Increasing Participation in Natural Environments: Research Findings from a Virginia Early Intervention Agency

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Purpose of the Research:

- to improve the implementation of early intervention therapy services in "***natural environments***."

Research Goal:

Caregivers of infants and toddlers with developmental delays who are receiving early intervention will actively participate in the implementation of the Individualized Family Service Plans.

How did they accomplish the goal?

During the 8-month implementation period, the researcher provided:

1. *training* to the professionals in the areas of
   - contextual IFSP development
   - natural learning opportunities
   - adult learning styles and coaching strategies
2. on-going *individualized training* to professionals
3. an Internet *resource tool on natural learning opportunities* for professionals and caregivers
4. information to the caregivers by creating a monthly *newsletter*

Examples of some of the types of data collected:

- Pre- and Post- Observations
- Pre- and Post- Survey of Caregivers
- Pre- and Post- Survey of Professionals
- Post Professional interview

Solution Strategy: *Contextual IFSP training*

- Used goals from current IFSPs
- Worked on rewriting the goals to be more FUNCTIONAL
- Professionals demonstrated their knowledge by submitting IFSPs created after the training

Example of a child's goal before training:

- The child "will raise her chest from surface with her weight supported on her hands."

Example of a goal from the same child's IFSP after training:

- The child "will step up and down one step (front stoop) while holding on to the railing to get in and out of the house by herself."

Mean Percentage of Contextual IFSP Goals Written by Professionals

Pre-Training *M* = 26.08

Post-Training *M* = 100.00

Mean Difference = 73.92,
t =11.55, ***df*** = 6, ***p*** **(one-tailed)** = .00*

*** *p*<.01.**

- There was a significant increase in the percentage of contextual goals written by participating professionals after they attended a training session on the topic of contextual IFSP development.

Solution Strategy: *Natural Learning Opportunities Training*

Workshop included:

- Summary of research on natural learning opportunities
- How to create an “interest profile”
- How to gather information for “community mapping”
- Practice creating sources of learning pyramids
- Discussion on reducing the use of toy bags

Mean Scores of Professional Knowledge

- Trainings Natural Learning Opportunities

  Pre-Test: $M = 16.80$

  Post-Test: $M = 37.80$

  p (one-tailed) = .00*

*$p<.01$

- There was a significant increase in the participating professionals' knowledge of natural learning opportunities after professional development training was provided.

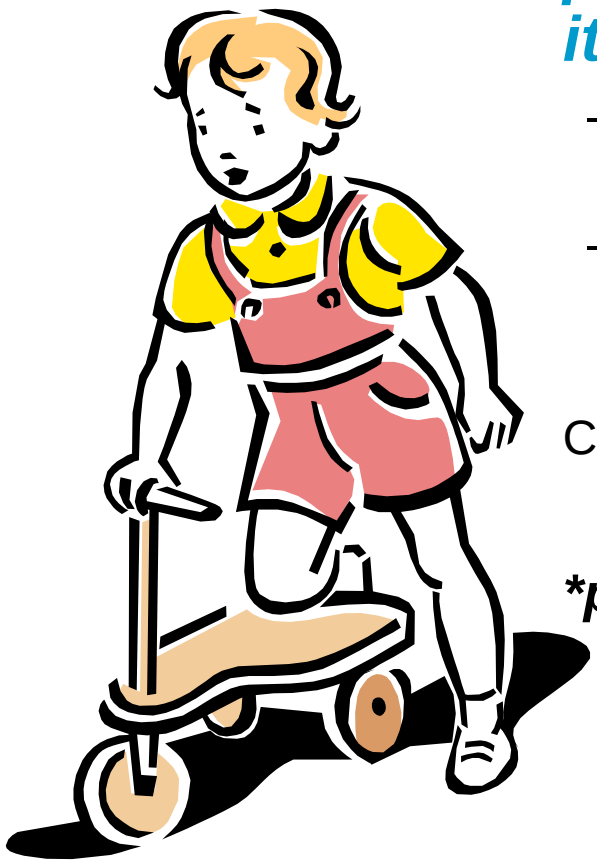
- Question number 12 on the caregiver survey: ***How often items/toys from the home setting were used during therapy?***

  - Mean pre-survey answer = 3.89
  - Mean post-survey answer = 4.56

  An answer of :
  1 = never, 2 = rarely, 3 = sometimes,
  4 = often, and 5 = always

  Change in Mean = .67, *t* = 2.00,
  df = 17, *p* (one-tailed) = .03*

  ***p<.05**



Question number 4 on the professional survey: ***The percentage of therapy sessions during which professionals used toys or items from the home***

- Pre-survey Mean percentage = 71.00
- Post-survey Mean percentage = 100.00

Change in Mean = 29.00, t = 2.66,
df = 4, p (one-tailed) = .03*

***p<.05**

Question number 5 on the professional survey: ***The percentage of therapy sessions during which professionals used their own toys and took them when they left***

- Mean percentage at the beginning of the research project implementation = 56.33
- Mean percentage at the end of the research study = 17.62

- Change in Mean = 38.71, $t = 2.18$, $df = 4$, p (one-tailed) = .05*

***p<.05**

- There was a significant increase in the participating professionals' use of toys/items from their clients' natural learning environments from the beginning to the end of the research project implementation period.

Solution Strategy: *Adult Learning Styles and Coaching Strategies Training*

Training included:

- Learning styles information
- Coaching to empower families information
- Discussion of “notice” and “change” assignments
- Activity (Given specific objectives, how would you coach the caregiver during the session? What assignment(s) would you give to the family?)

Mean Scores of Professional Knowledge

- Adult Learning Styles/Coaching

  Pre-Test: $M = 13.40$

  Post-Test: $M = 38.40$

  p (one-tailed) $= .00$*

*$p < .01$

- There was a significant increase in the participating professionals' knowledge of adult learning styles and coaching strategies after professional development training was provided.

Solution Strategy: *On-going Individualized Training*

The researcher worked with the professionals individually on the following topics:

- Early intervention resources
- Coaching parents
- Methods for determining a client's activity settings
- Contextual IFSP development

- After receiving individualized training, each of the participating professionals met her “Individual Professional Development Plan” (IPDP) goal.

Solution Strategy: *"Natural Environments" Resource*

- Shared the following Natural Environments Resources:
  - **Activity Settings Inventory**
  - **The "Virginia Babies Can't Wait! Technical Assistance Documents and Training Manual for Family-Centered Early Intervention within the Context of Daily Activities and Routines of Children and Families" (May 2000):**
  - **Family-guided Approaches to Collaborative Early Intervention Training and Services (FACETS):**
  - **Intervention Planning Worksheet**
  - **Internet resource on natural learning opportunities**

*See example of internet site

- Click on location
- Click on activity settings
- Click on learning opportunities

- There was no significant increase in the number of “natural environment” resources participating professionals use from the beginning to the end of the research project implementation period
- Mean percentage at the beginning = 40.00, Mean percentage at the end = 69.80
- Change in Mean = 29.80, $t = 1.23$, $df = 4$, p (one-tailed) = .14

Solution Strategy: *Caregiver Newsletters*

Topics:

- IFSP development
- Natural Learning Opportunities/ Caregiver Role in Early Intervention
- Learning Styles/ Coaching
- Active Caregiver Participation

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Each newsletter included:

- Research based article
- Article written by caregivers of former early intervention clients or special educators
- Topic relevant internet resources

Table 3

Paired Samples t-Test Results for Outcome 6

	Pre-Survey	Post-Survey	Mean Difference	*t*	*df*	*p*(one-tailed)
"Caregiver Survey"						
Caregivers developed IFSP goals	$M = 2.33_a$	$M = 2.78_a$	.44	2.05	17	.03*
Caregivers understand role	$M = 2.67_a$	$M = 2.94_a$	.28	1.76	17	.05*
"Professional Survey"						
Caregivers developed IFSP goals	$M = 36.33_b$	$M = 84.17_b$	47.83	3.57	4	.01**

[a]$n = 18$. [b]$n = 5$.

*$p < .05$. **$p < .01$

- There was a significant increase in the participating caregivers' ability to develop IFSP goals for their child and there was a significant increase in the participating caregivers' awareness of their active role in the early intervention process from the beginning to the end of the research project implementation period.

- The participating professionals provided significantly more positive than negative responses to question number 4 on the “Post-Professional Development Interview.”

How did the individualized training affect the level of active participation demonstrated by clients' caregivers during therapy sessions?

- The training:

  "inspired her to do less direct therapy with the child and let go of control of the therapy sessions, while empowering the families to participate more actively during the sessions"

  "taught her how to empower families, which encouraged them to participate more actively with their children"

“helped them become more aware of caregiver participation and encouraged them to pay attention to exactly how the caregivers were involved during therapy”

“showed her the importance of letting the caregivers know her expectations for them during therapy”

- **There was a significant increase in *active caregiver participation* from the beginning to the end of the research implementation period.**

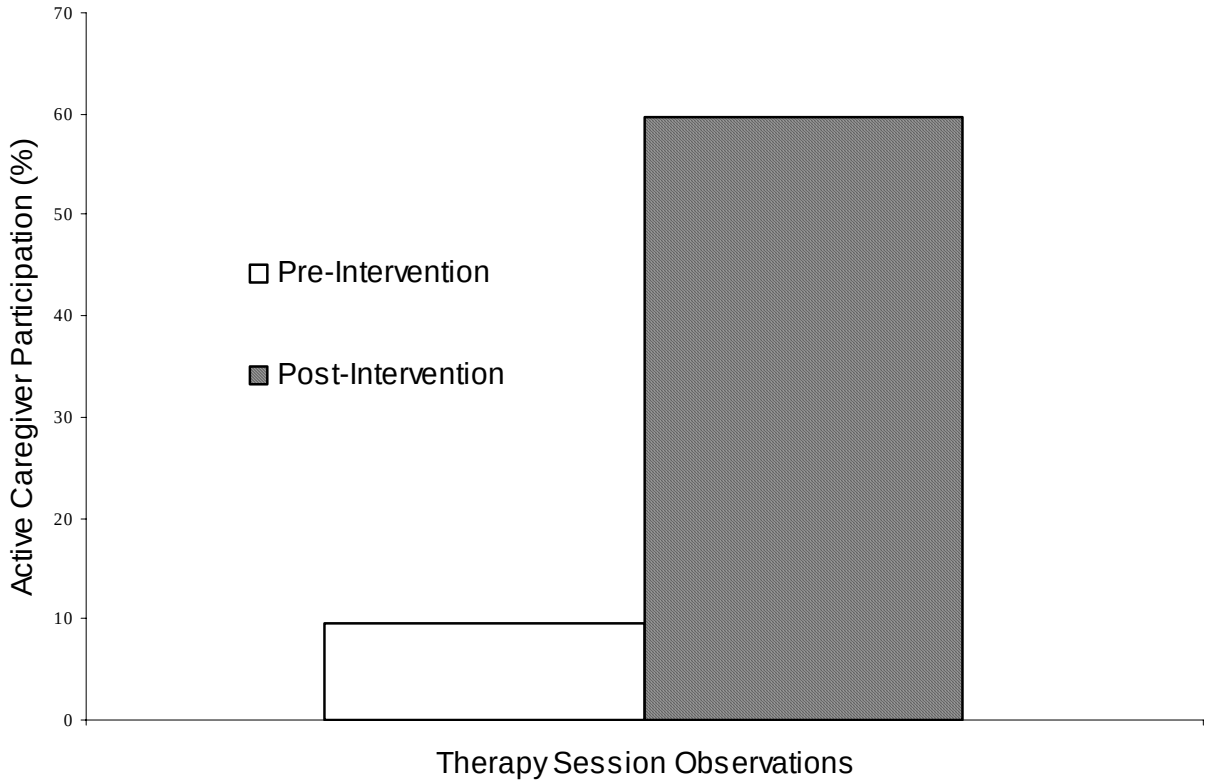
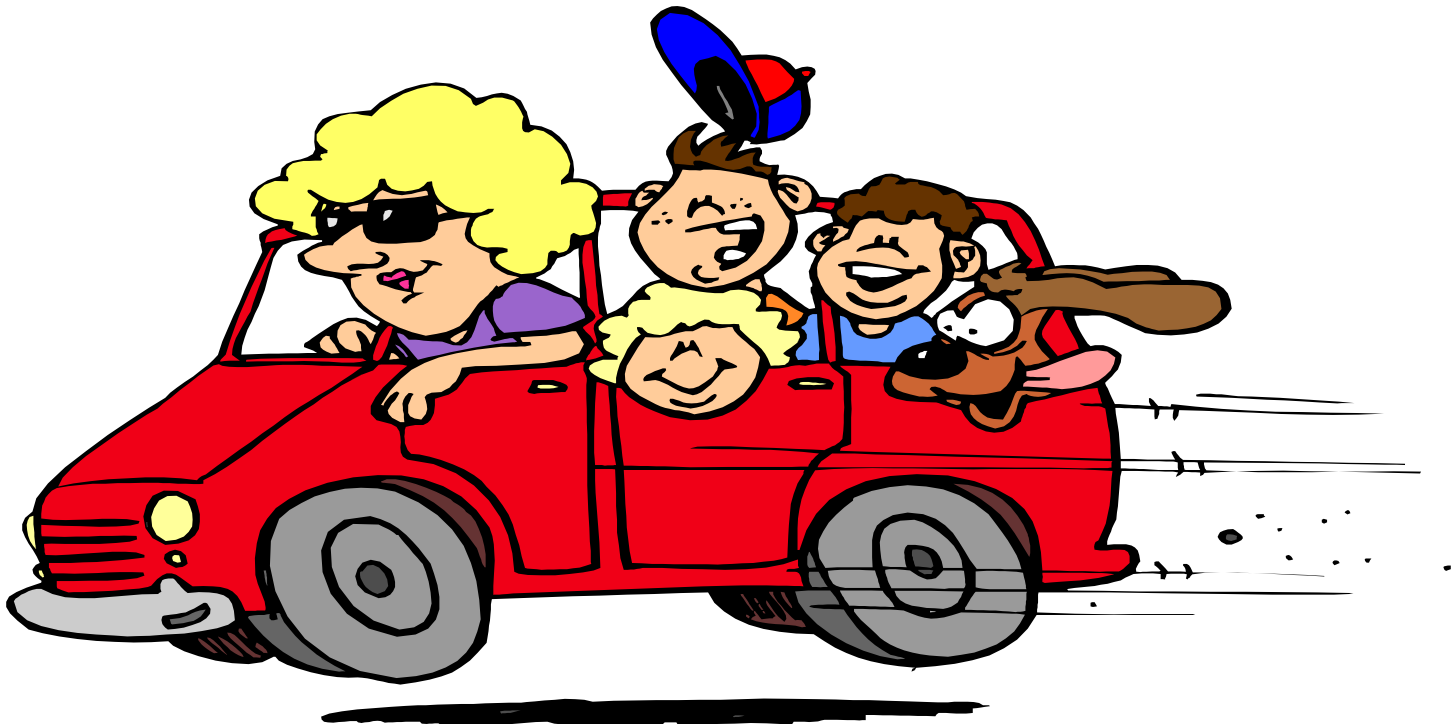


Figure. Mean percentage of active caregiver participation during pre- and post-therapy session observations.

One professional stated the trainings taught her "new skills and a philosophy that is workable in families' lives."



Limitations:

- Instrumentation
- Pre-test treatment interaction
- Sampling
- Attrition
- History
- Researcher bias

Strengths:

- Triangulation
  - Researcher observations
  - Professional surveys
  - Caregiver surveys
- Face and content validity determined for instruments
- Random selection for observations
- Interrater reliability for Outcome 2

Recommendations:

1. The agency should continue to focus on providing effective services in natural learning environments, while empowering caregivers to actively participate in the implementation of IFSP goals.

Recommendations:

2. The professionals should be provided the opportunity to observe each other working with clients in their “natural environments.”

Recommendations:

3. The agency should continue to provide information to their clients' caregivers through newsletters.

Recommendations:

4. The same research study should be repeated with another early intervention agency.

Recommendations:

5. If the study is to be repeated, it is recommended that the researcher videotape approximately 4 of the 10 observed therapy sessions at the beginning and the end of the study, to exclude researcher bias as a threat to the validity of the study.

Recommendations:

6. Before replicating the research, the instruments used for this study should be subjected to test-retest reliability.