

THE EFFECTIVENESS OF AN EMBEDDED PROGRAMME TO INCREASE THE LINGUISTIC RESPONSIVENESS OF CAREGIVERS IN AN ORPHANAGE IN SOUTH AFRICA

*Karen Levin and Amy Edwards

University of the Witwatersrand

ABSTRACT

Children who reside in orphanages are at risk of developmental delay, particularly with regard to communicative competence. Linguistic responsiveness of caregivers, which is central to the development of communication, has been found to be lacking in orphanages. This study determined the effectiveness of an embedded programme to modify caregiver linguistic responsiveness in an impoverished orphanage in South Africa. Two caregivers participated in the study. A pre-test post-test design was used. Linguistic responsiveness was evaluated using the Teacher Interaction and Language Rating Scale (Girolametto, Weitzman & Greenberg, 2000) and a checklist of child directed speech behaviours. A three-week embedded programme was implemented to teach a set of responsiveness strategies to the caregivers. Outcome measures were collected at two weeks and again ten months after the intervention was provided. The linguistic responsiveness of the caregivers changed but waned over time in the absence of ongoing support. The responsiveness strategies that were maintained over time required less linguistic flexibility than those strategies that waned. This study provides impetus for further research into methods that can be used to modify the linguistic responsiveness of caregivers, as well as to determine factors that influence linguistic responsiveness. Implications for language policies in orphanages might be informed by the findings.

Key Words: adult child interaction, early childhood intervention, linguistic responsiveness, embedded teaching

INTRODUCTION

More than 2.5 million out of a population of 18 million children have lost one or both parents in South Africa (UNAIDS, 2006; Avert, 2007; UNICEF, 2007). Although most orphans are cared for by extended families or communities (UNICEF, 2006, 2007), orphanage life is the only option for thousands of children even though "the international consensus is that whenever possible, community-based care is preferable to long-term placement in institutions such as orphanages" (UNAIDS, 2006). The most serious contributor to the increasing number of children placed in orphanages in South Africa is the AIDS pandemic, and the increase in the number of children orphaned by HIV/AIDS is not waning (UNICEF, 2007). At this juncture, approximately 49% of the orphans in South Africa have been orphaned by the HIV/AIDS pandemic (Avert, 2007; UNAIDS, 2006). Poverty underscores the need for orphanage care as dire socioeconomic conditions render many communities unable to care for their children (UNICEF, 2007).

In a series of extensive reviews of the status of children in developing countries, Engle et al. (2007) presented alarming data which estimates that 200 million children worldwide are currently at risk for development, and that a very high proportion of these children are not in family care. Children who are raised in orphanages are at risk of developmental delays because of the interplay of biological and environmental risk factors (Wairagkar, Shaikh, Udavant & Banerjee, 1998; Johnson & Dole, 1999; Mason & Narad, 2005). The literature on early childhood development and intervention has shown that a supportive and nurturing environment which provides appropriate developmental care can change the outcome for vulnerable children (Aboud, 2006; Guralnick, 2006; Rao, 2005). Contrary to this evidence, studies from around the globe have shown that orphanages do not support robust child development in all of its spheres (Glennen, 2002; Nelson, 2005; The St Petersburg-USA Orphanage Research Team, 2005; Levin & Haines, 2007). Internationally, intervention programmes attempt to overcome the

deleterious conditions facing children in orphanages, but very few effectiveness studies have been published (Groark, Muhamedrahimov, Palmov, Nikiforova & McCall, 2005; Sparling, Dragomir, Ramey & Florescu, 2005). This paucity of evidence implies that programme developers lack information with regard to how adapting environmental variables can contribute to improved outcomes of children in care.

Evidence based early childhood intervention is essential for children in orphanages because of the extent of developmental delay that they experience. In particular, studies on children who reside in orphanages as well as on those who have been adopted have shown that the children are at risk of speech, language and communication delays, and that the delays can be severe, long term, and pervasive (Glennen, 2002, 2007; Levin and Haines, 2007). There is little doubt that the development of communicative competence of young children is dependent considerably on the availability of optimal language enrichment environments (Hulit & Howard, 2005; Owens, 2005). A large body of literature that is based primarily on Western models of communication addresses the strategies that parents employ to provide these environments. Convincing literature suggests that adult-child interaction is a major component of the optimal language enrichment environment (Girolametto & Weitzman, 2002; Hoff & Tian, 2005; Owens, 2005).

According to social interactionist theories, a core feature of adult-child interaction is linguistic responsiveness, which Girolametto and Weitzman (2002) define as the adult's responsiveness to a child's interests and communicative attempts. The value of linguistic responsiveness is threefold: it provides the child with opportunities to make connections between words and referents; it enhances motivation and attention which affords the children more readily available cognitive resources to process the linguistic input; and its simplicity and redundancy scaffold the children's participation in the interaction which helps them to increase the sophistication of their linguistic skills (Girolametto, Weitzman & van Lieshout, 2000). In addition, Levin and Haines (2007) propose that linguistic responsiveness aids in the development of the self. Their theory suggests that the linguistic responsiveness of the adult to the child

*Corresponding author: karen.levin@wits.ac.za

represents the connectedness of the child within his or her social space and society, and that as the child's linguistic skills develop, so his or her connectedness to the wider social space develops. Little is known about linguistic responsiveness in societies and cultures around the world, and indeed the tactics employed to be linguistically responsive differ according to personal, linguistic, cultural and social factors (Girolametto et al., 2002; Tulviste, 2004; Hoff & Tian, 2005). Studies have shown that caregivers in some orphanages lack responsiveness with regard to the children in their care. For example, Glennen (2002) described caregivers in an orphanage in Eastern Europe to be cold and unresponsive to the children. Similarly, the St. Petersburg-USA Orphanage Research Team (2005) described the interactions between the children and the adults that they studied in three orphanages in the Russian Federation as lacking in warmth, reciprocity and sensitivity. On the other side of the world, Levin and Haines (2007) found that the caregivers in an impoverished inner city orphanage in South Africa did not treat the children as communicators; they took good care of their physical needs and had much physical contact with the children, but they did not talk to them and did not respond to their communicative attempts.

The purpose of the present study was to design, implement and evaluate a programme to enhance caregiver responsiveness in an orphanage in South Africa. The programme was based on the model of responsiveness developed by Tannock and Girolametto (1992). In this model, three sub-types of linguistic responsiveness strategies are recognised. Child-oriented strategies comment on the child's plan of the moment; interaction-promoting strategies promote engagement in conversational turns; and language modelling strategies expand or extend the semantic content of the child's communicative attempts.

Using this model of linguistic responsiveness, Girolametto, Weitzman and Greenberg (2003) enrolled a group of caregivers from a day care centre in Toronto in Learning Language and Loving It – The Hanen Program® for Early Childhood Educators. The result was an increase in the quantity and quality of linguistic responsiveness of the caregivers, which was accompanied by an increase in the linguistic productivity of the children. In addition, the caregivers sustained their responsiveness over a 9-month period. Caregiver training is one of the markers of the quality of child care in contexts such as day care centres (Girolametto et al., 2003). Underpinning the present study is the hypothesis that the lack of linguistic responsiveness of caregivers in orphanages might well be due to the lack of training in child care processes including specific emphasis on language enrichment (Levin & Haines, 2007).

The question of which approach to select to teach caregivers was informed by the context of the orphanage as well as the literature on empirically supported practices (Thiemann & Warren, 2004). Training had to take place within the working context because the caregivers could not take time off during their working day. Furthermore, they would not attend training during non-working hours unless they were paid to do so because they themselves were poor and had children to take care of at home. Most orphanages in South Africa do not have sufficient finances to support the training of their personnel. Therefore, embedded teaching was required. Embedded teaching is a powerful adult education medium (NRDC, 2006; Brooks, Burton, Cole & Szczerbinski, 2007). This medium allows for concepts to be explained, modelled, implemented, adjusted, and reinforced in real-life scenarios which are meaningful and concrete (Chadha & Nicholls, 2006). These characteristics influ-

enced the decision to employ embedded teaching in the orphanage particularly in light of the limited educational status, literacy levels, and prior training of the caregivers. In addition, the training was provided in English but the caregivers spoke English as a third or fourth language.

Another advantage of the embedded approach is that it teaches the caregivers to implement responsiveness strategies within ongoing activities and routines in a natural environment (Thiemann & Warren, 2004; Tate, Thompson & McKerchar, 2005). This teaching method is highly effective for children with language impairments or delays (Thiemann & Warren, 2004). By embedding the teaching, the programme was designed to teach caregivers to identify and arrange enabling contexts, defined as situations within the social interaction environment which promote language learning (Thiemann & Warren, 2004). These enabling contexts provide the opportunities for successful responsive interaction.

An indicator of efficacy for any programme that is designed to change behaviour is the long-term sustenance of the changes. In a project which introduced play programmes for orphanages in India, Taneja, Aggarwal, Beri and Puliyel (2005) found that the caregivers' interest in carrying out the programmes waned significantly within one year in the absence of ongoing support. Girolametto and Weitzman (2006) reported that parents maintained their increased responsiveness over time following their participation in the It Takes Two to Talk – The Hanen Program® for parents. The challenges of adapting communication patterns in group contexts notwithstanding, the caregivers trained in the Learning Language and Loving It – The Hanen Program® for Early Childhood Educators approach in day care contexts also maintained their use of linguistic responsiveness strategies over time (Girolametto et al., 2003).

It was hypothesized that if the responsiveness of the caregivers were to increase after a short period of embedded intervention then the caregivers would maintain or continue to increase their responsiveness over time. This hypothesis was based on two premises. Firstly, the programme was designed to be an integral part of the daily activities of the caregivers. Secondly, the transactional nature of responsiveness that is inherent in interactionist theories of language development (Nind, Kellett & Hopkins, 2001) implies that increased adult input to children will result in increased child responsiveness in tandem with increased child language development. This child development then acts as a reinforcing agent for the sustained and continued growth of adult responsiveness thus creating a loop of adult-child responsiveness (Vigil, Hodges & Klee, 2005).

Intervention to transform orphanages into contexts that provide appropriate developmental care is necessary, but must be valid and based on evidence (Levin & Haines, 2007). Thus the main aim of the study was to evaluate the effectiveness of an embedded programme to teach linguistic responsiveness strategies to caregivers in an orphanage in South Africa. Our research questions were: (1) Are caregivers able to implement linguistic responsiveness strategies after a short period of embedded teaching? (2) Are caregivers able to generalise their learning so as to begin to use responsiveness strategies that they have not been taught? (3) Will the changes in responsiveness, in the absence of supervision and ongoing professional support, wane, be sustained or continue to develop?

METHODOLOGY

Participants

The orphanage

The study was conducted in an orphanage in Johannesburg that catered for 40 children in the age range of six-months to five years of age, with an average age of 2.9 years. The orphanage was located in the inner city centre of Johannesburg. More than half of the children lived with HIV/AIDS, and all of those who were HIV-positive were on anti-retroviral medication. According to the director of the orphanage, at the time that the research was conducted, the mortality rate was 15% (6:40) per annum. The orphanage was managed by a religious organisation, and was entirely self-funded, depending on local donations. None of the children attended any form of schooling. No professional services were available such as speech-language, physical or occupational therapy. It was rare for children who resided in this orphanage to be adopted or placed in foster homes or in kinship care in the community. Hence, for most of the children, orphanage life was the only option. Six caregivers were employed during the day, and three at night. They were all women from poor socio-economic groups, and were paid approximately 1 200 South African Rand per month, with no attached benefits such as medical insurance or a pension scheme. The orphanage was a multilingual and multicultural organisation. The language policy of the orphanage had not been formally established, but the director had conveyed to the caregivers that they were expected to speak only English to the children. The caregivers spoke in Zulu to one another most of the time.

The participants

Two caregivers participated in the study. They were selected to participate in the study because they took care of the children during the week. The other caregivers took care of the babies under 18-months of age or were employed at night. The two caregivers who participated in the study cared for 16 children, aged 18-months through 5-years of age. Their working day began at 6 am and ended at 4 pm, six days per week. Their duties included all aspects of child care such as nurturance, discipline and teaching, as well as feeding, bathing and toileting. The caregivers were also responsible for cleaning and tidying the children's rooms and the play area. They each took an hour break during the day at times when the children rested between 12 am and 2.30 pm. They were both mothers, each having two children of their own. Some of the characteristics of the participants are described in Table 1. Neither of the caregivers had completed high school, but both had completed a 2-year part-time course in child care. They had also attended a number of additional courses including 1- or 2-day courses on subjects such as 'caring for children with HIV/AIDS', 'caring for children in orphanages', and 'managing retroviral drug therapy', and one of the caregivers had completed a 6-month practical course in nursing assistance. They spoke to one another in Zulu. They were both able to speak and follow English.

Table 1: Characteristics of the participants

	Caregiver 1	Caregiver 2
Age	29 years	41 years
Home language	South Sotho	Zulu
Years of experience	6 years in the orphanage	10 years in a crèche, 4 years in the orphanage

Design and Procedure

Ethical considerations

The researchers were granted permission to conduct the study by the Human Research Ethics Committee (Non-Medical), University of the Witwatersrand. The anonymity of the children and the institution was assured by a number of procedures. Children in orphanages are among the most vulnerable of all children. The only people who were given permission to participate in the programme were the researchers. In addition, because the programme was run over seven weeks, and the researchers were not available to continue to provide intervention after the programme was completed, the contact with the children was restricted and no child measures could be obtained. Access to the data was restricted to those involved in the research itself, all of whom were under professional oath under the aegis of the Health Professions Council of South Africa.

Design

The study was designed around the ethical considerations. A pre-test post-test design was used. The small group and the lack of a control group (Schiavetti & Metz, 2002) are acknowledged to be limitations of the study. Baseline data were collected (T1), the intervention programme was carried out immediately, and outcome measures were taken at one and two weeks post intervention (T2) and again ten months later (T3).

Pre-test

The main aims of the pre-test were to determine whether it was possible to carry out the programme while the caregivers were involved in their daily activities, and for the researcher who would carry out the programme to practice embedded teaching until she was familiar and comfortable with the procedures. She also needed to determine how to explain and model the strategies to be taught, observe the caregivers using the strategies, adapt her application of the strategies where necessary, and reinforce the caregivers' attempts at increased responsiveness. Although it is best to carry out a pilot study in a similar context (Schiavetti & Metz, 2002), it was not ethical to approach a second orphanage to participate in a pilot study because of the limited time that would be spent on the pre-test, the lack of follow-up that could be offered, as well as the possibility of abandoning the project if the methods were found to be inappropriate or unsuccessful. The pre-test study was carried out with a semi-trained caregiver who took care of a very small group of typically developing children in a day care context. English was her second language. The educational, cultural, and employment profile of the pilot study caregiver matched that of the caregivers in the orphanage. The strategies were taught, the effects were observed and opinions from the caregiver were invited.

Two of the prominent findings of the pre-test were that the researcher had to limit her direct interactions with the children as much as possible because the children became very distracted and the focus on the caregiver was lost. Secondly, the teaching style of the researcher was modified to be less directive and more interactive, inviting the caregiver to comment and to offer her opinions and ask questions with regard to the strategies.

Contact with the orphanage

The researchers made contact with the director of the orphanage who was the legal guardian of all the children. A meeting was held at which the study was described in detail. The researchers were introduced to the two caregivers and the purpose of the research was explained to them. They were presented with written consent forms and because English was their second language, the information was presented to them verbally as well. Their confidentiality was assured, as was their choice to discontinue with the programme at any

time. In addition, it was made clear to the director as well as the caregivers that the researchers would not discuss the success of the programme with regard to individual performance with any personnel connected with the orphanage. The caregivers were assured that their participation in the study as well as its outcomes would have no bearing on their employment at the orphanage.

Measures

Linguistic responsiveness was measured in two ways. The Teacher Interaction and Language Rating Scale (Girolametto et al., 2000) was used to provide an overall measurement of the strategies used by the caregivers. The scale comprises eleven items that are rated on a 7-point Likert-type scale, and evaluates child-oriented, interaction-promoting and language modelling responses. The rating on the scale is described by Girolametto et al. (2000) as follows: A rating of 1 represents 'almost never'; 3 represents 'sometimes', 5 represents 'frequently'; and 7 represents consistent use of the index responsiveness strategy. In addition, the researchers developed a checklist of specific speech and language adaptations made by parents when speaking to their children, otherwise referred to as 'child directed speech'. These behaviours are well described and documented in the literature (Owens, 2005; D'Odorico & Jacob, 2006; Iverson, Longobardi, Spampinato & Cristina Caselli, 2006) but are not specifically detailed on the Teacher Language and Interaction Rating Scale. A 5-point frequency response scale was used to categorise observations of how frequently the caregivers displayed a specific behaviour (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=consistently). The Child Directed Speech (CDS) scale is presented in Table 2.

Table 2: Checklist CDS behaviours

CDS behaviour	Description
Gesture	Caregiver points to objects being referred to, or uses hand gestures to assist in conveying meaning to the child
Facial expression	Caregiver exaggerates her facial expression such as raised eyebrows, frowning, and smiling while speaking.
Rate	Caregiver slows her rate of speech
Articulation	Caregiver enunciates clearly and precisely and exaggerates the articulation of some sounds
Pitch	Caregiver varies her prosody when talking to the child, using a higher pitch and emphasising important words in her speech
Syntax	Caregiver modifies the complexity of her sentences directed at the child to a simplified level

Baseline data collection (T1)

The researchers spent approximately 25 hours at the orphanage during which time they observed caregivers, nurses, volunteers and children in their daily routines. One week before the intervention, the researchers visited the orphanage on two mornings for four hours each morning, and observed the two caregivers in their daily activities. The researchers completed the ratings on the basis of the extensive field notes that had been taken as well as their discussions. Concurrence on the ratings was extremely good. The researchers disagreed with two ratings only, and resolved the differences in a short discussion.

The baseline measures rated the caregivers as mostly unresponsive, in that they achieved the lowest rating possible on all eleven categories on the Teacher Interaction and Language Rating Scale. On the CDS Scale, they rated between 1 and 2 indicating that both caregivers made use of an extremely limited set of CDS behaviours in their interactions with the children.

Intervention

Seven linguistic responsiveness strategies were targeted with each of the caregivers, and were selected on the basis of the findings of the baseline measures as well as on the findings reported by Levin and Haines (2007), and are adapted from Girolametto and Weitzman (2002), Girolametto et al. (2003) and Weitzman (1994). The selected strategies are described in Table 3. The caregivers were taught to use the CDS strategies when speaking to the children.

The second researcher carried out the intervention. She spent two hours per week with each caregiver for three weeks. She shadowed the caregivers, and spoke to them and encouraged interaction. When the caregiver came into contact with a child, the researcher observed their communicative interactions. The researcher reinforced desired behaviours through praising the caregiver and explaining the importance of her behaviour. In events in which the caregivers were not responsive, the researcher modelled the required responsiveness strategy and, when appropriate, explained its significance. The researcher also suggested how the strategy could be used in other contexts with the other children, and gave the caregiver opportunities to practice the strategy. The researcher gave the caregiver suggestions as to how to adapt and improve on the strategies being used. The caregiver's questions, concerns, opinions and ideas were discussed at the time, promoting the teaching experience as an interactive process. The researcher avoided the use of jargon, and verbally reinforced the caregivers regularly so as to keep their confidence and enthusiasm levels as high as possible.

The strategies were taught in no particular order, but as the opportunities for the implementation of the strategies arose. The researcher made extensive field notes to ensure that each strategy had been demonstrated to be successfully implemented by both of the caregivers at least twice during the intervention period. Successful demonstration of the expected behaviour was defined by the description of the behaviours on the Teacher Language and Interaction Rating Scale.

On completion of the intervention, the caregivers were presented with a certificate which stated that they had participated in a short course on "Talking to Children". We anticipated that the certificate would act to motivate the caregivers to sustain any changes in their responsiveness.

Table 3: Responsiveness strategies included in the programme (Adapted from Girolametto and Weitzman, 2002; Girolametto et al, 2003; and Weitzman, 1994)

Strategy	Description
Initiate and Extend	The caregivers were taught to talk about ongoing activities. They were taught to provide information, make comments, and ask questions about the activity. They were taught to initiate verbal interactions with the children.
Expand	The caregivers were taught to add another idea to the idea presented by a child. They were taught to repeat the child's words or attempts at words, add more words to their reply, extend the child's syntax, and model correct syntax.
Follow the child's lead	The caregivers were taught to respond verbally to any initiation, verbal or non-verbal, made by a child. They were encouraged to avoid using meaningless responses such as "mmm".
Wait and listen	The caregivers were taught to encourage the children to initiate communication, and to give them time to do so. They were taught to listen to every message conveyed by the children, and to acknowledge the children's communicative attempts.
Ask a variety of questions	The caregivers were taught to ask questions, and to wait for the answers.
Make use of gesture	The caregivers were taught to accompany their verbal input with gestures, and to respond with interest and animation
Encourage turn taking	The caregivers were encouraged to encourage verbal turn taking and to take as many turns as possible with a child on his or her own. The caregiver was taught to respond with animation.

Outcome measures

Outcome measures were taken at one and two weeks and at 10-months post-intervention.

One and two weeks post intervention (T2): One week following the intervention, the second researcher visited the orphanage and observed the caregivers. She made extensive field notes. She did not interact with the caregivers at all. The researcher repeated the visit one week later and repeated the observation. The researchers discussed the field notes and rated the caregivers' behaviours on the two scales.

Ten months post intervention (T3): The first researcher visited the orphanage twice, and observed the caregivers for eight hours. She rated the caregivers on the two scales. Once again, the researchers discussed the field notes and rated the caregivers' behaviours on the two scales. There were no disagreements.

RESULTS

Linguistic responsiveness.

The changes in ratings on the Teacher Language and Interaction Rating Scale are recorded in Table 4. At T1, the linguistic responsiveness of both caregivers was extremely limited. Both caregivers rated at the lowest possible rating on every category of every sub-type of responsiveness strategy. At T2, the caregivers used many more linguistic responsiveness strategies, and although they did not achieve ratings above 5, they had changed their communication style with the children on every sub-type of responsiveness strategy. At T3, all of the ratings for the responsiveness strategies that had increased at T2 by Caregiver 1 had reduced. Caregiver 2 maintained her ratings for some of the strategies, but the use of others had waned.

The child-oriented strategies improved at T2 and waned at T3. Both caregivers had not maintained their 'Wait and Listen' strategies. They did not encourage the children to initiate communication. However, in contrast to the rating at T2, the caregivers listened to the children when the children initiated communication. 'Follow Child's Lead' increased at T2 by both caregivers and waned slightly by Caregiver 2. Both caregivers responded every time a child initiated communication at T2 and T3, but they did not respond with animation, and often used non-verbal means to respond, such as nodding their heads, smiling, laughing, imitating the children, or by saying "eh". Their verbal responses were limited, especially at T3. The caregivers continued to use many directives and did not wait for the children to respond, and did not follow up their instructions to the children consistently.

Although both caregivers sometimes joined in the children's play at T2, at T3 neither of them showed any interest in the children's play and made no attempt to join in. 'Be Face to Face' strategies improved at T2 and were maintained at T3, but most of the time, the caregivers picked up the children with whom they were communicating and put them down immediately, thus ending the interaction.

Interaction promoting strategies to engage the children in extended conversations improved very slightly at T2, and did not change at T3. Both caregivers used a variety of questions frequently at T2, but reverted to the use of directives at T3. Although they had both encouraged turn taking at T2 at least some of the time, Caregiver 1 dominated the turns at T3. Neither of the caregivers was able to include children who did not participate in interaction at both T2 and T3.

Table 4: Teacher Interaction and Language Rating Scale (Girolametto et al., 2000) baseline and outcome ratings

		Caregiver 1			Caregiver 2			
		T1	T2	T3	T1	T2	T3	
*								
Child centered strategies								
•	Wait and Listen	**	1	3	2	1	3	2
•	Follow Child's Lead		1	5	4	1	4	4
•	Join in and Play		1	3	1	1	3	1
•	Be face to face		1	6	5	1	4	4
Interaction promoting strategies								
•	Use a variety of questions		1	4	3	1	4	3
•	Encouraging turn-taking		1	4	2	1	3	3
•	Scan		1	2	1	1	2	1
Language modeling strategies								
•	Imitate		1	1	1	1	1	1
•	Use a variety of labels		1	4	5	1	4	5
•	Expand		1	3	2	1	4	1
•	Extend		1	3	2	1	3	1

*T1: Baseline; T2: 1 and 2 weeks post intervention. T3: 10 months post intervention
** 1 = almost never; 3 = sometimes, 5 =frequently, 7 = consistent use

Imitation of the actions, gestures, sounds or words of the children who were at the pre-verbal and one-word stage was not observed once throughout the time spent at the orphanage.

A marked change which continued to develop over the ten month period was the verbal input of the caregivers throughout the day in daily routines. The caregivers initiated communication with the children in almost every daily routine, using a variety of labels. The manner in which the caregivers engaged in 'Use a Variety of Labels' could be described as a running commentary because they dominated the turns and did not use strategies to encourage the children to respond. The caregivers used every opportunity to talk to the children, which is a remarkable contrast to the baseline measures which showed that the caregivers did not talk to the children at any time throughout the day, except to give them instructions. The ratings were low because of the conditions set on the Teacher Language and Interaction Rating Scale. For example, the caregivers did not use a rich repertoire of semantic labels; neither of the caregivers was able to adjust the complexity of the vocabulary for the children in the group; and they did not repeat key words.

Both caregivers had begun to use 'Expand' and 'Extend' strategies at T2 although to a very limited extent, but had stopped using these strategies at T3.

Use of features of CDS

The ratings on the CDS checklist are presented in Table 5.

Table 5: CDS behaviours at T1, T2 and T3

		Caregiver 1			Caregiver 2		
		T1	T2	T3	T1	T2	T3
	*						
Facial Expression	**	2	4	3	2	4	4
Gesture		1	4	1	2	4	4
Pitch		1	3	3	2	3	3
Articulation		1	3	2	1	3	2
Rate		1	3	1	1	3	2
Syntax		2	2	1	1	2	1

*T1: Baseline; T2: 1 and 2 weeks post intervention. T3: 10 months post intervention
** 1 = almost never; 3 = sometimes, 5 =frequently, 7 = consistent use

Both caregivers used CDS behaviours that they had not been explicitly taught. In the outcome measures, the caregivers used facial expression and gesture consistently. They made frequent use of speech modification strategies, but very little adaptation of their syntax.

DISCUSSION

This study of the effectiveness of a programme in an orphanage showed that a short period of training, embedded in the daily activities of the caregivers, changed their linguistic responsiveness. The study is limited in that it was conducted on a small sample, and without a control group. However, ethical consideration with regard to the protection of the children whose vulnerability was magnified by their being institutionalised determined the structure of the study. In addition, the performance of the caregivers on the outcome measures might have been influenced by the Hawthorne effect (Schiavetti & Metz, 2002). This may have resulted in the caregivers behaving in such a way that they thought would please the researchers, and they would therefore use responsiveness strategies that had been taught more when being observed than in their daily routines. Despite these limitations, the results of this study provide preliminary data for the development of programmes to assist orphanages to adopt developmentally appropriate practices.

The main findings of the current study were that the linguistic responsiveness of the caregivers changed which speaks to the malleability of caregiver responsiveness; that increased linguistic responsiveness was evident initially but waned over time in the absence of ongoing support; and that the responsiveness strategies that were maintained over time required less linguistic flexibility than those strategies that waned.

A number of changes in the linguistic responsiveness of the caregivers were achieved in a very short time period. Although the outcome ratings on the Teacher Instruction and Language Rating Scale were higher following intervention than at baseline, neither of the caregivers achieved high ratings on all the responsiveness categories. The programme was conducted over three weeks, which is a short period for establishing behavioural change. Programmes that can effect meaningful change in short periods are desirable given the number of orphanages in South Africa as well as in other developing countries where finances and resources, including professional personnel, are limited. It is likely that more intervention over a longer period would effect more change. Future research might address how the time component in intervention contributes to its efficacy. Girolametto and Weitzman (2006) have proposed that the time structure of the Hanen® programmes contributes to their success. The Hanen® programmes are structured as a couple of

hours of intervention spread over a few weeks. Future research might examine how programmes that address linguistic responsiveness can be extended over time, or altered to accommodate the needs of specific communities and organisations. The critical need for external funding of developmental programmes in South African orphanages is highlighted by this research.

Despite the short intervention period, the changes in responsiveness were made by relatively unsophisticated caregivers, and they generalised their learning of strategies to some extent. These factors propose that linguistic responsiveness is malleable. However, the variability in the responsiveness of the caregivers also might be informed by an evaluation of the components that construe responsiveness.

Figure 1 presents a model of four components of linguistic responsiveness. The first component is the behavioural level, which can be defined in the broadest terms as the adult considering the child as a communicative partner. The sophistication of this partnership varies in its breadth, but at the very minimum involves the adult listening to the child and allowing the child to communicate. The most outstanding feature of the baseline measurements was the caregivers' total lack of regard for the children as communicative partners. Their responsiveness to the children was not consistent but was evident at T2 and at T3. Their consistent talking to the children and responding to their every communicative attempt at T3 speaks of the ease with which the behavioural component of the model could be influenced.

The second component in this model is the adaptation of the speech of the adult, such as using deliberate prosodic features, exaggerated articulation, and a slower rate of speaking. The caregivers in the orphanage had introduced some of these features in their interactions with the children, and maintained the changes over time.

The third component of this model is the adaptation of paralinguistic features which are the vocal or non-vocal cues which are used in association with a linguistic code as a means to signal the speaker's emotion as well as to add or clarify meaning (Prutting, 1982). The behaviours measured in this study that fitted this description included the use of gesture to supplement speech, the use of facial expression, maintaining eye-contact during speech, and speaking with animation. The caregivers increased their use of paralinguistic behaviours, and maintained the changes over the ten-month period.

The fourth component is the linguistic adaptation level, which requires that the adult employs flexible linguistic strategies to enhance conversation, such as talking about ongoing activities, providing information, making comments, and asking questions. The successful use of these strategies depends on the flexibility that the adult has of his or her language skills.

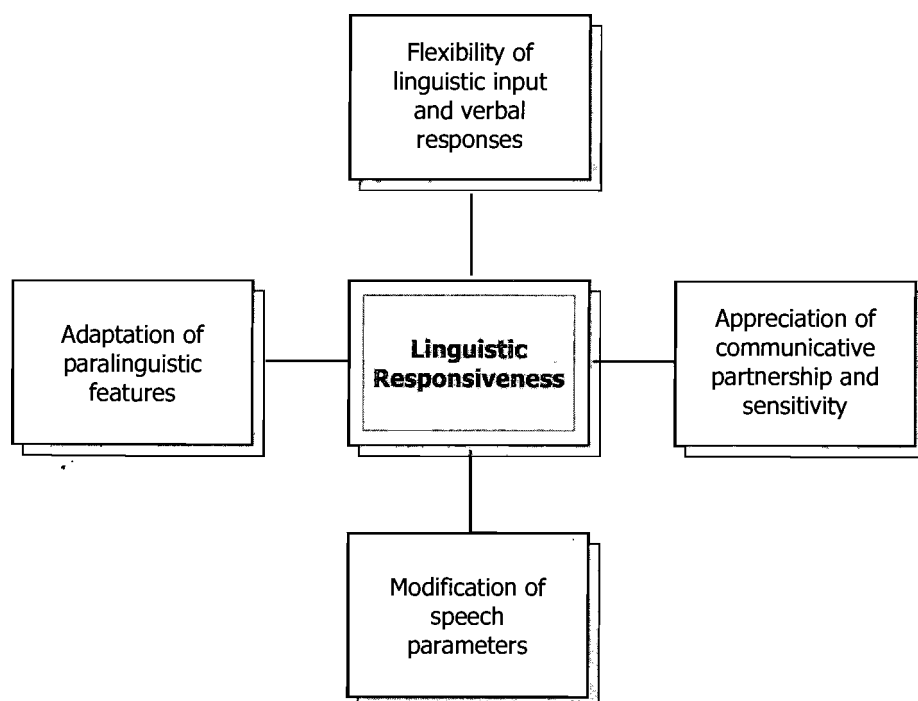


Figure 1: Components of linguistic responsiveness

Linguistic flexibility enables the adult to fulfil the three roles of linguistic responsiveness described by Girolametto and his colleagues (Girolametto & Weitzman, 2002; Girolametto et al., 2003), i.e. to comment on the child's plan of the moment, to engage the child in conversational turns, and to expand or extend the semantic content of the child's communicative attempts. The caregivers in the orphanage used some of these linguistic strategies initially but, as time passed, their use of the linguistic components waned. We propose that the lack of consistent change with reference to the linguistic components of responsiveness was due to the lack of flexibility in the caregivers' use of English. The caregivers spoke English as a third, if not fourth language; they were taught this programme in English because the policy of the orphanage was that the children would be spoken to in English only.

We also propose that limited linguistic flexibility influences caregivers' ability to be acutely sensitive to the children's language abilities. Social-interactionist theories posit that parents are very aware of their children's language abilities (Vigil et al., 2005). This premise is the foundation for programmes that teach parents or caregivers to modify their language interaction pattern with children. It is possible that the caregivers were not acutely sensitive to the language levels of each child because of a number of factors, including their own lack of linguistic flexibility which was due to their restricted English proficiency. Furthermore, this linguistic flexibility was demanded in an environment in which the caregivers were required to take care of a large number of children in a group context, in which communication was only one aspect of the scope of their child care responsibilities.

CONCLUSION

The development of orphanages as contexts of appropriate developmental care (Levin & Haines, 2007) is one of the challenges facing those responsible for the care of children for whom orphanage life is an imperative. We hypothesized that the lack of caregiver responsiveness that has been reported worldwide is due, at least to some extent, to a lack of training in caritas processes (Levin & Haines, 2007), including specific training with regard to enhancing the development of communicative competence. This study provided training for two unsophisticated caregivers in an impoverished inner city orphanage to use strategies to improve their linguistic responsiveness. The programme was short and was embedded in the working day of the caregivers. Over a 10-month period, the caregivers changed their attitudes to the children as communicative partners and employed responsiveness strategies that demanded little of their language skills. However, strategies that required linguistic flexibility were very difficult to maintain in the absence of ongoing support.

Further research is needed to determine the extent of the effects of caregivers' language proficiency on their linguistic responsiveness. We are cautious when interpreting the results given the limitations of the design of this study, but the results offer some information for programme developers with reference to the language policies that are in place in orphanages in countries in which multicultural and multilingual issues are important considerations. This study lends support to previous literature that has highlighted the detrimental conditions facing children in orphanages world wide (Glennen, 2002; 2007), and calls for additional research to provide solid background information and theory on which to base intervention.

The study also contributes to the existing literature on

linguistic responsiveness by illuminating the role of the caregiver in a taxing and complicated child care context. To place the responsibility for the development of the children in orphanages, particularly in under-resourced communities, solely on unsophisticated caregivers is unreasonable. As such, professional services that span all aspects of child care, particularly in early childhood intervention, need to be expanded to accommodate those children who do not have the opportunities provided by a family to acquire communicative competence.

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