



# ASSESSING INDIANA'S EARLY EDUCATION CLASSROOMS - FINAL REPORT

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## INTRODUCTION

We know that high quality early education represents one of the best investments that society can make for promoting successful educational outcomes for all children and particularly for children who are at risk for school failure (Heckman & Masterov, 2007). Early education, if done well, can significantly erase or minimize the later achievement gaps that exist for many of our children (Barnett, 2011; Camilli, Vargas, Ryan, & Barnett, 2010; Pianta, Barnett, Burchinal, & Thornburg, 2009). The evidence is so overwhelming that 39 states have elected to provide publicly funded prekindergarten for their preschoolers (Barnett, Carolan, Fitzgerald, & Squires, 2011). The most recent report published by the National Institute for Early Education Research, *The State of Preschool 2011*, estimates that these 39 states provided prekindergarten services for 28% of all 4-year olds in this country. Unfortunately, Indiana is not one of those states.

## OTHER BRIEFS IN THIS SERIES...

- *How Children Spend Their Time in Preschool: Implications for Our Practice*
- *Teacher-Child Interactions that Make a Difference*
- *Which Curriculum Should We Use? How Do We Choose?*

In the absence of funding and state leadership, Indiana preschoolers have to rely on a patchwork system of services that falls short of the capacity to serve children who need these services most (Spradlin, Conn-Powers, & Wodicka, 2013).

In 2012, we initiated a study to investigate how well early education programs in Indiana were doing. We were interested in seeing how well our classrooms performed in relation to other states and to one another. We also wanted to see how well our practices aligned with the considerable research evidence documenting effective early education practices that has emerged over the past 10 years.

This brief summarizes the methods we used to conduct our study, the results, and a brief discussion of the implications of our findings. We hope that the information we gained from this study benefits both policy makers and classroom practitioners. For policy makers, our goal is to establish a comparative baseline of program quality from which clear directions and decisions can be made to enhance preschool services in Indiana. For practitioners, our hope is that the insights we made about the presence (and absence) of evidence-based early education practices can inform decisions concerning classroom schedules, curricula, and teaching practices.

## METHODOLOGY

For this study, we conducted video-recorded observations in three types of early care and education programs throughout Indiana. We analyzed the video recordings using two research-based measurement protocols used in large national studies investigating the quality of early education in states with well-established prekindergarten programs. We then analyzed the results of these measures to answer our questions about program quality.

### Research Participants

We sent out invitations to all 37 Head Start programs, 419 licensed child care centers, and 63 public school districts with prekindergarten programs in Indiana. Of these 519 programs, 158 agreed to allow their classroom teachers to participate in our study (108 licensed child care centers, 20 Head Start programs, and 30 school districts). We then sent out invitations to participate in our study to all classroom teachers in the 158 programs; 134 teachers volunteered to participate. We limited participation to two teachers per single-site program and three per multi-site program. Because of attrition, recruitment errors, or having too many teachers from any one program volunteer, our final sample was made up of 81 teachers representing 28 classrooms in licensed child care centers, 27 classrooms in Head Start programs, and 26 classrooms in public school prekindergarten programs.

Table 1 highlights the educational background and teacher licensure characteristics of these 81 participants.

Each domain is comprised of three or four individual dimensions with 10 dimensions altogether.

All three investigators in this study were trained and tested on the CLASS and EAS measures and found to meet the test developers' standards for accuracy and reliability.

Table 1  
Research participant characteristics by Indiana programs

Variable	All Indiana Programs (n=81)	Head Start (n=27)	Child Care (n=28)	Public School (n=26)
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>
Teacher characteristics				
Teacher has a CDA	0.06	0.00	0.14	0.04
Teacher has AA	0.22	0.41	0.14	0.12
Teacher has a BA or greater	0.63	0.59	0.57	0.73
Teacher has teacher license	0.40	0.15	0.36	0.69
Program characteristics				
National accreditation	0.27	0.15	0.61	0.04
Paths to Quality Levels 1-2	0.05	0.00	0.11	0.04
Paths to Quality Level 3	0.23	0.48	0.21	0.00
Paths to Quality Level 4	0.26	0.15	0.57	0.04

## Procedures and Measures

From April through May and September through November of 2012, we completed video-recorded observations in all 81 classrooms. We typically recorded only in-class morning activities, excluding mealtimes, and lasting throughout the morning until lunch. The recorded observations averaged two hours ( $M = 117$  minutes,  $SD = 25.2$  minutes), ranging from a low of 63 minutes to a high of 181 minutes.

We analyzed each recorded observation using two tools: the Classroom Assessment Scoring System (CLASS) (Pianta, LaParo, & Hamre, 2008), and the Emerging Academic Snapshot (EAS) (Ritchie, Howes, Kraft-Sayre, & Weiser, 2002). The CLASS focuses on three broad domains of effective teacher-child interactions that characterize children's classroom experiences: Emotional Support, Classroom Organization, and Instructional Support. Emotional Support captures how teachers help children develop positive relationships, enjoyment in learning, comfort in the classroom, and appropriate levels of independence. Classroom Organization focuses on how well teachers manage the classrooms to maximize learning and keep children engaged. The Instructional Support domain involves how teachers promote children's thinking and problem solving, use feedback to deepen understanding, and help children develop more complex language skills.

Each dimension is rated on a scale of 1-7: a score of 1-2 indicates low levels of quality, scores of 3-5 indicate medium levels of quality, and scores of 6-7 indicate high levels of quality. We scored programs for each dimension based on four observation cycles of 15-20 minutes each followed by a 10-15-minute rating period. We then averaged the individual dimension scores into the three domain scores (see Pianta et al., 2008).

The EAS measures the types and frequency of activities and instruction to which children are exposed. The types of activities recorded include common preschool activities such as free choice time, whole group time, basic routines, small group instruction, individual work time, and meal/snack times. The EAS also looks at children's exposure to various curricular areas, including aesthetics (art, music), literacy/language (read to, pre-reading or reading a book, oral language, letters/sounds), math, science, and social studies. Some teacher actions (instruction) were also included. The EAS uses an interval sampling protocol. The coder would observe an individual child or group for 20 seconds followed by a 40-second coding period. This procedure lasted throughout the complete video recording. Because the amount of time we observed each classroom varied, we converted each score (frequency of intervals) to proportions of the classroom period (frequency of intervals/total number of minutes observed).

## SUMMARY OF RESULTS

### Data Analyses

We conducted both descriptive and inferential analyses of our data. The descriptive analyses summarize our findings from coding the Indiana classrooms with the CLASS and the EAS and information from the brief questionnaire we asked all teachers to complete. The questionnaire addressed two classroom characteristics: the curriculum used and if the program was accredited and participating in Indiana's child care quality rating system, Paths to Quality™. Table 2 (next page) presents the means and standard deviations for Indiana programs for the CLASS, EAS, and questionnaire data. The CLASS scores include both the composite and domain scores (e.g., Emotional Support) and their respective dimension scores (e.g., Positive Climate, Negative Climate). The EAS means include the percentage of time children were engaged in various kinds of activities and the focus of that engagement.

The inferential analyses included two sets of statistical comparisons. First, we compared our Indiana classroom data with the classroom data from two national studies. The first national study includes the National Center for Early Development and Learning (NCEDL) data on 11 states from its Multi-State Study of Pre-Kindergarten and State-Wide Early Education Programs (SWEEP) Study (Early et al., 2005). The second study is an evaluation of the Tulsa, Oklahoma prekindergarten program (Phillips, Gormley, & Lowenstein, 2009). We also conducted a second set of statistical comparisons to determine if there were differences among the three types of Indiana programs that participated in our study: Head Start programs, licensed child care centers, and public school prekindergarten programs.

Table 2  
Means and standard deviations for the CLASS, EAS, and classroom variables by Indiana programs

Variable	All Indiana Programs		Head Start		Licensed Child Care Centers		Public School	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.
Emotional Support composite (CLASS)	5.89	0.82	6.12	0.59	5.91	0.96	5.62	0.81
Positive climate	6.05	1.01	6.35	0.78	5.97	1.20	5.83	0.96
Negative climate <sup>1</sup>	1.35	0.55	1.20	0.40	1.38	0.58	1.47	0.63
Teacher sensitivity	5.71	1.02	5.86	0.81	5.73	1.26	5.53	0.95
Regard for student perspectives	5.15	1.12	5.47	0.76	5.36	1.21	4.60	1.16
Classroom Organization composite (CLASS)	5.36	0.96	5.52	0.78	5.21	1.21	5.37	0.84
Behavior management	5.44	1.16	5.51	1.06	5.37	1.37	5.46	1.04
Productivity	5.78	1.00	5.99	0.70	5.58	1.29	5.79	0.91
Instructional learning formats	4.86	1.03	5.06	0.85	4.68	1.22	4.85	0.96
Instructional Support composite (CLASS)	2.47	0.94	2.46	1.00	2.55	0.89	2.38	0.95
Concept development	2.27	0.92	2.28	0.89	2.36	0.93	2.17	0.96
Quality of feedback	2.59	1.03	2.62	1.12	2.49	0.85	2.68	1.14
Language modeling	2.53	1.06	2.47	1.08	2.80	1.11	2.30	0.97
Classroom activities (EAS)								
Basics/routine	0.12	0.07	0.12	0.06	0.13	0.09	0.12	0.05
Free choice	0.35	0.19	0.43	0.11	0.40	0.20	0.21	0.16
Individual instruction	0.10	0.11	0.05	0.06	0.10	0.10	0.17	0.13
Small group instruction	0.10	0.12	0.08	0.08	0.10	0.13	0.13	0.13
Whole group instruction	0.28	0.12	0.30	0.09	0.22	0.14	0.33	0.11
Snack	0.04	0.05	0.02	0.05	0.05	0.05	0.04	0.05
Exposure to learning domains (EAS)								
Aesthetics	0.25	0.16	0.29	0.14	0.28	0.21	0.18	0.07
Computer	0.02	0.03	0.02	0.02	0.01	0.03	0.02	0.03
Gross motor	0.03	0.04	0.04	0.04	0.02	0.04	0.03	0.04
Literacy/language	0.44	0.16	0.41	0.15	0.42	0.16	0.50	0.16
Math	0.13	0.07	0.12	0.06	0.12	0.07	0.17	0.07
Science	0.23	0.13	0.27	0.13	0.21	0.13	0.22	0.14
Social studies	0.18	0.11	0.19	0.10	0.23	0.12	0.12	0.07
Writing	0.04	0.05	0.03	0.03	0.04	0.06	0.07	0.06
None	0.21	0.10	0.19	0.10	0.22	0.13	0.22	0.07
Classroom characteristics/curricula <sup>2</sup>								
No curricula	0.21	x	0.00	x	0.29	x	0.32	x
Curricula with no evidence	0.26	x	0.04	x	0.25	x	0.52	x
Curricula with evidence but no impact	0.51	x	0.96	x	0.46	x	0.08	x
Curricula with evidence and impact	0.02	x	0.00	x	0.00	x	0.08	x
National accreditation	0.21	x	0.00	x	0.29	x	0.35	x

<sup>1</sup> Negative climate is scaled in opposite direction of the other CLASS scales. Higher negativity means lower quality

<sup>2</sup> Standard deviation was not computed for the classroom characteristic/curricula variable; also one public school program did not report on their classroom curriculum.

We examined differences among our Indiana classrooms with the multi-state NCEDL and Tulsa classrooms using a series of independent-samples t-tests comparing Indiana with NCEDL classrooms and then comparing Indiana with Tulsa Pre-K classrooms. Given the large number of comparisons, we used a p-value of (.05) and divided it by the total number of comparisons made in each series. For both series, the corrected p-value threshold for determining statistical significance was ( $p < .003$ ).

We present the results of our analyses in the following three sections. The first section looks at how children spend their time and examines both descriptive and comparative analyses of Indiana and national programs using the EAS data.

The second section looks at the program curricula that teachers reported using and organizes those results according to the presence of evidence demonstrating impact on children's learning and development. The third section looks at the quality of teaching observed in Indiana classrooms.

### How do children spend their time?

The EAS captures six common classroom activities (Ritchie, Howes, Kraft-Sayre, & Weiser (2002). Basics include times of the day when children were in the bathroom, hand washing, making transitions between activities, and/or waiting during activities.

*Meals/snacks* was coded when children were engaged in eating snacks; we avoided mealtimes such as breakfast and lunch. *Whole group time* was coded when the entire class was engaged in teacher-initiated activities, including stories, calendar, songs, and book reading. *Free choice/center time* was coded when children were able to choose what and where they could play or learn. This is commonly referred to as free play time. *Individual time* was coded when children were assigned to work independently on various tasks, such as independent projects, computer work, worksheets, or individual reading. *Small group time* was coded when children were assigned to small group activities that the teacher had designed; the teacher may or may not have been present.

Figure 2 provides the proportion of times that children spent in the six observed activities. From our observations of Indiana classrooms, children spent the most time in free choice activities ( $M=34.9\%$ ,  $S.D.=18.7\%$ ), followed closely by whole group time ( $M=28.3\%$ ,  $S.D.=12.3\%$ ). Very little time was spent in snack/meals largely because we scheduled our observations to avoid mealtimes.

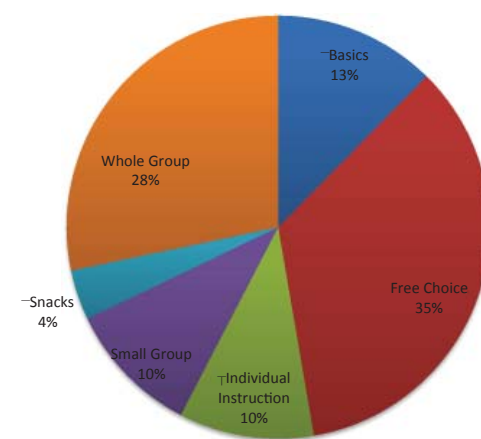


Figure 2. Proportion of time Indiana programs spend in classroom activities

Table 3 presents the results comparing the time spent in various classroom activities by Indiana children with the data from the multistate NCEDL study (Early et al., 2005).

Children in the Indiana classrooms spent a significantly greater proportion of their time in small group ( $M=10\%$ ) and individual times ( $M=10\%$ ) than children in the NCEDL classrooms ( $M=6\%$  &  $4\%$ , respectively). Children in the NCEDL classrooms spent a significantly higher proportion of their time in basics ( $M=21\%$ ) than children in Indiana classrooms basics ( $M=12\%$ ). There were no other significant differences found. It is important to note that NCEDL carried out observations for a significantly greater proportion of the day ( $M=193.6$  minutes,  $S.D.=82.5$ )—"from the beginning of class until the end in part-day classrooms and from the beginning of class until nap in full day classrooms (p. 18, Early et al., 2005, p.18)." We observed our Indiana classrooms an average of 116.9 minutes ( $S.D. 25.2$ ), more than an hour less time.

Since NCEDL sampling included a greater number of instances in which children participated in meal times (e.g., lunch) and transitions, this could effectively dilute the proportion of time spent in other classroom activities.

We also compared how children spend their time among the three types of Indiana programs. Figure 3 illustrates the similarities and differences that exist among these three programs in terms of the proportion of time spent in the six activities. Statistical analyses (ANOVA) of the three programs and six types of classroom activities indicated that there were significant differences among programs for the following activities: free choice,  $F(2,78)=15.42$ ,  $p<.001$ ; individual instruction,  $F(2,78)=8.86$ ,  $p<.001$ ; and whole group instruction,  $F(2,78)=6.78$ ,  $p<.002$ . Further examination using Bonferroni post hoc comparisons revealed the following significant differences:

1. Free choice: Head Start and licensed child care center classrooms spent more time in free choice than public school classrooms ( $p<.05$ ).
2. Individual time: Public school classrooms spent more time in individual instruction than licensed child care centers; while it appears that public school classrooms spent more time in individual instruction than Head Start classrooms, the difference was not quite significant ( $p<.054$ ).
3. Whole group time: Head Start and public school classrooms spent more time in whole group instruction than licensed child care centers ( $p<.05$ ).

### What curricula do programs use?

Eighty of the 81 teachers completed the questionnaire item asking them to identify their classroom/program curriculum. A curriculum is a written document made up of several elements that together direct the teacher's instruction. For the purposes of this study, we adopted the definition of an effective curriculum from the Institute of Education Sciences (IES) What Works Clearinghouse (WWC). The IES implements stringent criteria for determining the effectiveness of a curriculum. Figure 4 depicts the presence of evidence-based curricula in our sample of programs.

In our sample, 22.5% ( $n=18$ ) of the classroom teachers reported using an in-house or no formal curriculum. Of the 77.5% ( $n=62$ ) of classroom teachers who reported using a curriculum, 23.8% ( $n=19$ ) of them reported using a curriculum for which we found no evidence of its impact on children's learning. Of the 43 teachers who reported using a curriculum, only two classrooms (2.5%) used a curriculum shown to be effective.

In addition to the curricula that teachers reported using, we also examined the proportion of time that children were exposed to subject matter typically covered by program curricula. This information was part of the data gathered from our recorded video observations and the use of the EAS.

Table 3  
Statistical Comparisons among Indiana, NCEDL, and Tulsa Classrooms across EAS and CLASS Variables

	Indiana Classrooms		NCEDL Classrooms		Tulsa Pre-K Classrooms		Significant differences ( $p<.003$ )*
	M	SD	M	SD	M	SD	
Emotional Support composite (CLASS)	5.89	0.82			5.23	0.57	IN>Tulsa
Positive climate	6.05	1.01	5.28	0.88	5.06	0.79	IN>NCEDL, IN>Tulsa
Negative climate <sup>1</sup>	1.35	0.55	1.55	0.68	1.36	0.56	IN>NCEDL
Teacher sensitivity	5.71	1.02	4.70	0.96	4.83	0.67	IN>NCEDL, IN>Tulsa
Regard for student perspectives	5.15	1.12			4.37	0.81	IN>NCEDL, IN>Tulsa
Classroom Organization composite (CLASS)	5.36	0.96			4.96	0.69	
Behavior management	5.44	1.16	4.97	0.97	5.03	0.85	IN>NCEDL
Productivity	5.78	1.00	4.50	0.91	5.21	0.84	IN>NCEDL, IN>Tulsa
Instructional learning formats	4.86	1.03	3.90	1.13	4.64	0.87	IN>NCEDL
Instructional Support composite (CLASS)	2.47	0.94			3.21	0.93	Tulsa>IN
Concept development	2.27	0.92	2.09	0.89	2.83	1.19	Tulsa>IN
Quality of feedback	2.59	1.03	2.04	0.96	3.29	0.98	IN>NCEDL, Tulsa>IN
Language modeling	2.53	1.06			3.51	0.98	Tulsa>IN
Activity settings (EAS)							
Basics/routine	0.12	0.07	0.21	0.09			NCEDL>IN
Free choice	0.35	0.19	0.30	0.16			None
Individual instruction	0.10	0.11	0.04	0.06			IN>NCEDL
Small group instruction	0.10	0.12	0.06	0.08			IN>NCEDL
Whole group instruction	0.28	0.12	0.27	0.12			None
Exposure to learning domains (EAS)							
Aesthetics	0.25	0.16	0.15	0.08	0.19	0.10	IN>NCEDL
Letters/Sounds	0.10	0.09	0.04	0.04			IN>NCEDL
Math	0.13	0.07	0.08	0.05	0.17	0.10	IN>NCEDL
Oral Language Development	0.17	0.10	0.06	0.05			IN>NCEDL
Pre-reading	0.06	0.05	0.05	0.04			None
Read to	0.08	0.05	0.03	0.03			IN>NCEDL
Science	0.23	0.13	0.11	0.08	0.17	0.10	IN>NCEDL, IN>Tulsa
Social studies	0.18	0.11	0.15	0.09	0.13	0.08	IN>Tulsa
Writing	0.04	0.05	0.01	0.02	0.03	0.03	IN>NCEDL
Literacy/language <sup>a</sup>	0.44	0.16			0.30	0.13	IN>Tulsa

\*p-value of .05 corrected to accommodate the large number of comparisons among Indiana, NCEDL and Tulsa samples

<sup>a</sup> Literacy/language domain is a composite of Letters/sounds, Oral language, Pre-reading, & Read to domains



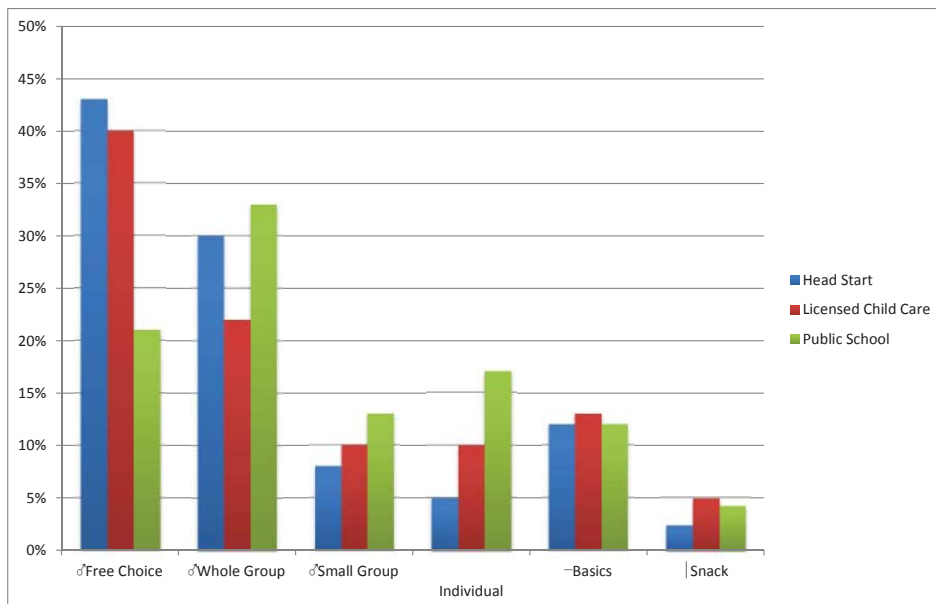


Figure 3. Proportion of time spent in classroom activities by Indiana Program type.

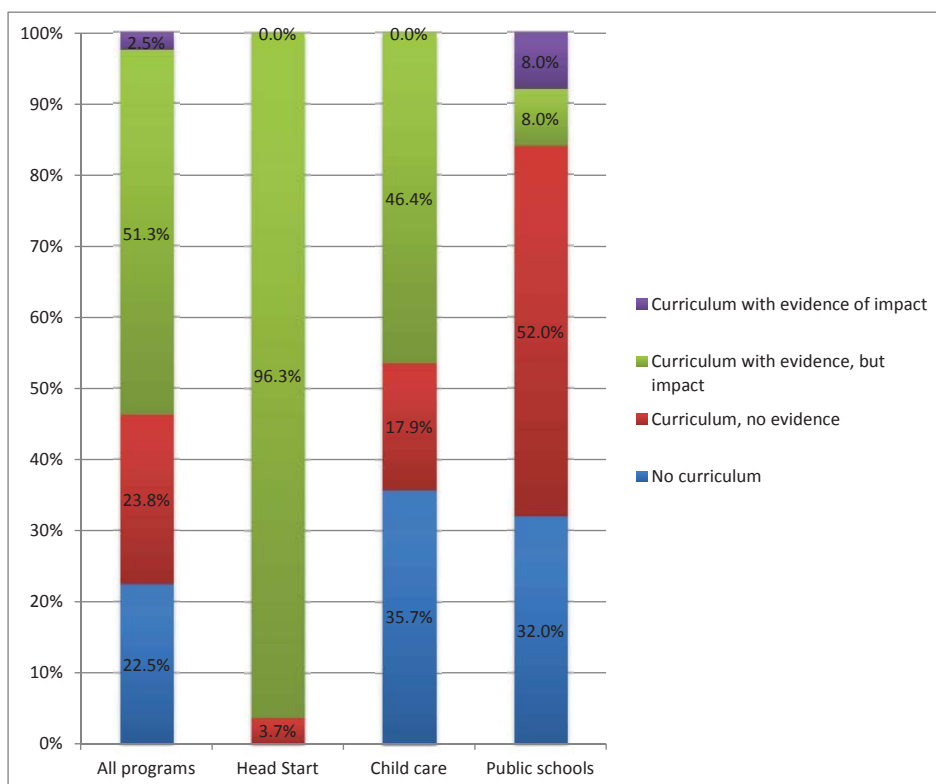


Figure 4. Use of evidence-based curriculum across Indiana programs.

During each 20-second interval, the coder would look to see if the child was engaged in one or more learning areas, including aesthetics, literacy, math, and so on. These data reflect children's exposure to the learning area/subject matter but do not necessarily reflect intentional teaching on the part of the teacher.

For example, whenever children played at a water table, we were instructed to automatically code "science" regardless of the focus of children's play or the teacher's interactions.

On average, children across all Indiana programs were exposed to literacy and oral (expressive) language activities 44.4% (S.D.=15.8%) of the time, a compilation of the following subject areas on the EAS: letters and sounds, oral language development, pre-reading, and read to (see Figure 5). The second most frequent subject matter was aesthetics (M=24.7%, S.D.=15.6%). The least frequently occurring subject matter areas were gross motor (M=3.0%, S.D.=3.9%) and the use of computers (M=1.5%, S.D.=2.8%); both are not included in Figure 5 but are in Table 2. For an average of 20.8% of the observed intervals, children were not exposed to any of the subject matter domains measured by the EAS (no curriculum). An example would be children engaged in routine activities in which no teaching was occurring. Another example is children waiting on the teacher.

We conducted statistical comparisons between Indiana classrooms and classrooms from the NCEDL and Tulsa studies. A summary of those comparisons is presented in Table 3. Children in Indiana classrooms as compared with children in the NCEDL classrooms received significantly more exposure to aesthetics, letters/sounds, math, oral language, read to, science, and writing. There were no significant differences in pre-reading or social studies. Children in Indiana classrooms as compared with children in the Tulsa PreK classrooms received significantly more exposure in science, social studies, and literacy/language. There were no other significant differences found.

We also compared exposure to learning activities among the three Indiana programs. Results from the ANOVA indicate that significant differences were found between program types in the areas of aesthetics,  $F(2,78)=4.377$ ,  $p<.016$ ; letters and sounds,  $F(2,78)=7.11$ ,  $p<.001$ ; math,  $F(2,78)=4.56$ ,  $p<.013$ ; social studies,  $F(2,78)=9.16$ ,  $p<.001$ ; and writing,  $F(2,78)=3.75$ ,  $p<.028$ . Follow-up comparisons indicate that children in Head Start and licensed child care classrooms received significantly more exposure to aesthetics and social studies than children in public school classrooms did.

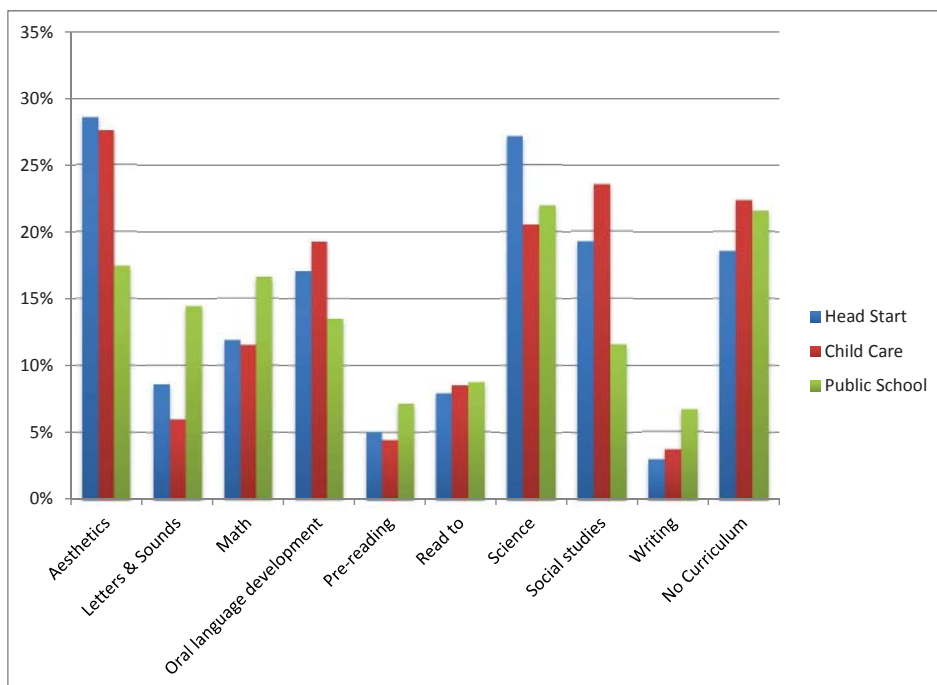


Figure 5. Proportion of time exposed to early education subject matter by types of Indiana programs.

Children in public school classrooms received significantly more exposure to letters/sounds and math than children in Head Start or licensed child care settings. Finally, children in public school classrooms received significantly more exposure to writing as compared with children in Head Start classrooms. We found no other significant differences among classrooms.

### What is the quality of teacher-child interactions?

Table 2 presents the mean scores that our 81 Indiana early classrooms received on the 10 dimensions and three composite domains of the CLASS assessment tool. On average, programs in Indiana fell in the middle to high range for both the Emotional Support and Classroom Organization domains, scoring 5.89 and 5.36 respectively (on a scale from 1 to 7). Indiana's classrooms scored in the low range for the Instructional Support domain with a mean score of 2.47.

We compared the CLASS scores for Indiana programs with the scores from the NCEDL studies (Early et al., 2005) and the Tulsa study (Phillips, Gormley, & Lowenstein, 2009).

The Tulsa data are included for two reasons. First, they provide a more recent snapshot of program quality in another state. Second, as one of the few states that publicly funds high quality universal prekindergarten services with demonstrable impact on children's learning (Gormley, Gayer, Phillips, & Dawson, 2005; Phillips, Gormley, & Lowenstein, 2009), the Oklahoma data provide a logical standard with which to compare Indiana's efforts. Because the NCEDL studies used an earlier version of the CLASS, we could make comparisons among eight of the 10 CLASS dimensions only. Comparisons were made through a series of independent-sample t-tests using a corrected *p-value* of ( $<.003$ ) as the threshold for statistical significance. Table 3 presents the comparative mean scores, standard deviations, and statistically significant differences across all three domains and 10 dimensions of the CLASS.

In general, Indiana classrooms compare quite favorably to the NCEDL and Tulsa classrooms for two of the three CLASS domains. In the domain of Emotional Support, Indiana classrooms scored significantly higher than Tulsa classrooms, and significantly higher than both NCEDL and Tulsa classrooms in the four dimensions under the Emotional Support domain.

For Classroom Organization, there were no differences between Indiana and Tulsa classrooms for the domain composite, but Indiana classrooms scored significantly higher than NCEDL classrooms in all three dimensions under this domain, and significantly higher than Tulsa classrooms for the dimension of Productivity. For the Instructional Support Domain, Indiana classrooms did not do as well. Tulsa classrooms scored significantly higher than Indiana classrooms for the overall domain and for all three dimensions. Indiana classrooms scored significantly higher than NCEDL classrooms in only one of the two dimensions.

High-quality Instructional Support interactions include eliciting, scaffolding, and expanding on children's critical thinking and advanced language skills. The types of interactions that support critical thinking skills require teachers to engage in elaborate conversations with children that go deeper than merely reciting rote facts. Burchinal and her colleagues (2008; 2010) have found that only classrooms with higher levels of Instructional Support interactions (a minimum of 3.0) produce significant gains in academic achievement.

We also compared the different types of Indiana programs that participated in our study based on their CLASS scores. ANOVAs were conducted for all three domains and 10 dimensions across the three types of programs. The only significant difference found was for the Emotional Support dimension of *Regard for student perspectives*  $F(2,78)=5.265$ . Post hoc comparisons found that Head Start programs scored significantly higher than public school programs for this dimension ( $p<.003$ ).

## IMPLICATIONS

Our goal is to present these findings in a way that provides a framework and initial baseline data for assessing the quality of prekindergarten efforts in our state.

Indiana may be late to the party, but we can learn from others and get it right.

### ***Why does it matter how children spend their time in early education classrooms?***

The ways teachers structure the day and the types of activities they select and provide can have a major impact on children's learning. Chien et al. (2010) looked at children's classroom engagement and its relationship with school readiness gains in prekindergarten. They analyzed the data from the NCEDL studies, particularly the EAS data, and used a statistical procedure called latent class analyses to identify four distinct classroom profiles: *free play profile*, *individual instruction profile*, *group instruction profile*, and *scaffolded learning profile*. Children in the *free play profile* spent an average of 41% of their time in free choice activities, much more than the other groups, and less time in the other major learning activities (whole group, small group, and individual learning times). Chien and her colleagues (2010) found that "the *free play profile* made the smallest gains across language and literacy and mathematics (p. 1542)" when compared with the other three profiles. Since many of our Indiana classrooms spend a high proportion of their time in free choice activities (M=34.9%), with child care centers and Head Start classrooms averaging at or above 40%, Chien's (et. al., 2010) findings could have major implications for our state.

Our own investigation of kindergarten classrooms (Conn-Powers, Cross, & Dixon, 2011) found that Indiana children spent very little time in free choice activities, with the bulk of their time spent in whole group and individual work times. If a goal of early education is to prepare children for kindergarten, one way we can do this is to think about how our classroom schedules might change to introduce these new demands.

### ***Does curriculum matter?***

As early education programs move from a history of activity-based planning to more goal-directed planning and intentional learning, a program's curriculum takes on increased importance by providing a clear roadmap for children's learning. Our study of Indiana classrooms found some serious gaps in this regard. Some programs reported that they did not use a curriculum. Some misidentified the Foundations to the Indiana Academic Standards for Young Children from Birth to Age 5 as a curriculum. Many classrooms employed a curriculum, but available research evidence would question the effectiveness of many popular choices. If early education programs are going to address the significant challenges facing children in Indiana, particularly children who are at-risk, making *evidence-based* choices concerning program curricula and instructional models is critical.

### ***Quality of teaching: The most important metric?***

In a recent brief that Conn-Powers co-authored with the Center for Evaluation and Education Policy (Spradlin et al., 2013), we used a framework identifying four critical elements of effective early education programs developed by the National Center on Quality Teaching and Learning (2013) for the nation's Head Start programs. The foundation of that framework was engaging interactions and environments, which include "well-organized and managed classrooms, social and emotional support, and instructional interactions that stimulate children's thinking (Spradlin et al., 2013, p.4)." In that brief, we cited several research articles that highlight the close relationship that exists between the quality of teacher-child interactions and positive school readiness outcomes. The CLASS assessment tool figures prominently as an effective tool for measuring teaching quality. In fact, the national Head Start program has adopted the use of the CLASS, requiring all grantees to administer and track CLASS scores as one of their key measures for assessing program quality.

Indiana programs do very well on two of the three composite measures of the CLASS: Emotional Support and Classroom Organization. Our data indicate that we score as well as, if not better than states that participated in the NCEDL studies; and as well as the Tulsa classrooms. Where we do not do as well is the quality of our Instructional Support interactions, scoring in the low range for that domain. Research by Burchinal and her colleagues (2008, 2010) suggest that these types of interactions contribute the most to minimizing achievement gaps among children. One major implication for policymakers is the suggested use of the CLASS as a measure of program quality.

### **STUDY LIMITATIONS**

There are limitations to the study that may have had an impact on the quality of the data. First, classroom observations were limited to approximately two hours on a single day. It is possible that the day and time we observed were not representative of typical activities. In addition, we videotaped our observations and conducted the EAS and the CLASS from the videotapes. While coding from videotape is an acceptable practice for both tools, coding classroom activities and teaching quality from a monitor does limit what we can observe.

Another limitation concerns our sampling process of Indiana programs. While we invited all programs to participate, program administrators, and in turn classroom teachers, ultimately decided if they wanted to participate. It is very possible that the quality of the classrooms that participated is not representative of the quality of programs in the state as a whole. With these limitations in mind, we do believe that this information can elicit important conversations that need to occur among policy makers, program administrators, and classroom teachers.

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## ASSESSING INDIANA'S EARLY EDUCATION CLASSROOMS - FINAL REPORT

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