Epilepsy	3	2.00	3.00	2.3333
FAS	3	2.00	3.00	2.6667
Hearing Impairment	3	2.00	3.00	2.3333
Mobility	3	2.00	3.00	2.3333
Multiple Disabilities	3	2.00	3.00	2.3333
Sight Impairment	3	2.00	3.00	2.6667

Secondary Beneficiaries (Children with Disabilities)

2. **Are there early indications that the programme encourages developmental improvement within the children by aiding the achievement of child-specific developmental goals set by the facilitators?**

As previously mentioned the quantitative data necessary for an in-depth outcome evaluation was unavailable. Only one facilitator filled in the forms that were designed by the evaluator and these forms were only completed for 25 children within one centre. Ten of these forms had missing data, especially in relation to the severity of the children's disabilities, fortunately all 25 contained the scores for improvement based on the two goals set for the child at the beginning of the programme. Descriptive statistics and initial exploration of data is presented below.

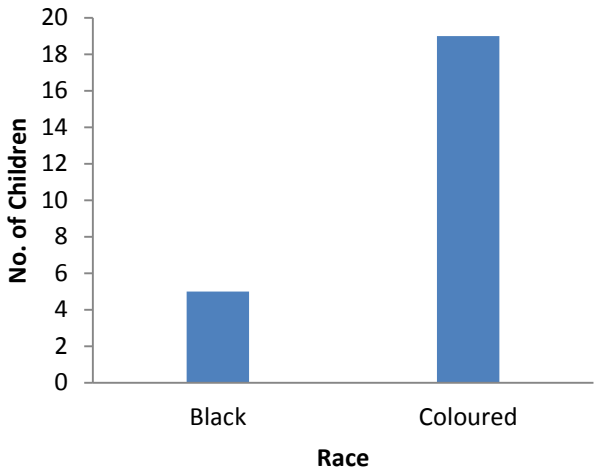

Figure 5: Race Distribution for the Children with Disabilities Assessed

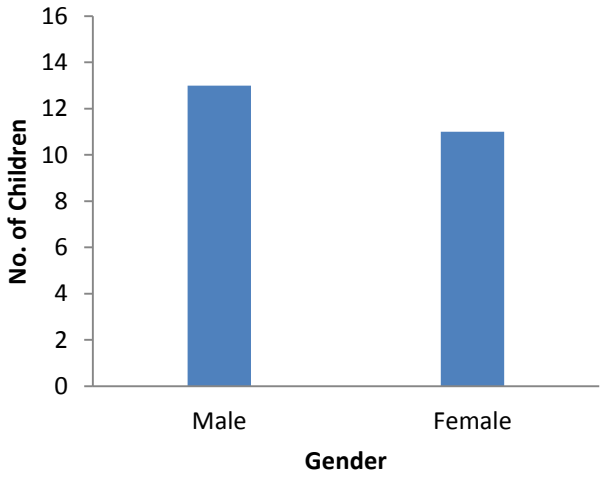

Figure 6: Gender Distribution for the Children with Disabilities Assessed

Two unique developmental goals were set for each child at the beginning of the training programme using the programme's original measures, these were transferred onto the new evaluation forms and assessed at the mid- and post- programme assessment points. The ratings used a scale from 1 to 7, 1 meaning no progress and 7 meaning the goal was achieved. The ratings were done by the facilitator in order to determine whether there was improvement from the baseline when the goals were set. The tables below (Table 5 and Table 6 respectively) show the descriptive statistics for the children in relation to goal one and two. Both the mid- and post-programme assessments rated a child's improvement on a specific goal in relation to their baseline performance, therefore a rating of 3 at mid and

post-assessment points indicates that a child made improvement in the goal by the mid-point and that this improvement was maintained until the post.

Table 5

Descriptive Statistics for Goal 1 of Each Child at the Mid and Post Programme Point

	N	Minimum	Maximum	Mean	Std. Deviation
Goal 1 Mid	25	2.00	4.00	2.8800	.52599
Goal 1 Post	25	2.00	4.00	2.8800	.60000

Table 6

Descriptive Statistics for Goal 2 of Each Child at the Mid and Post Programme Point

	N	Minimum	Maximum	Mean	Std. Deviation
Goal 2 Mid	25	2.00	4.00	2.9600	.45461
Goal 2 Post	25	2.00	4.00	3.2400	.52281

The tables show the maximum improvement rating was 4 for both goals and the minimum was 2, these used a 7-point scale. In relation to Goal 1 for the 25 children, 2 children got worse by 1 point, 2 children improved by 1 point and the other 21 remained at the same improvement level. For Goal 2, 7 children improved by 1 point and the other 18 remained at the same improvement level. The tables show that for goal 1 the mean remained the same at the mid- and post-programme point, whereas for goal 2, which had a similar mean at the mid-programme point, the mean increased by 0.28. This indicates more improvement for goal 2.

Analysis: Wilcoxon Signed-Rank Test

The analysis took the form of a Wilcoxon Signed-Rank Test (Field, 2013) due to the small sample size and lack of a normal distribution of data. This statistical test determines whether the median difference of scores at the mid- and post-programme points differs from 0. If it does not, the null hypothesis, which states both sets of scores are the same, is retained. It is worth noting that a test's statistical power i.e. the ability of a test to detect an effect, increases as the sample size increases (Field, 2013). Therefore even if an effect is present in a dataset or the population from which the data was collected, one may not see such an effect if the sample size is not large enough due to lack of statistical power.

The results of the Wilcoxon Signed-Rank Test are shown below:

Table 7

Wilcoxon Signed-Rank Test Results

Null Hypothesis	Test	Sig. (*p*)	Decision
There is no significant difference between Goal 1 scores at the mid- and post-programme assessment point	Related-Samples Wilcoxon Signed Rank Test	>.99	Retain the null hypothesis
There is no significant difference between Goal 2 score at the mid- and post-programme assessment point	Related-Samples Wilcoxon Signed Rank Test	<.01	Reject the null hypothesis

Note: Significance level = .05

As the figures show, on average the first individual goal set for the children (goal 1) shows no significant difference in scores between the mid- and post-programme assessment points (p> .99). This means the children did not significantly improve on their individual goal from the middle of the programme to the end of the programme but the initial improvement was maintained. In relation to the second goal set for the children (goal 2), the statistical test shows a significant difference between the mid- and post-programme improvement assessments (p = .008). Therefore in relation their individual goal 2 the children, on average, appear to improve between the middle and the end of the programme.

Process Evaluation

Service Delivery

3. **Is there evidence that the stimulation kits are being used correctly and with sufficient frequency by the caregivers?**

The originally designed measure, adapted from the CDRS, included two questions to aid answering this question, one relating to the use of specialised equipment for moving and positioning children with disabilities and one specifically relating to the use of the Ndinogona Stimulation kits. The CDRS forms were filled in for two caregivers. The rating scale varies from 0 to 3 and the two caregivers were both rated 2 for both equipment related questions. This amount of data is, however, not enough to evaluate the question of stimulation kit use effectively.

Ms. Schultz, the programme manager, (*Personal Communication*, 27 July 2015) stated that they perform telephonic follow ups regarding the stimulation kits. They reported that almost all centres respond positively, stating that they still have the kit and that it is in working order and being used. There is, however, no formal proof of this and it depends on the honesty of the caregivers who are reporting the information, which may be subject to bias as the centres want to portray themselves in a positive light (*Personal Communication*, D Schultz, 23 August 2015). Therefore there is not enough data to answer this question and a suggestion to aid this in the future is presented in Chapter 4.

Chapter Four: Discussion

Given the data available the best the evaluator can offer the organisation is a brief discussion on the outcome evaluation questions. Moving forward, the remainder of the chapter presents a monitoring and evaluation framework with suggestions to aid a possible future outcome evaluation.

Outcome Evaluation Questions: 1 & 2

There was not enough data available to answer these questions using an outcome evaluation. Measures designed by the evaluator were utilised for just 25 children and 3 caregivers at the mid-programme point and data was collected by just one facilitator. Additionally the timing of the mid-programme assessment was late in the programme. Due to a lack of baseline or post-programme data no comparisons were possible for the 3 caregiver assessments that were done, therefore if any changes occurred they would not be shown by this data.

Regarding the child goals, goal 2 showed more improvement than goal 1 but the average improvement was very small at 0.28 points on a 7-point scale. The improvement only on goal 2 could be because the second goal is perhaps easier than the first which would be what the child struggles with the most. The severity of the child's difficulty with each goal was not measured or noted at baseline either and due to the range of disabilities covered within ECD centres catering for children with disabilities it may be difficult to compare ratings across children (and disability severities). The facilitator may also have had difficulty remembering the level the child was at prior to the programme without having done a formal assessment of the child. The delayed assessment point for the mid-programme assessment may also have resulted in the relatively minor changes seen between the mid- and post-programme assessment points as children may have made the most improvement in the first half of the programme.

In conclusion, goal 2 did show statistically significant improvement for the 25 children, showing an early indication of improvement, however this does not translate into a clear statement regarding the programme's involvement in child improvement. It is the first time

the measure was used and there is not enough data to validate it. For these results to have been more reliable a larger sample size with strictly timed assessments would be necessary.

Monitoring and Evaluation Framework

It is clear that the programme requires a practical monitoring and evaluation system to be put into place in order to formalise the programme as well as to provide the data for an outcome evaluation in the future. In order to do this one must firstly consider how monitoring and evaluation is currently occurring within the disability field.

The studies discussed in the Introduction chapter of this dissertation indicate that there is no standard way to monitor or evaluate programmes aimed at children with disabilities (see the Plausibility of Programme Theory section). There have been a variety of methods used successfully. There is, therefore, no prescriptive format to which a monitoring and evaluation framework should follow. Due to the lack of conformity in the literature it is felt that a personalised approach is appropriate. Therefore in order to suggest a monitoring and evaluation framework for the Ndinogona programme one must assess the programme process thoroughly to understand the monitoring needs of the programme. Figure 7 below illustrates the programme process as intended for ease of reference. Moving forward the evaluator will address a series of programme process questions (in relation to the diagram) and utilise the answers to inform a personalised M&E framework for the Ndinogona “I Can” Stimulation programme.

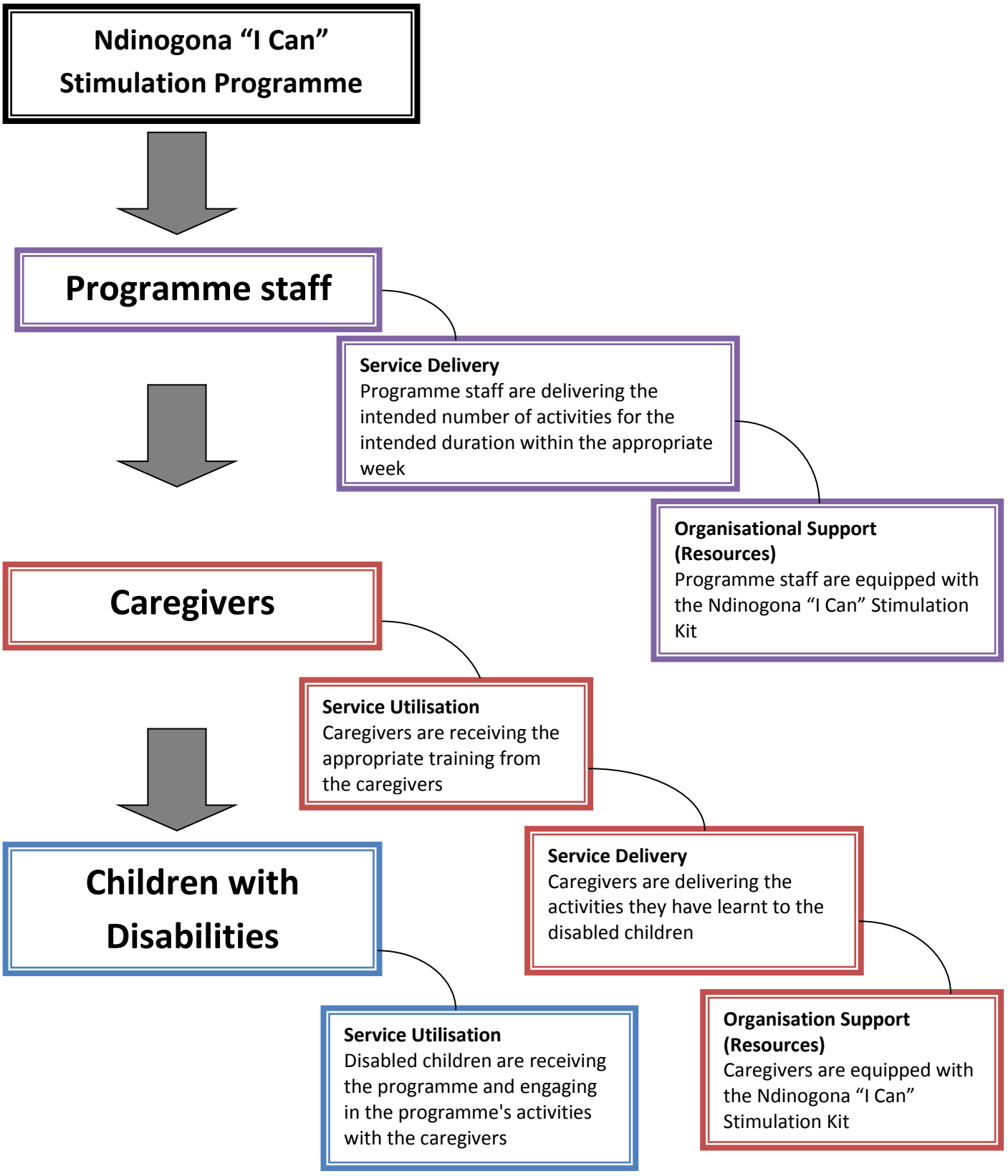

Figure 7: Process Evaluation Framework (adapted from Rossi, Lipsey & Freeman, 2004)

Current Programme Monitoring and Evaluation

Appendices 1 and 2 show the original forms used by the Ndinogona ''I Can'' Stimulation Programme. The initial communications with the programme manager at the evaluation scoping stage indicated that the programme was monitored and these forms were filled in at 4 points, before the programme, midway through, after the programme and at a follow up session approximately 6 weeks after the programme had finished (L Frost, *Personal Communication*, 24 February 2015).

This was the initial plan as described by Ms. Frost which was set to be implemented in 2015 for the first time and the programme's original measures were distributed to the programme staff on the 18th February 2015, shortly before the evaluator's initial contact with the programme. Upon the evaluator's initial contact, Ms. Frost requested new measures in order to conduct a formative outcome evaluation of the programme. As previously stated Ms. Frost left the organisation in March and this meant that the designed monitoring and evaluation system was not implemented.

The only form of monitoring that was taking place at the point of entry of the evaluator was the gathering of demographic information of the caregivers (for example their names, level of education, and length of employment). There was also an initial baseline assessment for children using their original forms carried out under Ms. Frost's management, however this was only filled in for very few children and the completion was seen to be unreliable (D Schultz, *Personal Communication*, 27 July 2015).

Programme Monitoring and Evaluation Needs

Two discussions took place regarding the monitoring and evaluation needs of the programme stakeholders. Initially, the first programme manager, Lorraine Frost, stated that their key questions were as follows:

- Are the stimulation kits being used?
- What maintenance do the kits require?
- Is the programme effective in changing caregiver's interactions with children with disabilities?
- Does the programme encourage child intellectual and physical development?

- Does the programme promote inclusion? (*Personal Communication*, 6 March 2015)

Ms. Frost also stated that new measures were to be designed in order to conduct an outcome evaluation for the programme and after a revision process she distributed the measures designed by the evaluator to the rest of the programme staff on the 18th March 2015. The questions raised by Ms. Frost, along with the target areas of assessment addressed in the original Ndinogona forms presented to the evaluator lead to the evaluation questions listed under Question 1 and the development of the adapted versions of the CSSERRS and CDRS. After the measures initially designed by the evaluator were unsuccessful it was found that measures needed to be ''built from the ground up''. This means the measures need to be built and tested in collaboration with the facilitators, who can offer input guided by practical field experience as well as programme management who can provide the detailed information needs of the programme. Therefore although the information needs had been discussed previously, this issue was revisited.

A second informal discussion took place later in the year with the new programme manager, Danika Schultz, and the General Manager, Sarah Driver-Jowitt at the Ndinogona programme offices. It was found that the initial information needs were shared by these stakeholders and were thus reiterated. However this discussion drew on the challenges faced during the initial evaluation attempt resulting in more specific, practical and useful information needs for the programme and the staff (*Personal Communication*, 27 July 2015). The key points are summarised in Table 8 below.

Table 8

Summary of the Information Needs of the Programme Staff

Information needed in terms of children	**Information needed with respect to caregivers**	**Other information needs**
- Attendance - Demographics (sex, race) - Type of disability - Improvement	- Attendance - Employment - Attitude - Understanding - Actions - Skills/Knowledge	- Centre planning - Parent engagement/buy in - Use of kits - Kit maintenance - Kit effectiveness/usefulness

Children

During the discussion at the Ndinogona offices with the evaluator, Ms. Schultz and Ms. Driver-Jowitt, it was decided that it was not viable to work with assessing children directly. The forms designed by the evaluator were more efficient than the original measures the programme staff were using in that they were simpler and faster, and addressed more of the information needs of the programme, however it was still not within the facilitator's capacity to complete them thoroughly. The administrative process is extremely time-consuming and often at the training, especially with the shorter courses, the children were not present or available for assessments. The programme staff explained that it was important to have demographic information of the children in the centres catering for children with disabilities and the number of children each centre catered for. It is also important to know which types of disabilities the programme is dealing with as the programme staff will be better able to adapt and focus the programme for the disabilities which are most prevalent within centres.

Regarding child improvement, the programme staff understand that they do not deal with children directly but they do of course aim to improve the children's environment and developmental outcomes through the provision of skills, equipment and information to the caregivers. Therefore although child improvement is potentially important to monitor and evaluate, it was felt that a more practical way to do this would be to assess the caregivers or ask the caregivers to do qualitative assessments of child improvements.

Caregivers

The caregivers within the centres catering for children with disabilities are in evaluation terms, the ''primary'' beneficiaries of the programme, in the sense that the final outcomes of the programme cannot be realised without the primary beneficiaries undergoing initial changes. The programme is delivered directly to them in order to achieve its goals, therefore the primary focus for assessment should be the caregivers themselves.

The number of caregivers within each centre is an important information need for the programme and further than this the attendance of each caregiver to each training session is also important. This is so that the staff have a record of who has received which aspects of

the 16 week training programme. Other demographics such as employment length and job position as well as whether or not the caregivers have been exposed to any form of training previously is also needed. Basic understanding of disabilities before and after the programme is also important.

The biggest concern for the programme staff is whether or not the caregiver's attitude changes as a result of the programme, as this is believed to be linked to a change in action. The staff are interested in whether or not the caregivers change their actions with regards to the children with disabilities in terms of play time and stimulation engagement. Their aim is to encourage caregivers to play with children with disabilities and for the caregivers to understand play's importance to these children. The programme aims to equip them with the skills and knowledge to use play activities regularly to stimulate children with disabilities. They also want to know the degree to which the caregiver's attitudes towards play and children with disabilities have changed.

Whether caregivers gain information from the programme which better enables them to handle and position children with disabilities appropriately for different activities is also important. On a more personal level, knowledge about whether the caregivers have fun during the programme and whether it makes them feel better about themselves is also preferred. After the programme they want the caregiver's feedback on the programme and what they have learnt which they will use to improve the programme and ensure the programme is pitched at an appropriate level of understanding.

Ms. Driver-Jowitt also thought it was important to know whether caregiver's understanding changed, in relation to the fact that the programme wants caregivers to understand that each child has learning potential and the ability to play and achieve goals, and that the work the caregivers do does make a difference (*Personal Communication*, 27 July 2015). She also mentioned hope, stating that the programme should inspire hope in the caregivers for the children in their care and also for themselves in their job and personally. She thought this would be beneficial data to collect, as well as whether the caregivers believe the children within their care could join mainstreams schools.

Other Information Needs

The stimulation kits that accompany the programme are an integral part of the programme and the curriculum and therefore their assessment is seen as important to the programme staff (L Frost and D Schultz, *Personal Communication*, 6 March and 27 July 2015). The programme staff need to know whether the kits need replacing after a certain period of time, whether they are being used once the programme has finished within the centre and whether the caregivers find them useful and easy to understand. Linked to this is the need to know whether the centres engage in activity planning to plan to do activities listed in the programme manual using the stimulation kits on a weekly basis as is suggested by the programme. There is also the aspect of parent involvement within the programme. Although the parent information session and the presentation of the mini-kits to parents did not occur during the evaluation, the programme aims to try and make the programme include parents. They believe this will encourage stimulation activities and play in the home environment as well which will further aid the child's development (S Driver-Jowitt, *Personal Communication*, 27 July 2015).

Appropriate Indicators and Measures

Based on the information needs discussed above and the problems faced with the measures designed by the evaluator, the indicators and measures listed in Table 9 below were formed.

Table 9

Indicators and Measures to Address the Programme's Information Needs

Assessment area	**Indicator**	**Suggested Measure**
Children	Attendance, demographics	Once off data collection of the number of children in each centre, with an indication of their sex and race
	Disability information	Checklist of disabilities which will be ticked for each child
	Improvement	Qualitative interview with caregivers to rate children before and after the programme
Caregiver	Attendance	Register filled in every week listing the names of all caregivers in the centre and whether they attended the session
	Demographics	Once off data collection of caregiver employment length, job position, and exposure to previous training
	Knowledge	Rating of basic knowledge of disabilities before and after the programme
	Attitude	Caregiver attitudes towards children with disabilities ability to play before and after the programme
		Caregiver attitudes towards the importance of play before and after the programme
		Self-reported time spent in play activities with children with disabilities before and after the programme
	Skills	Caregivers positioning and handling of the children when observed before and after the programme
		Caregivers can perform an activity from the manual without assistance in the correct way (eye contact, correct position for the activity, talking to the child appropriately) after the programme
	Caregiver enjoyment	Self-reported rating of enjoyment of the programme after completion
		Self-reported rating of personal understanding of the programme after completion
		Self-reported rating of self-efficacy (and belief in ability to make a difference) and happiness of the caregivers after completion
		Open-ended form for general feedback for improvement after completion
Other	Stimulation kit maintenance	Kit content at 6months and 12months after the programme
	Stimulation kit usefulness	Feedback from the caregivers relating to their understanding of the manual and kit
	Stimulation kit use	Number of hours spent on programme activities per week
	Centre planning	Availability of weekly plans at each centre
	Parent involvement	Numbers of parents attending the parent workshop
		Parent self-reported feedback regarding knowledge gained during the session

Appropriate Data Collection Tools

Generally, in terms of data collection tools the Ndinogona programme staff thought that, upon reflection following the evaluation attempt, although the measures were simpler than the original measures drafted by the programme staff the measures designed by the evaluator were too complex when it came to practical application (D Schultz, *Personal Communication*, 27 July 2015).Therefore as a general rule for data collection tools for this programme, the simpler the forms the easier they are to use and there is an increased likelihood that they will be used accurately. The language and format must be clear and simple and as short as possible without leaving important information out. Simple language is especially important as misinterpretations of any questions may lead to inaccurate information.

Regarding the caregiver assessments, any observational assessments should be done in a quick and informal manner to ensure the caregivers feel at ease. The facilitators stated that if they produce long forms like those used to observationally assess caregivers, the caregivers feel intimidated and dislike the feeling that they are being tested. Therefore the programme staff feel that semi-structured interviews, which are more conversational, and feedback forms that the caregivers themselves fill-in are effective ways to collect data from the caregivers (D Schultz and S Driver-Jowitt, *Personal Communication*, 27 July 2015).

Data collection tools also should not collect data that the programme staff will not use, there is a large administrative burden on the facilitators and therefore all information collected should be only that which is essential for the programme stakeholders. Attendance of children can be collected from the day-care centres themselves which may also aid the administrative load.

In trying to understand the type and sensitivity of tools necessary for the programme it is helpful to deconstruct the measures used for the evaluation and decipher the problems and solutions to different aspects of the tools. Firstly, both the adapter CDRS and the adapted CCSERRS (Appendices 3 and 4) had language issues. Although they were simplified from their original form, the simplification of language was not enough to accommodate those who do not speak English as a first language. Both measures also involved observations of

the caregivers interacting with children with disabilities in their centre. This was problematic for various reasons. Firstly a member of the programme staff, Ms. Driver-Jowitt stated that caregivers have expressed a dislike to being watched and assessed in such a formal manner (*Personal Communication*, 27 July 2015). Secondly, during some trainings, especially the shorter ones, the children were not present to make these observations possible. A further problem with observations involving numerous questions involves facilitator skills for observational assessment which they may not previously have had. Lastly, the recommended time taken for each observation was 5 to 10 minutes, this may have proved too time consuming for the facilitators.

Potential solutions to these collection tool problems would be to ensure measures are shorter, and possibly more informal. Another solution to avoid facilitators feeling as though they are being assessed is to involve the caregivers in the assessment process, this will also help to utilise the wealth of knowledge and insight they may have. Caregiver assessment, involving the caregivers themselves, can aid the evaluation process as they are the primary recipients of the programme and they deal with the children in their centres on a daily basis, therefore it is optimal to gain their input.

Regarding the measure for child specific goals (Appendix 5), this measure included demographics, an assessment of each child on 5 different types of disability, two goals with action plans to achieve them and improvement ratings for mid-, post- and follow-up assessment points. Rating using just 5 types of disabilities may be problematic for children who do not fall into these categories. Unfortunately the forms were scarcely used, the length became problematic and time-consuming for some centres which had approximately 60 children. It was also found that child improvement was difficult to assess, perhaps because children with disabilities improve slower or perhaps because the facilitators require further training in using observational measures. The results showed little to no improvement of children from the mid- to post-assessment point, this may be due to administrative errors, lack of programme impact or because the measure was not sensitive enough to detect differences. As previously mentioned, the need for child specific measures is noted in the literature and the results here to some extent confirm the problem as these measures were evidently not sensitive enough to detect differences, if there were any. The

lack of sensitivity of measures is therefore problematic for capturing development for children with disabilities. Another problematic aspect of child assessment is that the disabilities that the centres deal with are very varied in type and severity, therefore it is impossible to ascertain a set level of improvement that would be seen as reasonable to indicate adequate Ndinogona programme performance. These factors may be an indication as to why the literature surrounding evaluation of interventions for children with disabilities is so scarce.

A potential solution to lack of sensitive and accurate measures available to assess child development in the case of the Ndinogona programme would be to assess the children indirectly using caregiver ratings of child improvement. Within the Ndinogona programme the children with disabilities are the secondary beneficiaries, this means that they benefit only via improvements in the caregivers with whom they have contact with. Therefore the programme deals directly with the caregivers who then interact with the children, putting the caregivers in an advantageous position to comment on child improvement. This could be done in an informal manner and/or by using a rating scale. This would be a more effective use of the programme resources as it will give a proxy indication of child improvement without having to formally, and perhaps inaccurately, assess each child. Caregivers have daily contact with the children in their centres and are in the best position to be able to detect positive changes in the children, therefore moving forward it appears to be advantageous to measure child development indirectly through caregiver assessments. With regards to programme information needs, they need child demographics and numbers and types of disabilities for funders and they need to be able to tell if the programme is having an effect or not, this can be done at the caregiver-level without child-specific assessments.

Data Management Systems and Procedures

Reporting System

In order to effectively use the monitoring and evaluation data there needs to be a line of reporting in place for the programme staff (as shown in Figure 8). Initially, expectations and responsibilities should be communicated down through the levels of management, and training should be provided on the data collection tools as necessary. Thereafter the reporting should come from the caregivers to facilitators and then to the programme manager as displayed in the data flow diagram below.

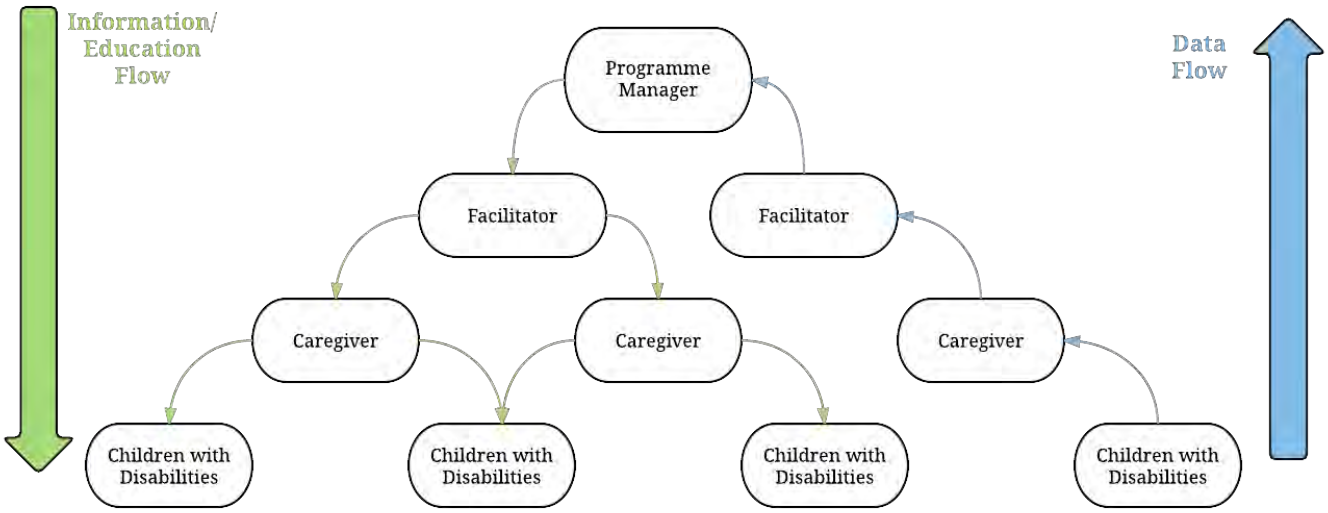

Figure 8: Data Flow Diagram

After each training session the facilitators must report to the programme manager (telephonically) regarding what activities were covered and attendance registers should be captured in person at the Uhambo offices. At the beginning and end of the programme the facilitators will perform the more formal data collection which should also be directed to the programme manager. The programme manager will then consolidate the data and present it to the managing director when required. This line of accountability will ensure formal implementation and the ability to identify any problems at early stages in the programme's roll-out. This process is a collaborative process which must work both ways through the chain in order to work effectively with education flowing down and data collection flowing up.

Procedures

The data collection procedure should be laid out before the 16 week programme begins with set deadlines for all aspects of data that will be collected, this will help the formalisation of the data collection to ensure it occurs at all.

The system will need the facilitators and programme manager to be aware of their administrative responsibilities (as listed below) and actively pursue them.

Programme manager

- Provide facilitators with the correct number of forms at the appropriate times during the programme delivery
- Oversee the implementation of the programme
- Ensure each centre is on the correct trajectory throughout the programme delivery
- Attempt to detect any problems in programme implementation, for example one centre falling behind in the curriculum, as early as possible
- Ensure an electronic data capturing system is available to the facilitators, which is backed up regularly, to ensure no data loss

Facilitators

- Complete the child assess forms prior to the training
- Ensure all caregivers accurately complete the pre- and post- programme assessments
- Keep a weekly record of attendance, manual activities covered and the presence of absence of weekly activity planners
- Relay all recorded information to the programme manager at regular intervals
- Capture data on a weekly or bi-weekly basis at the Uhambo offices

Monitoring and Evaluation Framework

In order to help the programme moving forward in their hope to undergo an outcome evaluation in the future, a monitoring and evaluation framework and tools are presented.

All measures and indicators suggested in Table 9 (p. 48) translate to only four forms, introduced below. Two of these are filled in by caregivers, which lessens the administrative

burden for the facilitators enabling them to conduct their training effectively. Figure 9 below indicates the appropriate timeline for the monitoring and evaluation framework.

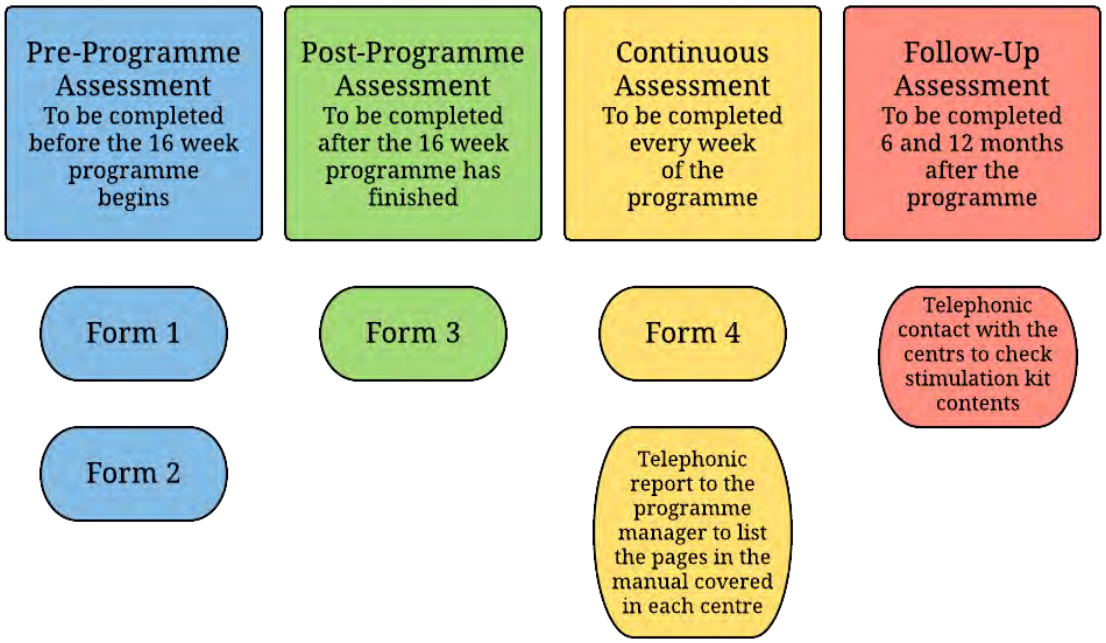

Figure 9: Monitoring and Evaluation Timeline

Form 1 will be completed primarily by the facilitator, however this will be in conjunction with the caregivers who know the children best. Form 4 and the telephonic reports are conducted by the facilitators. Form 2 and Form 3 are to be completed by the caregivers themselves, except the last section of each which states ''FOR FACILITATOR USE ONLY''.

Regarding the telephonic reports, on a weekly basis, after each training session, the facilitators should telephonically contact the programme manager, Ms. Schultz. This phone call should relay which pages were covered in their training session which the programme manager should then note and keep track of.

Utilising all the information from the collaborative revision process with the programme stakeholders, the suggested monitoring and evaluation framework for the Ndinogona ''I can'' Stimulation programme is presented below.

Form 1: Child Data Collection

Child Information Sheet

Name of Facilitator:_____ Date: _____

Name of centre: _____

Name: _____

Age: _____

Gender: Male / Female

Race: Black / White / Coloured / Indian / Other:_____

Disability (Please use the numbers 1 2 and 3 to indicate the top 3 disabilities the child has. Should there be only one diagnosis, only use the number 1 to indicate this.)

[ ] Cerebral Palsy [ ] Autism
[ ] Epilepsy / Seizures [ ] Sight Impairment
[ ] Down Syndrome [ ] Intellectual Impairment
[ ] Developmental Delay [ ] Foetal Alcohol Syndrome
[ ] Mobility disability [ ] Hearing Impairment
[ ] Other, Please Specify_____

Name: _____

Age: _____

Gender: Male / Female

Race: Black / White / Coloured / Indian / Other:_____

Disability (Please use the numbers 1 2 and 3 to indicate the top 3 disabilities the child has. Should there be only one diagnosis, only use the number 1 to indicate this.)

[ ] Cerebral Palsy [ ] Autism
[ ] Epilepsy / Seizures [ ] Sight Impairment
[ ] Down Syndrome [ ] Intellectual Impairment
[ ] Developmental Delay [ ] Foetal Alcohol Syndrome
[ ] Mobility disability [ ] Hearing Impairment
[ ] Other, Please Specify_____

This form can contain up to three child's information per page.

Form 2: Caregiver Data Collection 1 (Pre-Programme Assessment)

Caregiver Information Sheet

Name of Facilitator:_____ Date: _____

Name of centre: _____

Name:_____

Position/role within the centre:

[ ] Caregiver [ ] Teacher

[ ] Helper [ ] Other: _____

Length of time spent working at the centre:

[ ] Less than 6 months [ ] Less than 1 year

[ ] Less than 2 years [ ] More than 2 years

Experienced training in disability sensitisation?

[ ] Yes [ ] No

Experience stimulation training for children with disabilities?

[ ] Yes [ ] No

Please rate your level of understanding of the following disabilities on a scale of 1 to 5:

1……2……3……4……5

No Knowledge Or Understanding — Basic Understanding — Understand very well

[ ] Cerebral Palsy [ ] Autism

[ ] Epilepsy / Seizures [ ] Sight Impairment

[ ] Down Syndrome [ ] Intellectual Impairment

[ ] Developmental Delay [ ] Foetal Alcohol Syndrome

[ ] Mobility disability [ ] Hearing Impairment

Please rate your agreement with the following statements on a scale of 1 to 5:

1……2……3……4……5

Strongly Disagree — Disagree — Neither Agree or Disagree — Agree — Strongly Agree

Children with disabilities can play	1	2	3	4	5
Play is an important activity for children with disabilities	1	2	3	4	5
Children in my centre can learn new things	1	2	3	4	5
Children in my centre are happy	1	2	3	4	5
I feel able to help the children in my centre	1	2	3	4	5
I am happy in my job	1	2	3	4	5

Please indicate the number of hours spent doing play activities with the children per day:_____

FOR FACILITATOR USE ONLY

Please rate the caregiver's ability to position and handle children within the centre appropriately (based on general observation) on a scale of 1 to 5 (1 = inappropriate, 3 = moderately appropriate, 5 = completely appropriate)

1……2……3……4……5

Form 3: Caregiver Data Collection 2 (Post-Programme Assessment)

Caregiver Information Sheet (2)

Name of Facilitator:_____ Date: _____

Name of centre: _____

Please rate your level of understanding of the following disabilities on a scale of 1 to 5:

1……2……3……4……5

No Knowledge Or Understanding — Basic Understanding — Understand very well

[ ] Cerebral Palsy [ ] Autism
[ ] Epilepsy / Seizures [ ] Sight Impairment
[ ] Down Syndrome [ ] Intellectual Impairment
[ ] Developmental Delay [ ] Foetal Alcohol Syndrome
[ ] Mobility disability [ ] Hearing Impairment

Please rate your agreement with the following statements on a scale of 1 to 5:

1……2……3……4……5

Strongly Disagree — Disagree — Neither Agree or Disagree — Agree — Strongly Agree

Children with disabilities can play	1	2	3	4	5
Play is an important activity for children with disabilities	1	2	3	4	5
Children in my centre can learn new things	1	2	3	4	5
Children in my centre are happy	1	2	3	4	5
I feel able to help the children in my centre	1	2	3	4	5
I am happy in my job	1	2	3	4	5

Please indicate the number of hours spent doing play activities with the children per day:_____

In terms of the programme:

I enjoyed the programme	1	2	3	4	5
I understood the information presented to me	1	2	3	4	5
I find the manual easy to understand	1	2	3	4	5
I find the stimulation kit easy to use	1	2	3	4	5
I find the stimulation kit useful for playing with the children in my centre	1	2	3	4	5

Please complete the following sentences:

If I could change the programme in any way I would_____

_____

_____

_____

FOR FACILITATOR USE ONLY

Please rate the caregiver's ability to position and handle children within the centre appropriately (based on general observation) on a scale of 1 to 5 (1 = inappropriate, 3 = moderately appropriate, 5 = completely appropriate)

1……2……3……4……5

Please rate the caregiver's ability to perform a play activity from the Ndinogona ''I Can'' Stimulation Manual without assistance in the correct manner (correct eye contact, correct position for the activity, talking to the child appropriately)
(1 = cannot perform correctly at all, 3 = performs task correctly in some aspects, 5 = performs task correctly in all aspect)

1……2……3……4……5

In form 2 and 3 both ''FOR FACILITATOR USE ONLY'' sections should be printed on the back of each sheet to discourage caregivers from looking at or filling in this section.

Form 4: Facilitator Data Collection (Recording Caregiver Attendance and Weekly Activity Planners)

Caregiver Attendance & Weekly Planner Register

Name of Facilitator:_____ Name of centre: _____

Caregiver	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16

Weekly Activity Planners

	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Planner Available															
Number of Hours dedicated to play															

Data Analysis

The programme manager should keep track of the activities covered to ensure some form of uniformity across training. This data is purely for accountability and standardisation and will allow the programme manager to keep track of the training.

The child information is mainly demographic and will allow the programme manager to see which disabilities are most commonly occurring and the numbers of children within each ECD centre which caters for children with disabilities.

The data collected by the pre- and post- assessments for the caregivers should be captured and analysed using a dependent sample t-test to determine whether there were significant differences before and after the programme in caregiver attitudes towards children with disabilities and their capabilities to play and learn. The feedback sections of the post-programme assessment should be used to inform any further changes to the programme. Further explorations would involve examining the relationship between roles, length of employment and exposure to previous training and the change in knowledge and attitudes within caregivers.

Addressing Information Needs

In order to ascertain whether the proposed monitoring and evaluation framework is suited to the Ndinogona programme it is useful to determine whether all information needs (as listed in Table 9 (p. 48) have been met. In summary the programme needed information on children within the centres that cater for children with disabilities, the caregivers within the centres and the stimulation kits which are used throughout the programme. The information needs of the programme need to be fulfilled in the most time and cost-effective manner, which is why the particular measures are suggested.

The Ndinogona programme staff needed measures that are simple to identify and record as the facilitators are under time constraints when it comes to having to include administration within their training programme. The measures also needed to be simple enough to fill in that they result in accurate data about the programme, but which would also be able to

detect differences in children and caregivers in order to show how effective the programme is.

Child Assessment

Information regarding attendance, demographics and types of disabilities was needed by the programme. Form 1 covers these aspects as one section is filled in per child, giving you the number of children in attendance at each centre. The form includes ratings of the disability each child has as well as demographic information. They involve a once off assessment of all children which helps with the administrative burden of the facilitators.

Caregiver Assessment

Form 2, the pre-programme assessment, captures caregiver demographics, exposure to prior training, and knowledge surrounding specific disabilities and attitudes. In terms of attitudes the questions speak to the caregivers rating of play's importance, the children's ability to play, their self-efficacy and the importance of play as indicated by the number of hours spent in play activities. Form 3 reiterates these knowledge and attitude questions to determine whether the programme has affected them.

Both form 2 and 3 also have a section for the facilitators to fill in which is a quick informal rating of the caregiver's ability to handle and position the children appropriately. Again, the presence of this in both forms enables a comparison for the programme to see if there was an effect. This section is to be printed overleaf from the parts that the facilitators fill in to avoid them looking at how they will be assessed and to avoid any related anxiety.

Additionally, form 3 includes further questions to gauge the caregiver's enjoyment and understanding of the programme and to ask for feedback. It also gauges the caregiver's self-efficacy by asking if they feel they are able to help the children in their centre. There is also a section overleaf on form 3 which determines the caregiver's skill level in relation to the programme whereby the caregiver is observed and rated on the completion of a manual activity with a child in their centre.

Attendance to the programme is captured by form 4. This will enable the facilitators to determine how many caregivers have attended how many sessions. The facilitators could also incentivise participation by issuing a certificate of attendance for caregivers who attend 90% of the training sessions. This will reiterate the importance that all caregivers receive all aspects of the training. Therefore all information needs relating to caregivers have been covered by the suggested M&E framework.

Other

Form 3 includes a section on the caregivers self-rated level or understanding of the programme manual and how useful they found the stimulations kits. It also holds a question relating to the number of hours spent doing play activities per day and the timeline includes telephonic follow-ups with the centres 6 and 12 months after the programme to ensure the stimulation kits are still in order with all their contents. The availability of activity plans on a weekly basis during training is captured by form 4 which will enable the facilitators to determine whether the caregivers are utilising the programme information in their own time. This covers the stimulation kit and planning information needs.

In summary, although there are only four forms that have been designed by the evaluator, they do appear to address all the information needs of the programme in a simplistic manner easing time constraints whilst still pursuing simple yet accurate data.

Limitations of the measures

This monitoring and evaluation framework may fall short in a few ways. Firstly, child improvement is not directly assessed by the proposed M&E framework. Child happiness, as rated by caregivers, is captured but no other related information. Child development in children with disabilities is difficult to monitor and it is felt this assessment would be an inefficient use of programme resources. One may remedy the child assessment by conducting an informal interview with the caregivers, or holding a focusing group discussion in order to determine their views on the improvement of the children within their centre. However this additional administration should only be undertaken when all other aspects of the M&E framework are working consistently.

Finally, the M&E framework does not make provision for data collection regarding parents of children with disabilities. Parent involvement did not occur in any of the centres addressed this year, although this is a goal for the Ndinogona programme, it is not essential for the implementation of an initial standardised, robust M&E framework and could be added later on when the framework is being used effectively.

Recommendations

Ndinogona will need to ensure the thorough implementation of this monitoring and evaluation framework which will require an initial training and administrative burden on all programme staff. They need to focus their resources and time on uniformity, structure and accountability. With careful monitoring, adequate preparation and commitment the Ndinogona programme can implement an effective monitoring and evaluation framework which will enable an outcome evaluation next year to determine the full effectiveness of their programme.

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Appendix 1: Original Ndinogona Child Form

UHAMBO FOUNDATION
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NDINOGONA "I CAN" CHILD ASSESSMENT & GOAL PLAN

Date_____ Training Facilitator_____

CHILDS INFORMATION
NAME OF CENTRE:
CHILDS NAME:
GENDER: M F DATE OF BIRTH OR APPROXIMATE AGE
RACE: Black Coloured White Asian Other
DISABILITY:
CHILD ASSESSMENT
On a scale of 1 – 10 please rate the following questions. 1.....2.....3.....4.....5.....6.....7.....8.....9.....10 No impairment moderate impairment Severe Impairment
1) Hearing [ ] Notes: _____ 1) Sight [ ] Notes: _____ 2) Mobility [ ] Notes: _____ 3) Response [ ] Notes: _____ 4) Autism [ ] Notes: _____
Observations: (*Please note any concerns that may need immediate attention and refer to Uhambo Social Worker)

CHILD GOAL PLAN
Goal 1:
Action plan for Goal 1:
Goal 1 Observations:
Goal 2:
Action plan for Goal 1:
Goal 2 Observations:
GENERAL OBSERVATIONS OR RECOMMENDATIONS
CASE STUDY YES NO

Appendix 2: Original Ndinogona Caregiver Form

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CARE GIVER PRE-POST ASSESSMENT

Date_____ TRAINING FACILIATOR: _____
SIGNATURE_____

CAREGIVER INFORMATION
CARE GIVER NAME:
ORGANIZATION NAME:
LENGTH OF EMPLOYMENT: **Less than 6 months [ ] Less than 1 year [ ] Less than 2 years [ ]** **Less than 5 years [ ] More than 5 year [ ]**
CARE GIVERS ROLE: **Teacher [ ] Care giver [ ] Helper [ ] Teachers Aid [ ]** **Occupational Therapist [ ] Youth Care worker [ ] Social Auxiliary Worker [ ]**
CARE GIVER EDUCATION: **Have you had any training in disability sensitization? Yes [ ] No [ ]** **If yes, please specify:** **Have you had any training on stimulation programmes for children with disabilities? Yes [ ] No [ ]** **If yes, please specify:**

PRE TRAINING ASSESMENT **Date:**

EVALUATOR:

1) How comfortable are you with working with children with disabilities?

_____

1= very comfortable in most situations/most of the time
2= comfortable some of the time but not in all situations
3= uncomfortable in most situations/most of the time

2) How comfortable are you in moving the child or children with disabilities?

_____

1=feel comfortable and able to move children I know.
2= feel comfortable and able to move children I know, but not when moving a new child
3= feel generally uncomfortable

3) Do you know that children with disabilities can be included in play activities

_____

1= yes, always include children with disabilities in play
2= sometimes – include children who can participate easily (can move and speak well)
3=no, they usually don't take part/watch the other children play

1) How well do you understand the following disabilities:
Options for each disability:-
1= understand very well
2= have a basic understanding
3= have very limited understanding

Autism ☐
Cerebral Palsy ☐
Developmentally Delayed ☐
Down Syndrome ☐
Epilepsy / seizures ☐
Foetal Alcohol Syndrome ☐
Hearing Impaired ☐
Mobility ☐
Multiple disabilities ☐
Sight Impaired ☐

POST TRAINING ASSESMENT Date: EVALUATOR:
The Caregiver is asked to set up a safe environment for a one-on-one session with a child that has either been assigned to them or a child of their choice.

1) Does the caregiver provide a safe and comfortable space for the child? (i.e, assess if caregiver has provided cushions, sponges and mats for the child. Has the caregiver removed sharp objects from the "safe space" area, etc).
Action Plan for Improvement:

2) Is the care giver knowledgeable and familiar with physically handling the child? (i.e, assess if the caregiver is able to position the child appropriate for learning in the chair, etc)
Action Plan for Improvement:

3) Does the caregiver position themselves in the best manner to interact with the child? (i.e, does the caregiver make eye contact)
Action Plan for Improvement:

4) Has the care giver planned ahead for the session? (ie, assess how prepared the caregiver is for the session. Have they planned the activity)
Action Plan for Improvement:

6 WEEK OBSERVATION & COMMENT
6 Week observations & comments:
Action Plan/ recommendation

ADDITIONAL OBSERVATIONS / COMMENTS: (more training / recommendations / comments / achievements)

Appendix 3: Revised CCSERRS

Caregiver: _____Child: _____ Date of Observation: _____ Assessor: _____

Instructions: Observe the Caregiver presenting a Ndinogona Stimulation Kit activity. Whilst there is no strict time frame, the observation should be long enough to answer all the questions below, it is recommended one should observe for between 5 and 10 minutes. Tick the appropriate rating. Note that rating occurs on a continuum, so a rating of 1 indicates that not all the caregivers behaviours are described by 0 but a large proportion are. A rating of 2 indicates that not all of the caregivers behaviours can be described by 3 but a large proportion are.

Behaviour & Rating			
Caregiver Engagement			
0 Caregiver is detached, unaware, distant, unavailable, disengaged, non-interactive	1	2	3 Caregiver is available, receptive, engaged, interactive with children
Caregiver Responds to Children			
0 Caregiver fails to respond to children's needs and/or attempts to play and communicate	1	2	3 Caregiver responds to children's needs, and/or attempts to play and communicate appropriately and completely
Caregiver vs. Child Directed Behaviours			
0 Caregiver does not wait for response from child after starting / explaining activity to child	1	2	3 Carer waits for response from child after starting / explaining activity to child
Caregiver Disciplinary Control			
0 Intrusive, behavioral control, demand for obedience/discipline, punishes a child	1	2	3 Caregiver is supportive, empathetic; there is encouragement, caregiver provides guidance and praise

Caregiver Emotions			
0 Caregiver emotion is negative or flat; harsh, hostile, punitive	1	2	3 Caregiver emotion is positive, warm, affection; appropriate emotional availability
Child Engagement			
0 Child is detached, unresponsive, withdrawn, no social anticipation	1	2	3 Child is engaged in activities or social interaction; responsive, social anticipation
Child Emotion			
0 Childs emotion is negative or flat affect, upset/angry, sad/flat, no affect when it would be appropriate	1	2	3 Child emotion is positive, happy, alive, animated, appropriately modulated affect
Child-Caregiver Relationship			
0 There is no relationship or special social interaction between caregiver and child	1	2	3 There is a clear trust relationship between the child and caregiver

Appendix 4: Revised CDRS

Caregiver: _____Child: _____ Date of Observation: _____ Assessor: _____

Instructions: Observe the Caregiver interacting with a child in the context of Play / During a Ndinogona Activity. Whilst there is no strict time frame, the observation should be long enough to answer all the questions below, it is recommended one should observe for between 5 and 10 minutes. Tick the appropriate rating. Note that rating occurs on a continuum, so a rating of 1 indicates that not all the caregivers behaviours are described by 0 but a large proportion are. A rating of 2 indicates that not all of the caregivers behaviours can be described by 3 but a large proportion are.

Behaviour				**Action Plan/Comments**
Positioning				
0 Children not positioned to facilitate engagement in play as suggested in Manual	1	2	3 Children appropriately positioned to engage in play activities	
0 Caregiver not positioned to make eye contact and facilitate play as suggested in Manual	1	2	3 Caregiver appropriately positioned to facilitate play and make eye contact as suggested in Manual	
0 Child's position is not changed or considered according to activity	1	2	3 Child's position is changed to best fit the activity	
0 Children isolated from group activities (facing away)	1	2	3 Children placed to see, listen, and participate in activities	
Handling				
0 Child handled or positioned in an unsafe manner and head not well supported	1	2	3 Child spoken to before handling, lifted in a safe manner and head well	

			supported	
Care Routines				
0 Play activities are not planned or prepared for at all by caregiver	1	2	3 Play activities have been planned and prepared for thoroughly by caregiver	
0 Play activities are not a priority. Not enough time allocated for activities, they are rushed and have no regard to children's limitations	1	2	3 Play is a priority. Adequate time allocated, child limitations have been considered and accommodated	
Equipment				
0 No adaptive equipment used (or is used inappropriately) for positioning or moving children	1	2	3 Appropriate adaptive equipment used for positioning or moving children (postural devices, rollers, tables etc.)	
0 Ndinogona 'I Can' Stimulation Manual not used at all	1	2	3 Ndinogona 'I Can' Stimulation Manual used, principles applied and activities appropriately performed	

Appendix 5: Revised Child Assessment

UHAMBO FOUNDATION
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NDINOGONA "I CAN" CHILD ASSESSMENT & GOAL PLAN

Date_____ Training Facilitator _____

CHILDS INFORMATION
NAME OF CENTRE:
CHILDS NAME:
GENDER: M F **DATE OF BIRTH OR APPROXIMATE AGE:**
RACE: Black Coloured White Asian Other
DISABILITY:
CHILD ASSESSMENT
On a scale of 1 – 10 please rate the following questions. **1.....2.....3.....4.....5.....6.....7.....8.....9.....10** **No impairment moderate impairment Severe Impairment**
1) Hearing [ ] Notes: _____ **4) Sight [ ] Notes: _____** **5) Mobility [ ] Notes: _____** **6) Response [ ] Notes: _____** **4) Autism [ ] Notes: _____**
Observations: **(*Please note any concerns that may need immediate attention and refer to Uhambo Social Worker)**

CHILD GOAL PLAN
Goal 1: (select a goal that the child is already able to achieve but can improve on)
Action plan for Goal 1: (which activities will you use to achieve Goal 1)
Goal 1 Observations: (how does the child respond to this activity, is there a specific way that you work with this child?)
IMPROVEMENT RATING? **PLEASE INDICATE BELOW THE LEVEL OF IMPROVEMENT PERCEIVED FOR GOAL 1** MID-PROGRAMME ASSESSMENT, DATE:_____ 1 2 3 4 5 6 7 NO PROGRESS GOAL ACHIEVED
POST-PROGRAMME ASSESSMENT, DATE:_____ 1 2 3 4 5 6 7 NO PROGRESS GOAL ACHIEVED
FOLLOW UP ASSESSMENT, DATE:_____ 1 2 3 4 5 6 7 NO PROGRESS GOAL ACHIEVED
Goal 2: (select a goal that is realistic but in an area that the child is struggling with)
Action plan for Goal 2: (which activities will you use to achieve Goal 2)
Goal 2 Observations: (how does the child respond to this activity, is there a specific way that you work with this child?)

IMPROVEMENT RATING? **PLEASE INDICATE BELOW THE LEVEL OF IMPROVEMENT PERCEIVED FOR GOAL 2**
MID-PROGRAMME ASSESSMENT, DATE:_____ 1 2 3 4 5 6 7 NO PROGRESS GOAL ACHIEVED
POST-PROGRAMME ASSESSMENT, DATE:_____ 1 2 3 4 5 6 7 NO PROGRESS GOAL ACHIEVED
FOLLOW UP ASSESSMENT, DATE:_____ 1 2 3 4 5 6 7 NO PROGRESS GOAL ACHIEVED
CASE STUDY YES NO
(write down bullet points of short sentences to allow us to follow this child's story)