



Pennsylvania Mind in the Making Learning Modules Evaluation

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Introduction

This report delineates the statewide evaluation of the Mind in the Making (MITM) Learning Modules for Early Childhood Teachers produced by Families and Work Institute as conducted in Pennsylvania. MITM consists of 12 modules: Beginning a learning adventure; essential connections; how learning begins, social, emotional and intellectual learning are inextricably linked; building confidence and competence; understanding temperament; how we learn to know others' thoughts and feelings; encouraging curiosity and problem solving; how to use language to make meaning from experience; memory and learning; stress and learning; and creating communities of learners. These modules are based upon adult education principles and lead teachers through a reflective and experiential learning process that focuses on key learning concepts, such as: the importance of teachers being learners about children's learning; the importance of relationships; how learning begins and continues in early childhood; seeing social, emotional and intellectual learning as integrated; and how to help children learn a variety of necessary concepts and skills (regulating their thoughts and feelings, using language to communicate, learning to solve problems, managing stress, encouraging children's natural curiosity, and fostering a love of learning).

An evaluation was conducted of the Pa MITM program during 2006 by the Capital Area Health and Human Development Institute's Research and Evaluation Division. This report is organized into a methods/data collection section (which follows), a results section, and finally a discussion section.

Methods

Participants in this study were drawn from child care centers in the Commonwealth whose Directors participated in a six day Mind in the Making Learning Facilitators training. These directors agreed to the guidelines expressed in the "Implementation Plan for Pennsylvania Mind in the Making Project". In order to participate in this study, Directors were required to meet the guidelines expressed in the orientation invitation. Directors and centers were required to:

- Be enrolled in the Keystone STARS program providing service to at least one child with a disability
- Commit to allowing the time necessary for staff to implement the program
- Directors must attend 6 days of training and engage in a learning team with other directors and Learning Facilitators
- Deliver the modules to their teachers and create learning teams within classroom and the center
- Document how they support teachers in using the knowledge between delivering the modules
- Assist in program evaluation
- Allow the Learning Facilitator to observe their program during one of the module facilitations
- Complete the Mind in the Making application

At least 13 child care centers in each of Pennsylvania's seven regions applied for participation in the Mind in the Making Training. As a result of that, 10 child care centers were able to participate in the current year's Mind in the Making training. While 10 centers in each region participated in the training and curriculum implementation, only 3 intervention sites were randomly selected to participate in this study, and 3 of the 13 interested centers were randomly selected to be a part of the control group.

Inclusion of providers in this study was based upon the number and diversity of responses. This project utilized a stratified sample, control group design. Inclusion in the control or intervention group was representative of the diversity of child care providers across the Commonwealth. Twenty-one child care centers (3 from each of the seven regions) were selected (based on the previous criteria) to serve as the intervention group who received the Mind in the Making training. An additional 21 child care centers (3 from each of the seven regions) were selected to serve as the control group.

Of the 42 centers who agreed to participate in this study (21 control, 21 intervention), 2 child care classrooms in their centers were involved in this study. These classrooms were randomly chosen on the day of the observation. Where possible, an infant room and preschool room were selected. This allowed for greater understanding of any differences in implementation in caregivers who care for differing ages of children.

Data on the ECERS-R, ITERS-R and Caregiver Interaction Scale (CIS/Arnett5) were collected by eight data collectors who were chosen based on their significant experience and expertise in the early childhood field. All data collectors had extensive experience using the Environmental Rating Scales; six of the data collectors are employed as Keystone STARS Quality Assessors, and the two additional data collectors have used the measures in a wide array of research projects for the Pennsylvania State University.

Because of the immediate start date for data collection, the bulk of the pretest assessments were conducted by the PSU researchers. While the STARS Assessors were familiar with the Arnett Caregiver Interaction Scale, there was no convenient time to bring all assessors together for training on the measure in a timely manner. Because the focus of Mind in the Making is on Social Emotional encouragement by the caregiver, this measure was imperative to be used. After pre testing was completed, the Keystone STARS Assessors were brought together for classroom training on the measure so they were able to conduct the post testing assessments.

Pretest data were collected during a 14-week period (November 17, 2005 through February 24, 2006). Posttest data collection occurred between July 24 and September 29, 2006 (a 10-week period). To ensure continued reliability and assess observer drift of observational data several sites were randomly selected and duplicate data were collected. The results of these two observations were compared and reliability between observers was confirmed.

The instruments used in this study were (a) the Early Childhood Environment Rating Scale, Revised Edition (ECERS-R)(Harms, Clifford, & Cryer, 1998) for all child care programs where the enrolled children were between the ages 2 ½ to 5 years of age, (b) the Infant Toddler Environment Rating Scale, Revised Edition (ITERS-R) ((ITERS) (Harms, Clifford and Cryer, 2003), assesses the quality of infant and toddler child care environments (infants age 6 weeks through 30 months), and the (c) the Arnett Caregiver Interaction Scale (CIS)(Arnett, 1989, Carl Modified, 2005), for all caregivers in the

sample as a measure of caregiver interactions with children.

The Early Childhood Environment Rating Scale, Revised (ECERS-R). The ECERS-R is a measure of program quality and consists of 43 items organized into 7 subscales: (1) Space and furnishings, (2) Personal care routines, (3) Language reasoning, (4) Activities, (5) Interactions, (6) Program structure, (7) Parents and staff. The descriptors cover the needs of children, ages 2 ½ to 5 years of age. This instrument has been widely used in the early childhood field for many years for determining the quality of child care. The ECERS-R is a revision of the original ECERS-R; it is not a new scale. The ECERS-R retains the original scale's broad definition of environment, including those spatial, programmatic, and interpersonal features that directly affect the children and adults in an early childhood environment.

The Infant Toddler Environmental Rating Scale (ITERS). The ITERS-R is a measure of program quality and consists of 39 items organized into 7 subscales: (1) Space and furnishings, (2) Personal care routines, (3) Listening and talking, (4) Activities, (5) Interaction, (6) Program structure, and (7) Parents and staff. The descriptors cover the needs of children, ages 6 weeks through 30 months. This instrument has been widely used in the early childhood field for many years for determining the quality of child care. Like the ECERS-R, the ITERS-R is not a new scale, rather a revision of the original ITERS. The ITERS-R retains the original scale's broad definition of environment.

The following ratings were used with the ECERS-R and ITERS-R: poor = 1; minimal = 3; good = 5; and excellent = 7. All scores are the averages of the scale. These average scores were used for analysis rather than the raw scores so that comparisons could be made between the ECERS-R and ITERS-R scores.

The Caregiver Interaction Scale (CIS/Arnett5). The CIS (Arnett, 1989) was completed for each caregiver observed. It is a measure of caregiver sensitivity and the items are divided into four sub-scales: permissive (P), harshness (H), detached (D) and harshness/sensitivity (S). The Arnett5 is a modification of the original Arnett (1989) measure. The original Arnett scoring includes: not at all/never (0%) = 1; few instances/somewhat (1-30%) = 2; many instances/quite a bit (about 50%) = 3; consistently/very much (60- 100%) = 4. The modified version, while retaining the same indicators and descriptors, was expanded to consist of a 5-point scale to allow for more variability among the data. The modified Arnett scoring includes: not at all/never (0%) = 1; few instances (1-25%) = 2; some instances (26 – 50%) = 3; many instances (51 – 75%) = 4; and consistently (76+%) = 5. This instrument provides an observation of the behavior of caregivers in their interactions with children. Therefore, there is a balance between the rating scales and interaction scale so that both environment and caregiver's interactions are noted.

Results

The results will be broken out into an ECERS/Arnett section for the preschool classrooms and then an ITERS/Arnett section for the infant classrooms. Summary data will be provided initially followed by item by item data. The Arnett data are measured on a 5 point scale; the ECERS/ITERS on a 7 point scale.

ECERS/Arnett Summary Data—Table 1

Intervention Group

<u>Scale/sub-scale</u>	<u>Pre test</u>	<u>Post test</u>
Arnett	3.11	3.20
Space & Furnishings	4.31	4.46
Personal Care Routines	2.89	3.24
Language & Reasoning	5.05	5.19
Activities	4.27	4.53
Interaction	5.62	5.71
Program Structure	4.40	3.99
Parents & Staff	5.56	5.42
Total ECERS	4.50	4.63

Control Group

<u>Scale/sub-scale</u>	<u>Pre test</u>	<u>Post test</u>
Arnett	2.99	3.05
Space & Furnishings	4.38	4.48
Personal Care Routines	2.88	3.37
Language & Reasoning	4.99	4.75
Activities	4.14	3.86
Interaction	5.41	5.44
Program Structure	4.28	4.30
Parents & Staff	5.57	5.38
Total ECERS	4.44	4.43

Post test only

<u>Scale/sub-scale</u>	<u>Intervention Group</u>	<u>Control Group</u>
Arnett	3.20	3.05
Space & Furnishings	4.46	4.48
Personal Care Routines	3.24	3.37
Language & Reasoning	5.19	4.75
Activities	4.53	3.86
Interaction	5.71	5.44
Program Structure	3.99	4.30
Parents & Staff	5.42	5.38
Total ECERS	4.63	4.43

ECERS/Arnett Item Data

Arnett (5.00 scale)—Table 2

	<u>Intervention</u>		<u>Control</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Speaks warmly to children	4.55	4.44	4.37	4.13
Seems critical of children	1.20	1.00	1.25	1.31
Listens attentively	4.15	4.31	4.05	3.94
Places high value on obedience	2.20	1.63	2.65	2.41
Excited about teaching	4.20	4.25	3.80	3.82
Seems emotionally distant	1.35	1.25	1.50	1.53
Seems to enjoy children	4.45	4.63	4.00	4.00
Reason for rules	3.60	3.50	3.55	3.00
Try different experiences	3.65	4.06	3.40	3.59
Little control over children	1.30	1.31	1.60	1.29
Speaks with irritation	1.20	1.00	1.50	1.53
Seems enthusiastic	4.15	4.38	3.70	3.88
Threatens children	1.15	1.06	1.20	1.24
Time in activity w/o children	1.60	1.38	1.80	1.59
Pays positive attention	4.15	4.56	3.95	4.00
Negative physical contact	1.05	1.00	1.10	1.12
Appropriately reprimands	3.95	3.63	3.85	4.06
Mechanized teaching	2.30	1.38	2.45	1.63
Talks to children	4.50	4.94	4.55	4.59
Punishes children	1.20	1.19	1.10	1.29
Firmness	4.00	4.25	4.15	4.44
Prosocial behaviors	3.90	4.38	3.80	4.00
Finds fault easily	1.15	1.06	1.25	1.41
Positive physical contact	4.10	4.19	3.45	3.88
Seems interested	3.90	4.38	3.75	3.88
Prohibit many things	1.65	1.19	2.25	1.71
Sincere in tone	4.70	4.63	4.50	4.41
Supervises closely	4.20	4.13	3.65	3.94
Self control	4.25	4.44	3.85	3.88
Eye contact	4.40	4.44	3.95	4.00
Harsh when prohibiting children	1.20	1.31	1.20	1.33
Helps children take viewpoint of others	3.05	3.63	3.10	3.35
Open ended inquiry	3.60	3.94	3.20	3.18
Literacy	3.60	3.38	3.75	3.35
Verbal conflict resolution	3.10	3.56	2.45	3.29
Encourages choices	3.58	4.19	3.40	3.59
Transform, reconstruct, problem solve	2.70	3.38	2.85	2.71
Peer social interaction	3.75	4.56	3.50	4.18
Number concepts	2.84	3.13	3.10	3.00
Dialogues with children	3.95	4.56	3.40	4.00

ECERS (7.00 scale)—Table 3

	<u>Intervention</u>		<u>Control</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Indoor space	4.47	4.06	4.38	4.78
Furniture for care	5.68	6.00	6.48	5.89
Furnishings for relaxation	5.32	5.00	3.71	4.50
Room arrangements	4.00	4.18	3.95	3.89
Space for privacy	5.00	4.47	5.14	4.83
Child related display	4.37	4.24	4.57	4.17
Gross motor	2.21	2.76	2.35	3.22
Gross motor equipment	3.42	4.94*	4.85	4.61
Greeting/departing	6.41	6.38	5.80	6.28
Meals/snacks	2.37	2.29	1.80	2.18
Nap/rest	2.29	1.57	1.94	2.29
Toileting/diapering	2.42	3.00	3.19	2.72
Health practices	2.68	4.12*	3.10	3.78
Safety practices	1.47	1.76	1.76	2.00
Books	4.79	4.35	4.48	4.33
Children to communicate	5.89	6.24	6.33	5.72
Language and reasoning	4.05	4.00	3.57	3.61
Informal use of language	5.47	6.24	5.19	5.33
Fine motor	5.26	5.06	4.95	4.50
Art	4.95	5.00	4.71	3.94
Music/movement	3.84	4.82	4.00	3.56
Blocks	3.89	4.24	3.33	3.44
Sand/water	4.21	4.59	4.24	4.28
Dramatic play	4.53	4.29	4.00	4.39
Nature/science	3.58	4.82*	3.38	4.06
Math/number	3.95	3.82	3.67	3.50
TV	3.80	4.07	3.20	3.07
Diversity	4.68	4.94	4.24	3.72
Supervise gross motor	5.15	5.27	5.38	5.69
General supervision	4.00	4.76	4.33	4.72
Discipline	5.63	5.41	5.52	4.94
Staff child interactions	6.74	6.35	6.38	5.72
Interactions among children	6.26	6.00	6.05	5.72
Schedule	3.37	2.94	3.10	3.17
Free play	3.95	2.94	4.19	4.00
Group time	5.47	6.29	5.52	5.56
Disabled children	6.00	3.00	5.18	4.88
Parents	5.95	6.12	6.05	5.83
Personal needs of staff	3.47	3.65	3.95	3.89
Professional needs of staff	5.68	5.71	5.67	5.28
Staff interaction	6.11	6.29	6.25	5.71
Supervision of staff	6.63	6.24	6.53	6.44
Opportunities for prof growth	5.53	4.53	5.26	5.22

ITERS/Arnett Summary Data—Table 4

Intervention Group

<u>Scale/sub-scale</u>	<u>Pre test</u>	<u>Post test</u>
Arnett	2.65	2.97
Space & Furnishings	3.70	3.36
Personal Care Routines	2.33	2.52
Listening & Talking	4.74	4.14
Activities	3.20	3.13
Interaction	5.02	5.23
Program Structure	2.76	3.63*
Parents & Staff	5.26	4.95
Total ITERS	3.87	3.91

Control Group

<u>Scale/sub-scale</u>	<u>Pre test</u>	<u>Post test</u>
Arnett	2.93	2.98
Space & Furnishings	4.28	4.07
Personal Care Routines	3.34	3.22
Listening & Talking	5.07	4.58
Activities	3.60	3.65
Interaction	6.17	6.20
Program Structure	3.92	4.20
Parents & Staff	5.54	5.47
Total ITERS	4.49	4.43

Post test only

<u>Scale/sub-scale</u>	<u>Intervention Group</u>	<u>Control Group</u>
Arnett	2.97	2.95
Space & Furnishings	3.36	4.07
Personal Care Routines	2.52	3.22
Listening & Talking	4.14	4.58
Activities	3.13	3.65
Interaction	5.23	6.20
Program Structure	3.63	4.20
Parents & Staff	4.95	5.47
Total ITERS	3.91	4.43

* $p < .05$

ITERS/Arnett Item Data

Arnett (5.00 scale)—Table 5

	<u>Intervention</u>		<u>Control</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Speaks warmly to children	4.56	4.57	4.61	4.71
Seems critical of children	1.17	1.00	1.00	1.06
Listens attentively	3.67	4.00	4.00	4.18
Places high value on obedience	1.76	1.29	1.33	1.12
Excited about teaching	3.59	4.14	4.11	4.18
Seems emotionally distant	1.78	1.50	1.22	1.18
Seems to enjoy children	3.83	4.57	4.78	4.59
Reason for rules	2.80	3.29	4.00	3.00
Try different experiences	3.00	3.43	3.67	3.94
Little control over children	1.24	1.07	1.00	1.06
Speaks with irritation	1.11	1.07	1.00	1.00
Seems enthusiastic	3.50	4.07	4.22	4.24
Threatens children	1.17	1.14	1.00	1.00
Time in activity w/o children	1.83	1.57	1.33	1.53
Pays positive attention	4.18	4.43	4.28	4.53
Negative physical contact	1.00	1.07	1.00	1.00
Appropriately reprimands	3.88	4.07	4.29	3.94
Mechanized teaching	1.71	1.50	1.44	1.24
Talks to children	4.39	4.79	4.76	4.65
Punishes children	1.06	1.07	1.00	1.06
Firmness	4.44	4.21	4.94	4.06
Prosocial behaviors	2.18	4.14	3.40	4.00
Finds fault easily	1.06	1.07	1.00	1.00
Positive physical contact	4.22	4.77	4.76	4.76
Seems interested	3.50	4.29	4.06	4.47
Prohibit many things	1.56	1.43	1.28	1.29
Sincere in tone	4.50	4.57	4.83	4.76
Supervises closely	4.11	4.14	4.75	4.18
Self control	4.35	4.14	4.65	4.12
Eye contact	4.06	4.71	4.39	4.47
Harsh when prohibiting children	1.11	1.25	1.00	1.00
Helps children take viewpoint of others	1.71	2.79	2.57	2.82
Open ended inquiry	2.29	2.79	3.50	3.06
Literacy	2.53	2.21	3.19	2.53
Verbal conflict resolution	2.10	2.29	1.50	2.25
Encourages choices	2.88	3.21	3.65	4.00
Transform, reconstruct, problem solve	1.75	1.93	3.17	2.06
Peer social interaction	2.19	3.79	3.47	4.06
Number concepts	2.25	1.71	3.06	1.94
Dialogues with children	2.78	4.07	3.59	4.06

ITERS (7.00 scale)—Table 6

	<u>Intervention</u>		<u>Control</u>	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Indoor space	4.00	3.57	4.61	4.20
Furniture for care	3.18	3.00	4.67	4.07
Furnishings for relaxation	4.00	3.29	3.78	4.53
Room arrangements	2.88	2.79	4.06	3.47
Display for children	4.47	4.14	4.50	4.07
Greeting/departure	6.33	6.38	6.93	6.85
Meals/snacks	1.53	1.50	2.18	2.27
Nap	1.56	1.23	1.65	2.00
Diapering/toileting	1.76	1.57	2.50	1.93
Health practices	2.35	2.71	3.78	3.73
Safety practices	1.53	2.00	2.61	2.67
Helping understand language	5.47	5.14	5.72	5.53
Helping use language	5.65	5.64	5.78	5.60
Using books	2.88	1.64	2.89	2.60
Fine motor	4.59	4.36	4.89	5.07
Active physical play	1.94	2.14	2.56	2.53
Art	3.89	5.33*	5.38	5.50
Music	3.76	3.21	4.94	4.27
Blocks	2.92	2.11	2.00	2.00
Dramatic play	3.71	3.00	3.39	3.73
Sand/water play	4.20	2.17	1.67	0.00
Nature/science	3.00	2.14	2.50	2.60
TV	3.00	2.00	0.00	0.00
Diversity	3.06	2.86	3.11	3.00
Supervision	4.82	4.36	6.11	6.07
Peer interaction	5.24	5.21	5.83	5.73
Staff child interactions	5.76	6.14	6.17	6.87
Discipline	4.76	5.21	6.00	6.13
Schedule	3.82	4.64	4.50	4.47
Free play	2.00	2.36	2.61	3.14
Group play	2.67	3.00	5.20	4.67
Disabled children	3.33	4.00	0.00	0.00
Parents	5.53	5.79	6.00	5.87
Personal needs of staff	3.24	3.36	3.56	4.20
Professional needs of staff	5.47	5.64	5.89	5.20
Staff interaction	5.88	5.14	6.25	6.00
Staff continuity	5.35	4.93	5.33	6.13
Supervision of staff	6.29	5.79	5.94	6.13
Opportunities for prof growth	5.35	4.71	5.06	4.87

* p < .05

Discussion

ECERS/Arnett

The results from this evaluation are all in a positive direction although not at a statistically significant level because of the minimum intervention (9 months) and the small sample sizes (21 Intervention classrooms and 21 Control classrooms). However, the results are very promising and should provide a great deal of guidance as the Office of Child Development continues the implementation of MITM in other sites throughout the state.

In the summary data (Table 1) on page 5, the intervention group showed substantial changes (.20 or greater) in two subscales on the ECERS: *personal care routines subscale and activities subscale*. On the *personal care routines subscale the scores went from 2.89 to 3.24 and on the activities subscale the scores went from 4.27 to 4.53*. The control group only had one subscale which showed substantial positive change: *personal care routines subscale* where the score went from 2.88 to 3.37. When only the posttest scores were compared the intervention group was substantially higher than the control group on the following ECERS subscales: *language and reasoning subscale (5.19 versus 4.75); activities subscale (4.53 versus 3.86); and interaction subscale (5.71 versus 5.44)*.

In the detailed data (Table 2) on page 6 which delineates all the Arnett scale scores the intervention classrooms had substantial changes (.20 or greater) in the following items: *places high value on obedience (from 2.20 to 1.63); try different experiences (3.65 to 4.06); pays positive attention (4.15 to 4.56); talks to children (4.50 to 4.94); firmness (4.00 to 4.25); seems interested (3.90 to 4.38); prohibit many things (1.65 to 1.19); helps children take viewpoint of others (3.05 to 3.63); open ended inquiry (3.60 to 3.94); choices (3.58 to 4.19); transform, reconstruct (2.70 to 3.38); peer social interaction (3.75 to 4.56); number concepts (2.84 to 3.13); and dialogues with children (3.95 to 4.56)*. In all 14 items increased substantially for the MITM intervention classrooms. Only 8 items increased substantially for the control classrooms.

In the detailed data (Table 3) on page 7 which delineates all the ECERS scale scores the intervention classrooms had substantial changes (.20 or greater) in the following items: *furniture for care (5.68 to 6.00); gross motor (2.21 to 2.76); gross motor equipment (3.42 to 4.94; $p < .05$); toileting/diapering (2.42 to 3.00); health practices (2.68 to 4.12; $p < .05$); children to communicate (5.89 to 6.24); informal use of language (5.47 to 6.24); music/movement (3.84 to 4.82); blocks (3.89 to 4.24); sand/water (4.21 to 4.59); nature/science (3.58 to 4.82; $p < .05$); TV (3.80 to 4.07); general supervision (4.00 to 4.76); and group time (5.47 to 6.29)*. In total, 14 items increased substantially with three changes being statistically significant at the .05 level for the MITM intervention classrooms. Eleven items increased substantially for the control classrooms none of the items reached statistical significance.

ITERS/Arnett

In the summary data (Table 4) on page 8, the intervention group showed substantial changes (.20 or greater) in two subscales on the ITERS: *interaction subscale and program structure subscale (statistically significant change)*. On the *interaction subscale the scores went from 5.02 to 5.23; and on the program structure subscale the scores went from 2.76 to 3.63*. The control group only had one subscale which showed substantial positive change: program structure subscale where the score went from 3.92 to 4.20. When only the posttest scores were compared the intervention group was substantially lower across all the subscales because their pretest scores were substantially lower than the control group classrooms.

In the detailed data (Table 5) on page 9 which delineates all the Arnett scale scores the intervention classrooms had substantial changes (.20 or greater) in 24 of the items: *listens attentively, places high value on obedience, excited about teaching, seems emotionally distant, seems to enjoy children, reason for rules, try different experiences, seems enthusiastic, time in activity without children, pays positive attention, appropriately reprimands, mechanized teaching not present, talks to children, firmness, pro-social behaviors, positive physical contact, seems interested, expects children to exercise self control, eye contact, helps children take viewpoint of others, engages children with open ended inquiry, encourages choices or variety of options, encourages peer social interaction, and dialogues with children*. Only 11 items increased substantially for the control classrooms.

In the detailed data (Table 6) on page 10 which delineates all the ITERS scale scores the intervention classrooms had substantial changes (.20 or greater) in 10 of the items: *health practices, safety practices, art ($p < .05$), staff child interactions, discipline, schedule, free play, group play, disabled children, and parents*. Eight items increased substantially for the control classrooms none of the items reached statistical significance.

Overall Summary

Based upon these results with such a minimal intervention and small sample it is clear that the MITM program had a positive impact on the overall quality of care in the programs where it was implemented. It is significant that there were substantial changes in the *language and reasoning, activities, and the interaction subscales on the ECERS in the preschool classrooms* and many of the *Arnett items dealing with giving choices to children, increased dialogue with children, and trying different experiences also changed positively*.

In the *infant classrooms* there were substantial changes in the *interaction and program structure (statistically significant change) subscales on the ITERS and many of the Arnett items dealing with listening attentively, try different experiences, reduction in mechanized teaching and increased choices for children also changed positively*. With an extended intervention period these positive results should grow from being substantial to statistically significant results.

References

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