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# Speech-Language Pathologists in the Natural Environment

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SPEECH-LANGUAGE PATHOLOGIST IN THE NATURAL ENVIRONMENT

By

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B.S., Southern Illinois University, 2012

A Research Paper

Submitted in Partial Fulfillment of the Requirements for the  
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TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
Introduction.....	1
Family-Centered Care.....	2
Natural Environment.....	4
Specific Models that incorporate Family-Centered, Natural Environments.....	6
Challenges to Implementation.....	10
Teaching Adults to participate in therapy.....	15
Incorporating Parents in IFSP Meetings.....	20
Future Research.....	22
References.....	24

## Introduction

Providing speech-language therapy in the natural environment is a family-centered approach that depends on child and caregiver interactions to implement learning opportunities in a natural setting of the families choosing. This paper will outline the importance of providing family-centered therapy in the natural environment, evidence that supports the benefits, evidence that does not support the therapy, how to incorporate parents in therapy, and the creation of an Individual Family Service Plan (IFSP).

The American Speech-Language- Hearing Association has outlined four main principles for speech-language pathologists (SLPs) working in early intervention, two of which will be discussed here. The principles are as follows; "(1) services are family centered and culturally and linguistically responsive, (2) services are developmentally supportive and promote children's participation in their natural environments," (Paul & Roth, 2011, p. 320). These principles were written as guidelines to insure that SLPs were providing ethical and quality therapy for children requiring services. Principle one requires the SLP to see that the family is involved in the decision making process of the assessment and treatment of their child. It provides the family with the ability to interpret their

preferences on their involvement and role they wish to play in the child's therapy. Speech-language pathologists are responsible for inspiring the parents to be as involved as possible and for providing evidence that a family-centered approach is beneficial. The second principle refers to the importance of providing the child with opportunities to participate in the environment. The SLP is responsible for understanding the typical development of communication in children and recognizing when there is a delay as well as having an appreciation for individualized communication styles that are specific to each family (Paul & Roth, 2011)

#### Family-Centered Care

The term family-centered care has been around since the 1960s (Bruder, 2000). It evolved into the early intervention field and encompasses "three values: (a) an emphasis on families' strengths rather than deficits, (b) the promotion of family choice and control over desired resources, and (c) the development of a collaborative relationship between professionals and parents " (Bruder, 2000, p. 107). When therapy is family-centered therapy becomes holistic due to the involvement of the family and embedment of therapy into everyday routines. Authors Campbell and Sawyer went on to better define the differences between the natural environment and family-centered intervention versus traditional intervention. "In

participation-based (natural environment family-centered intervention) services, the caregivers interacts directly with the child while the interventionist supports, teaches, or coaches. In traditional services, the interventionist interacts directly with the child and the caregiver is either not present or observes what the interventionist is doing," (Campbell & Sawyer, 2007, p. 289) They conducted a study to see if early interventionist were actually encouraging caregivers to get involved and focusing therapy on the family versus just the child which will be discussed later.

An Individual Family Service Plan is often created for a child. It is a document that states developmental goals for a child with special needs. The document states who will be implementing therapy to achieve the goals and how the goals will be achieved. The committee consists of professionals and the caregivers who work together to improve the child's development to meet the range of typical development. This is often a useful when trying to collaborate with caregivers and discuss the best way for both professionals and caregivers to aid the child in need.

#### Natural Environment

Speech-language pathologists working for early intervention programs often work in what is called the natural environment. Natural environment is a term coined by the Individuals with

Disabilities Education Act, (IDEA), Part C to describe intervention taking place in settings that are typical for infants and toddlers without disabilities (Paul & Roth, 2011). A natural environment can include places such as the family's home, daycare or educational program setting, or a community setting such as a park or restaurant. It is typically wherever the family spends most of their time together.

The term natural environment may seem that the focus is on *where* the therapy is taking place. This is not true. The idea of natural environment therapy is about *when* and *how* therapy is implemented. Therapy needs to be embedded into everyday routines such as meal time, bath time, or clean up time. Authors Hanft and Pilkington (2000) say, "how therapy is provided, not just where, is key to whether services are family centered or the specialist replicates a clinical model within the child's home or other setting," (p. 2). Having the parents involved in therapy increases the probability that therapeutic activities will be repeated by the parents outside of therapy, (Hanft & Pilkington, 2000). It is the responsibility of the SLP to recognize how to incorporate communication building exercises in everyday routines and activities (Paul & Roth, 2011).

The first years of a child's life are spent constantly learning about the world around them and their parents are considered the child's first teacher of language due to the



dependence on the parents (Roberts & Kaiser, 2011). They are learning through interaction and experience. Sitting in a therapy room being drilled or taught by simple exercises is not enough to teach a child how to communicate, articulate and interact with their world effectively; it does not provide the child with naturalistic contexts in which they would communicate with their world, it is too structured.

Therapy in the natural environment provides an opportunity to incorporate teaching moments into everyday circumstances so that the child has maximum opportunities to learn and practice what they have learned. Because the therapy is focused on using everyday moments to teach, SLPs are not expected to bring in materials or toys in order to engage the child and teach. In fact, that is a practice that is disapproved. "When a therapist brings his or her clinic accouterments along on a home visit, he or she is attempting to improve a child's performance by using toys and equipments most comfortable for the therapist," (Hanft & Pilkington, 2000, p. 2). By bringing in toys and other items, the therapist is altering the natural environment and hindering the family's ability to replicate the therapy implemented in the session. Once the therapist leaves, he or she takes the items used with her/him. The caregivers are then left to figure out how to elicit the same response from the child without using the same materials. This is no different than expecting the

caregivers to know how to elicit communication from their child in the first place, so therefore, what is the need for an actual therapist if therapy can only be productive when the therapist is present? This is why the SLP is expected to use materials that are already in the home so that the caregivers can recognize ways and implement play activities (Woods, Wilcox, Friedman, & Murch, 2011).

#### Specific Models that incorporate Family-Centered, Natural Environments

A common intervention technique associated with family-centered therapy is the Enhanced Milieu teaching. This naturalistic model is an early language intervention that is perfect for in-home therapy due to its emphasis on child interest and initiations to model and prompt language in everyday context (Kaiser & Roberts, 2013). A study was conducted by Kaiser and Roberts (2013) to compare the effects of intervention provided by parents and therapists together versus therapist only intervention. The population focused on for this study was children with intellectual disabilities. Two experimental conditions were used (parent+ therapist or therapist only intervention) for this randomized group design study with two groups of children with intellectual disabilities. Participating children were assessed prior to

intervention and immediately after intervention, as well as 6 and 12 months following intervention (Kaiser & Roberts, 2013).

For the participants in the parent + therapist group, parents were taught techniques to increase language in their children and encouraged to use them at home. Parents were educated in areas such as responsive interaction, language modeling, expansion, and the appropriateness of providing a stimuli and responding to child's request once targeted stimuli was expressed by child. Parents were observed during play activities with their child and given instruction on the correct way to implement these new strategies when needed (Kaiser & Roberts, 2013). It was noted that the adult, whether it was the parent or the therapist, was to arrange the environment to increase adult and child interaction, model specific language targets, expand on communication forms the child provides, and respond to the child's request utilizing stimuli to incorporate the child's target skill (Kaiser & Roberts, 2013). Parents participated in interactive workshops to increase their play skills, knowledge on environmental arrangement, and knowledge on language development to help them determine what is appropriate for their child's age (Kaiser & Roberts, 2013).

Following the parent training, both groups participated in 36 intervention sessions, 12 of which were conducted at the child's home (natural environment). For the parent +therapist

group, a therapist was still present for the in-home visit to consider it an intervention session. After just 6 months of intervention, the parent + therapist group had an increase in mean length of utterance (MLU) and number of different words (NDW) when recording data during a trained, in-home activity than children in the therapist only group. Children in the parent+ therapist group also experienced a greater increase in target utterances than children in the therapist only group at 6 months. At 12 months intervention, the parent+ therapist group used 9 more different language targets than before assessment, which was higher than the therapist only group (Kaiser & Roberts, 2013). This increase in language is a significant example of how important parent training is for child language therapy. Children in this category were able to benefit from intervention constantly because their parents were trained in strategies to increase their language production and over all language skills.

The Kaiser and Roberts mention that parents who received training used significantly more responsive interaction and other strategies than parents who did not receive training (2013). It also noted this difference, "remained significant over time," (Kaiser & Roberts, 2013, p. 305). Overall, this study confirmed that, "parents of young children with IDs can learn, generalize, and maintain their use of naturalistic

teaching strategies with their children," (Kaiser & Roberts, 2013, p. 306). Responsive interaction, expansion, language modeling, and milieu teaching prompts were utilized by trained parents during both trained and untrained play settings and provided the parents with tools to help their children communicate outside of sessions as well (Kaiser & Roberts, 2013). It is evident that children with ID benefited from this study. The article provided evidence that suggested children with ID require consistent and high levels of language support to maintain skills learned in intervention. The best way to provide that support is by training care givers and parents that the children are around most of their day. By training the parents, they are able to customize language goals in everyday routines to increase language learning skills and maintain skills learned in formal settings (Kaiser & Roberts, 2013).

Another parent intervention that increases child language is one that often happens without the realization of it being intervention. That is joint book reading. Elaine Reese, Alison Sparks, and Diana Leyva (2010) wrote a review in which book reading was analyzed for its benefits on emergent language. One study originally done by Whitehurst and colleagues was conducted with middle class parents of two-year old typically developing children. The parents in the experimental group were provided with training sessions at the beginning of a four week

intervention session. Parents in the control group were not given training. Both groups were instructed to read to their children daily for the duration of the experiment. Children were given two expressive language post tests which resulted in the experiment group scoring higher in expressive vocabulary than the control group (as cited in Reese et al., 2010).

This is another example of why providing training to parents is so vital to children's language development skills. Reading is often a shared activity between child and caregiver. Utilizing this as an intervention technique is a simple and easy way to get parents involved with their child's learning and development. It is something that they can do at home or anywhere there is a book available for the parent and child to sit and share together.

#### Challenges to Implementation

It is also important to consider how treatment in the home is being provided. It has been discussed above how interventionists should get the caregivers involved and that children benefit most when learning from caregivers. But how often do interventionists involve the caregivers in intervention? And, more importantly, how often are interventionists taught *how* to incorporate caregivers in their early training? Campbell and Sawyer conducted research seeing to what degree and how often early interventionists were

involving caregivers. The authors differentiated traditional therapy, child focused, oriented around materials in clinical center and monitoring progress, and what natural environment intervention looks like, caregivers working on target outcomes between intervention visits as well as with the interventionist. Campbell and Sawyer state that interventionists were and have not ever been given exact instructions on how to conduct home therapy in natural environments, meaning that they were not instructed on how to involve caregivers or teach them how to provide intervention for their child. They found that, "the primary role for the caregiver was to watch or not interact with the child or interventionist," and that, "caregivers interacted with children less than 20% of the visit time," (Campbell & Sawyer, 2007, p. 289). They explained that interventionists were reporting they were, "doing what the family wants them to do," (Campbell & Sawyer, 2007, p. 289). If interventionists were never given adequate instruction on strategies to involve caregivers in therapy, then it seems unlikely that successful, carry-over therapy will occur in the natural environment.

Campbell and Sawyer (2007) conducted research to see what the characteristics of a home visit were and to determine what key characteristics determined whether therapy was traditional or participation based with the caregiver involved. The authors hypothesized that "early interventionists could be working

within a natural setting (e.g., the home) but be providing either the same type of services (i.e. traditional) as would be provided in another setting (i.e., clinical or center) or a type of service where family activities and routines provided a context for intervention (i.e., participation-based)," (Campbell & Sawyer, 2007, p. 291). They further hypothesized that traditional treatment would be used and recognized more often.

Participants for this study included 50 early interventionists who provided Part C services. The participants submitted a video tape showing a typical intervention activity with a child and family they worked with. Approximately one-third of the children speech delays, one-third had motor disabilities, and the remaining were classified as having multiple disabilities, developmental delay, pervasive developmental disorder or autism, or other concerns, (Campbell & Sawyer, 2007).

The study was then completed by the early intervention service providers completing professional workshop where they learned about how to provide intervention within natural environments. They were given written material to use when working with the children and families. After attending a second workshop, the early intervention service providers were required to submit a video and written materials of the implantation of what a "typical" activity looked like for them while on their



home visit of a family they served of their choosing. A staff researcher then watched the videos and scored the providers using a NERS, Natural Environments Rating Scale. This scale consists of 5 categories, setting, leader of activity, materials, roles of caregiver, and role of home visitor. The setting was used to identify what setting each client considered their natural environment. The leader of activity was used to determine if the activity was child-directed or adult directed and identified whether the interventionist or caregiver directed intervention (in cases in which the adult was the leader. Materials referred to if the materials were brought by the therapist or if they were from the home/environment. The last two categories identified the specific roles of both interventionists and caregivers (Campbell & Sawyer, 2007). The Home Visiting Observation Form-Modified was also used for this study. This is an observational coding instrument which is scored while viewing the video submitted by the early intervention provider of a home visit. The four categories of the form, role of caregiver, interaction partners, content of the interaction, and role of the home visitor, were rated using codes representing each category at 30 second intervals.

Results of the study indicated that 35 out of the 50 videotaped visits were coded as traditional. This leaves 15 of the visits to be considered appropriate natural environment and

family centered therapy, participation- based. Most of the visits occurred in a room at the child's home while 27% of intervention took place in the family's neighborhood, (park, playground or store). Children were rated as not engaged in less than 10% of visits in both traditional and participation based interventions. When comparing engaged versus not engaged, children were rated as very engaged more often in participation-based intervention than traditional services. Participation-based interventions were more likely to occur in the child's neighborhood than were the traditional visits; this was the only statistically significant difference found. When intervention was considered traditional, the interventionist was the leader or director. When intervention was considered participation-based, the caregiver or the child was the activity leader while the interventionist was most frequently the facilitator, (Campbell & Sawyer, 2007). To change these results and make sure the adult is more engaged as the facilitator, it is important to understand how to teach an adult to engage therapeutically with their child.

#### Teaching Adults to participate in Therapy

An SLP is responsible for helping the caregivers recognize what moments are teaching moments and how to initiate the teaching process (Woods, Wilcox, Friedman, & Murch, 2011). It may be thought that a parent knows how to engage with his or her

child through play and understand when they are teaching a child a habit or any type of communication. This may not be the case. It is not a natural thing for everyone to know how to play with a child. It is also not natural for an adult to recognize a teaching moment, such as learning a new vocabulary word and how to correctly use it. An adult may also have difficulty with explaining things to a young child so that the child will understand. It takes a great deal practice and experience to communicate on a child's level and explain something in much more simplistic terms. Once we have learned something like communication, it becomes so natural that we do not think about it anymore, it becomes second nature. To have to explain things to a child who has never been exposed to something as simple as the words "he" or "she" can be a real challenge for most adults.

An adult learns best when material is relevant to the adult's life and interests. The adult in this case is the caregiver who has an interest in making sure their child has well rounded communication abilities. For the adult to learn new skills, it is best for them to practice by applying what they have learned. It is important for the caregiver to have opportunities to put what they have learned into practice so that they can master this new skill. After practicing what they have learned, the caregiver can then reflect on why the

techniques worked or did not work and build new skills (Woods, Wilcox, Friedman, & Murch, 2011).

After understanding how an adult learns, an SLP can then begin helping the client and their family by guiding the caregiver through therapy. There is a simple three step model that Woods (2011) recommends using when beginning therapy. The first step is to observe the child and caregiver interacting. The SLP can take notes on what the caregiver is doing that works well and also identify what areas the caregiver needs guidance on to support better communication skills for the child. By first observing the interactions of the caregiver and child, the SLP is reinforcing the idea that the caregiver is the primary communication partner for the child and will be implementing strategies throughout therapy. The caregiver can also identify what he/she think are problem areas for the child and the SLP is able to see firsthand what the caregiver is concerned about. By listening to the families concerns the SLP is reinforcing the central parenting role the caregivers have; it allows both parties, SLP and caregivers, to facilitate communication between both parents as well as SLP and parents (Hanft & Pilkington, 2000). This observation can also be utilized as a moment for problem solving by caregiver and SLP, expressing concerns regarding the child's communication and collaborate in how to solve these problems (Woods, Wilcox, Friedman, & Murch, 2011).

After the observation, the SLP can then demonstrate for the caregiver techniques that will help with the child's communication. The SLP can model a technique, ask the parents to step in and implement what they just observed, and the SLP can directly teach while both are interacting with the child. This gives the caregiver an opportunity to observe the SLP's techniques and replicate them in their own way. By working together throughout the process, the caregiver has opportunities to ask questions if he/she needs clarification on correct usage of technique or how the technique works (Woods, Wilcox, Friedman, & Murch, 2011).

The third step is giving feedback. The SLP can provide tips on how to better implement techniques as well as what the caregiver did correctly (Woods, Wilcox, Friedman, & Murch, 2011). It is important to provide positive feedback along with constructive feedback so that the caregiver is not discouraged. Once feedback is given and both parties have had a chance to discuss therapy, the cycle can continue with observation again, demonstration if needed, and critique or further guidance.

Working in a natural environment also provides flexibility for the family. It can be very taxing for the family of a young child to make appointments and juggle a busy schedule as well as keep the child happy and entertained while waiting for an appointment session to begin. Very young children are often not

patient enough to wait in a waiting room quietly and then be escorted to another room with a stranger go receive therapy. This is why family-centered therapy provided in the natural environment of the child is so beneficial. Part of the definition for family-centered therapy is, "providing flexible and individualized services," (Roberts & Kaiser, 2011, p. 183). The down fall with natural environment settings can be that the parent/ caregiver do not participate in the sessions. It has been a common assumption that when the speech-language pathologist arrives for therapy, the parent then leaves the room or just observes while the SLP works with the child. It is important for the SLP to explain *why* they are doing each step that they do. A detailed explanation of the SLP's actions is required for the parent to understand how those actions will elicit language from the client. If the parent understands the reasoning behind the therapy procedures, they will then be able to implement the techniques in everyday life (Woods, Wilcox, Friedman, & Murch, 2011).

It is also important to not allow the parent to leave the room in order to get things done around the house. The SLP is not there to watch the child; they are there to help the *whole* family learn new strategies to inhibit the child's language learning skills. The SLP needs to engage the caregiver early on and explain that they are a vital role in therapy sessions. The

goal of this type of therapy is for the clinician to teach the family techniques to elicit language from their child in hope that the clinician can fade out of the therapy leaving the parents and caregivers implementing all treatment (Woods, Wilcox, Friedman, & Murch, 2011).

By involving the whole family, typically developing siblings are able to play a role in therapy when they otherwise might have felt neglected (Hanft & Pilkington, 2000). It is not uncommon for typically developing siblings to feel left out because often a child with communication difficulties require a significant amount of attention from caregivers. Involving a sibling can initiate a greater bond between the siblings and the family as a whole. Even simple tasks such as a younger, communicatively challenged sibling watching the older sibling knock building blocks down to increase attention span, can be fun for both siblings and still therapeutic (Hanft & Pilkington, 2000).

#### Incorporating Parents in IFSP Planning

Unfortunately, caregivers do not play an active role in the creation of the IFSP. Bruder provides an example in which a mother was not actively involved in her son's IFSP (2000). The article described how the mother was concerned that nothing positive was said about her son during the meeting. The service coordinator then explained that the therapists were simply

reporting on their findings of the child's development. This left the mother hopeless. Another example provided by Bruder was a mother who explained that she wanted to learn to interact with her son in a more natural way. The goals were made with little consultation with the mother. The mother was unclear on how these goals were going to help her interact with her child as she expressed during the meeting, resulting in little collaboration or explanation of the treatment plan (Bruder, 2000).

This is an example of how important it is to involve the caregivers in the making of the IFSP and making sure they understand the goals that are created. The more the parent or caregiver is involved with the IFSP process, the more likely they are to be involved in therapy itself and implementing the use natural environment strategies taught (Woods, Wilcox, Friedman, & Murch, 2011). It is important to not only include the caregivers in the creation of the IFSP, but also to make sure they are a part of the goal writing process. The goals need to be written in a way that they are specific in treating a child's needs, but also broad enough that goals incorporate the family and social communication partners as well as the child's progress with these communication partners. Making sure that the parents have a clear understanding of why the goals are written is critical when involving them in natural environment



therapy. It was started earlier that the caregiver needs to understand why the SLP is conducting therapy in the manner they are conducting so that the caregiver can how it will benefit the child. If the caregiver does not understand a goal written, then it is unlikely they will understand why the goal is being implemented and how it will impact their child overall. Showing that the committee cares enough to answer the caregiver's questions and concerns also gains trust and build rapport with the family.

The natural environment technique is a great way to educate a child in a more natural way and keep the family involved. This practice is highly dependent on caregiver involvement and openness. The SLP becomes highly involved with the family learning their everyday routines. But by becoming close with the family, they build trust which enables them to interact together and learn from one another about the child's needs. This is important when creating goals for the child's development. The natural environment delivery of services provides the speech language pathologist a chance to observe challenges the child and/or family may have, teach techniques that are specific to their needs, and explain to the family why these techniques will benefit their child in development.

## Future Research

Multiple benefits have been discovered about providing family-centered therapy in the natural environment, but what more could be done? It may be beneficial to conduct research on what parents of children with communication delays think is the best method of intervention for their family, whether it is the enhanced milieu technique or routine based. It may be beneficial to know if parents consider the different interventions techniques to be different. This could be achieved by providing one type of intervention training for a 6 month period and then provide another intervention technique for 6 more months and have the parents provide feedback on things such as; which intervention technique worked best for you and your family, which technique was easiest for you to understand and grasp quickly, and which intervention technique would you like to hear more about? This research could provide information on what socioeconomic status prefers which type of intervention or even which cultural backgrounds benefit most from different types of intervention techniques.

Another area future research would be which family member produces the most gains for the child with communication difficulties. As discussed above, it is important to include the entire family when providing family-centered therapy in the natural environment. Therefore, it would be beneficial to see if

there was a difference in the amount of gains the child receiving therapy received when the mother was providing therapy versus the father providing therapy or whether the siblings were the main interventionists or the grandparents. Children respond differently to each family member. But if one family member is able to elicit significant gains, then it may be beneficial for that family member to continue with intervention until the entire family is able to elicit similar responses or behavior. Not only would it be beneficial to study the pros of this circumstance, but also the cons.

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