



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

Presenter: Dr. Jennifer Cave  
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# Purpose of the Research:

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





# **Problem Statement:**

Caregivers of infants and toddlers with developmental delays who are receiving early intervention are not actively participating in the implementation of the Individualized Family Service Plans.



# Evidence of the problem:

- The writer randomly selected 10 therapy sessions to observe between June and August of 2002
  - no caregivers actively participated for at least 50% of the therapy session
- 20 families participated in a survey in 2002
  - 14 families spent less than 30 minutes per 1-hour session directly working with their child to implement strategies for the IFSP goals
- 4 therapists participated in a survey in 2002
  - all the therapists spent less than 30 minutes per 1-hour session observing caregivers directly working with their children to implement the strategies for the IFSP goals



## Possible causes:

- Ineffective professional training
- The limited use of items/toys from the caregivers' natural environments during therapy
- Caregivers' lack of preparedness in developing IFSP goals
- Professionals' inability to empower caregivers



## 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.



# Expected Outcomes:

From the beginning to the end of the research project there will be a significant increase in:

- active caregiver participation
- the percentage of contextual goals written by professionals
- the professionals' knowledge of natural learning opportunities
- the professionals' knowledge of adult learning styles and coaching strategies



# Expected Outcomes (cont.):

From the beginning to the end of the research project there will be a significant increase in:

- the professionals' use of toys/items from their clients' natural learning environments
- the caregivers' ability to develop IFSP goals for their child and
- the caregivers' awareness of their active role in the early intervention process



# Solution Strategies :

The researcher provided:

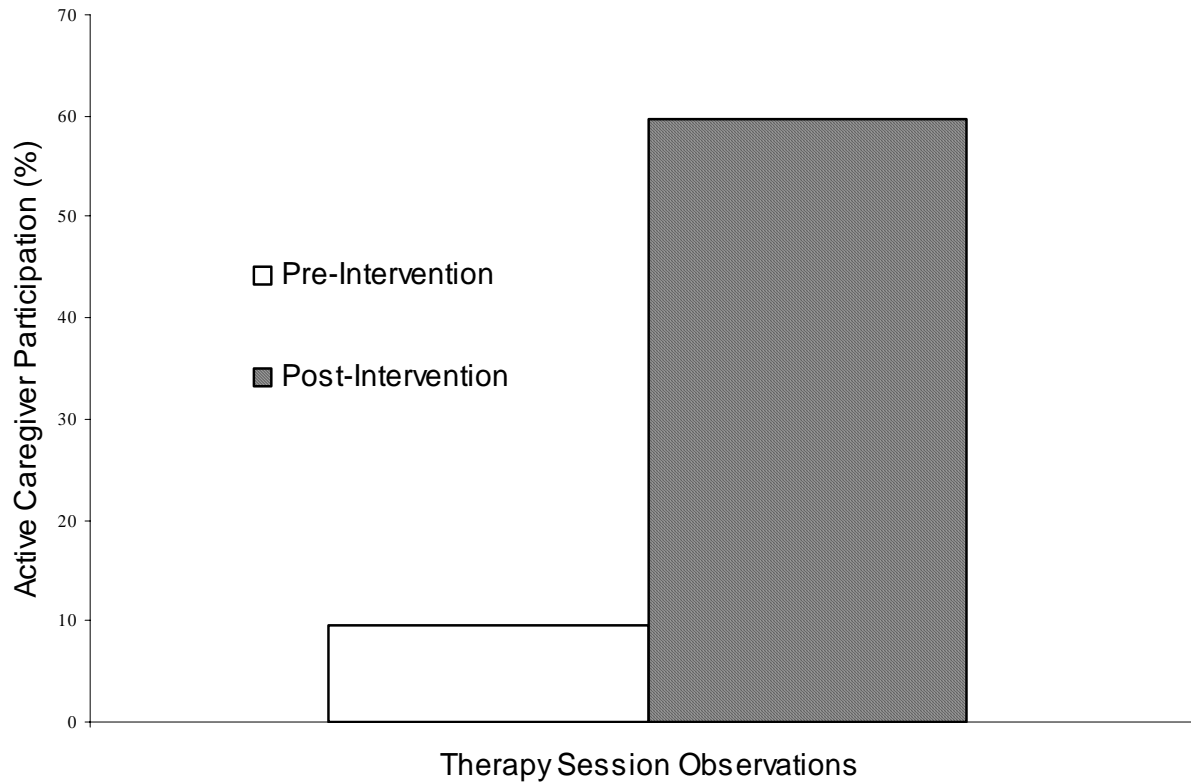
- training to the professionals in the areas of
  - contextual IFSP development
  - natural learning opportunities
  - adult learning styles and coaching strategies
- on-going individualized training to professionals
- an Internet resource tool on natural learning opportunities for professionals and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



## Results: Outcome 1

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

# Results: Outcome 1



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



## Results: Outcome 2

- 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.



## Outcome 2:

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\***

**\*  $p < .01$ .**



## Results: Outcome 3

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



# Results:

## *Mean Scores of Professional Knowledge*

### ■ Trainings Natural Learning Opportunities

Pre-Test:  $M = 16.80$

Post-Test:  $M = 37.80$

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

### ■ Adult Learning Styles/Coaching

Pre-Test:  $M = 13.40$

Post-Test:  $M = 38.40$

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

\* $p < .01$



## Results: Outcome 4

- 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.

# Results: Outcome 4

- 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\*

**\* $p < .05$**



# Results: Outcome 4



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\*

**\* $p < .05$**



# Results: Outcome 4

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\*

**\* $p < .05$**



# Results: Outcome 5

- 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



## Results: Outcome 6

- 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.

Table 3

*Paired Samples t-Test Results for Outcome 6*

	Pre-Survey	Post-Survey	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i> (one- tailed)
<u>“Caregiver Survey”</u>						
Caregivers developed IFSP goals	<i>M</i> =2.33 <sub>a</sub>	<i>M</i> =2.78 <sub>a</sub>	.44	2.05	17	.03*
Caregivers understand role	<i>M</i> =2.67 <sub>a</sub>	<i>M</i> =2.94 <sub>a</sub>	.28	1.76	17	.05*
<u>“Professional Survey”</u>						
Caregivers developed IFSP goals	<i>M</i> =36.33 <sub>b</sub>	<i>M</i> =84.17 <sub>b</sub>	47.83	3.57	4	.01**

<sup>a</sup>*n* = 18. <sup>b</sup>*n* = 5.

\**p* < .05. \*\**p* < .01



## Results: Outcome 7

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



## Outcome 7:

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



## Results: Outcome 8

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



# Outcome 8

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

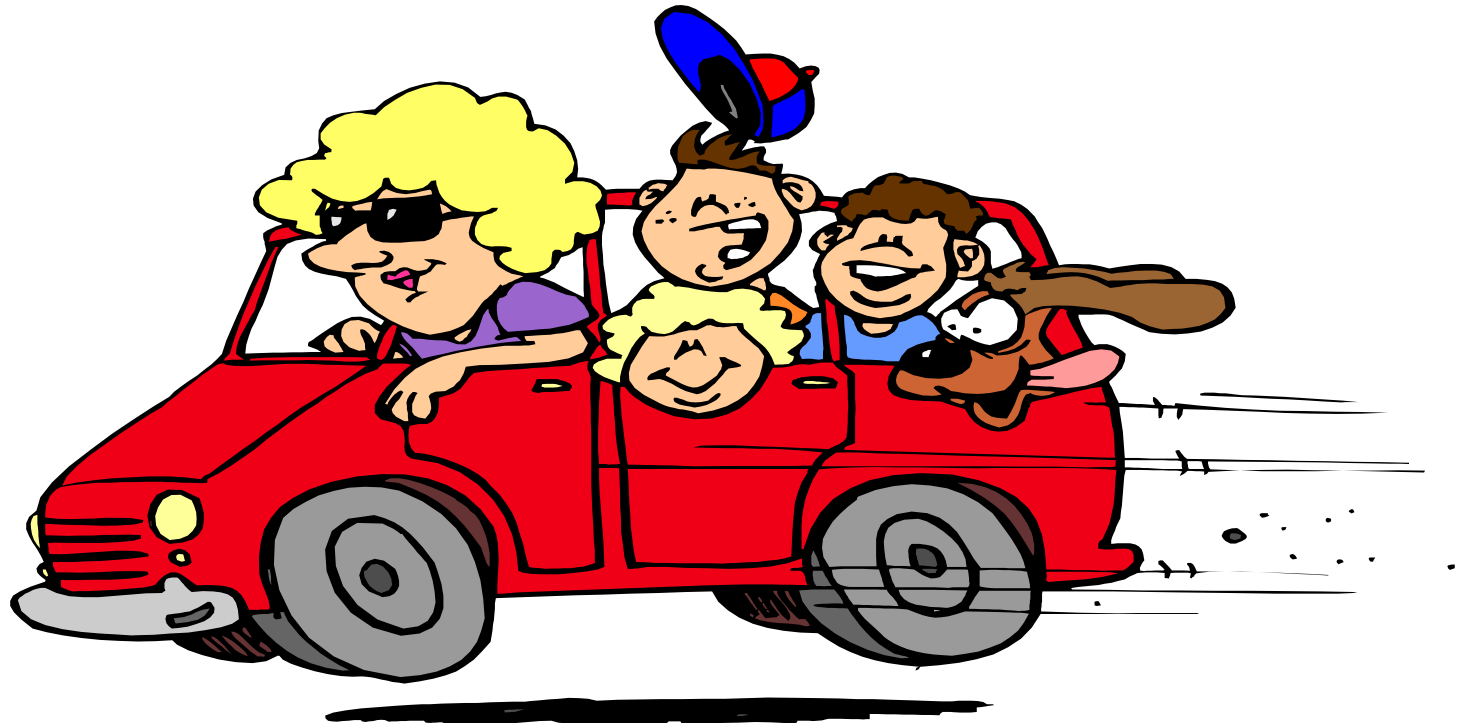
- **Answers from professionals- The training:**
  - inspired her to do less direct therapy with the child and let go of control of the therapy sessions, while empowering the families to participate more actively during the sessions
  - taught her how to empower families, which encouraged them to participate more actively with their children



# Outcome 8 (continued)

- Answers from professionals- The training:
  - 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

*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.

If professional development on “natural environment” topics and administrative support is continued, the professionals will continue to pay attention to how they are providing services and continue to make improvements to benefit children and families.



# Recommendations:

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

Non-participatory observations allow the professional to focus on aspects of the therapy session they may not be able to if they are involved in the session with the child and the family.



# Recommendations:

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

The responses to the newsletter surveys revealed 86% of the caregivers would like to continue to receive regular newsletters that would include resources and information about early intervention. Forty-three percent of the caregivers wanted to receive newsletters monthly, while 43% reported they wanted the newsletter sent out once every three months.



# Recommendations:

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

If a second group of professionals and caregivers could be used for comparison, the results of this research would be strengthened.



# 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.

If an unbiased observer collected data using the videotapes of the observations, interrater reliability could be determined, which would generate more compelling results.



# Recommendations:

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