

Delaware Full-day Kindergarten  
Evaluation  
And  
Comparison of Second Grade  
Students Who Attended Full-day  
and Part-day Kindergarten

November 2007

**Myae Han, Ph.D.**  
**Martha J. Buell, Ph.D.**  
**Steven Holochwost, Ph.D.**  
**Deborah J. Amsden, M.S**  
**James D. Salt, Ph.D.**  
**Teresita Cuevas, M.P.A.**  
**Nancy J. Edwards, M. Ed.**  
**Susan Sullivan**  
**Michael Gamel-McCormick, Ph.D.**

Center for Disabilities Studies  
461 Wyoming Road  
College of Human Services, Education, and Public Policy  
University of Delaware  
Newark, DE 19716  
(302) 831-6974 (voice)  
(302) 831-4690 (fax)  
(302) 831-4689 (TTD)

<http://www.udel.edu/chep/cds/> (Web Site)





### ***Center for Disabilities Studies***

The *Center for Disabilities Studies* at the University of Delaware is one of the 67 university affiliated program Centers for Excellence in Developmental Disability Research Education and Service (UCEDDs) in the United States. The *Center* was established in 1992 and works in conjunction with individuals with disabilities to better their lives. The *Center* staff and affiliated faculty teach both pre-service and in-service courses for teachers, social service workers, and other service providers working with individuals with disabilities and their families. The *Center* operates state-of-the-art programs and assists both public and private organizations in adopting the procedures developed to operate those programs. *Center* staff and affiliated faculty also serve on state and national policy boards and commissions that address housing, transportation, education, advocacy, childcare, health care, and other service areas. *Center* staff also conducts evaluations of programs serving individuals with disabilities and assist in policy development at both the local and state levels. The *Center for Disabilities Studies* is located at 461 Wyoming Road at the University of Delaware in Newark. The Director of the Center is Michael Gamel-McCormick, Ph.D.

### ***Delaware Department of Education***

The Curriculum and Instruction Improvement Branch within the *Delaware Department of Education* works collaboratively with schools and districts to continuously improve student achievement. This branch focuses on the improvement of curriculum and instructional practices for programs from early childhood through adult education. Within this branch is the Exceptional Children and Early Childhood Education Workgroup. The mission of the workgroup is to support the social-emotional, academic, and physical development of children by working with families, early care and education programs, and the community through a statewide, comprehensive early childhood system. The manager for this project was Dr. James Lesko, within the Exceptional Children and Early Childhood Education Workgroup within the Curriculum and Instructional Improvement Branch of the Delaware Department of Education.

## Acknowledgements

There are many people who were involved in this effort and we would like them to be acknowledged for their contributions. This evaluation could not have been done without the cooperation of the twenty full-day kindergarten teachers who agreed to be observed four times, complete questionnaires about the students in the class, and have the students assessed twice. Their participation was supported by their principals and district administrators. The building secretaries also facilitated much communication regarding the details of scheduling times to assess students and conduct a classroom observation. All of the schools genuinely welcomed the evaluation staff to their buildings.

We also appreciate the cooperation of the students of the classrooms. They cooperated in being assessed twice on three different protocols.

We appreciate the support from the Department of Education to continue with this *Full-Day Kindergarten Evaluation*, now in its third year. The data being collected provides much insight about the experiences students are having during the first year of school. We appreciate the efforts of Dr. James Lesko for his guidance in establishing the research design, his coordination of Department of Education resources to support the evaluation process, and his communication about the evaluation efforts with the school districts.

This *Full-day Kindergarten Evaluation* is a team effort at the Center for Disabilities Studies. Drs. Martha Buell, Myae Han, and Michael Gamel-McCormick are faculty advisors to the evaluation. Nancy Edwards, Master Kindergarten Teacher in the University of Delaware's Laboratory Preschool has trained the field staff, analyzed data from the teachers' schedules, and described the effective strategies for kindergarten. Teresita Cuevas was the liaison with the school district administrators, building principals, and the teachers with the project. Drs. Steven Holochwest and James Salt performed much of the analysis of the data for this report. Susan Sullivan has assisted with the scheduling process, coordinated the delivery of the protocols to the staff observing and assessing in the schools, and collected all the data. She has supervised its entry into the data set. She has also been integral in the preparation of this report.

The classroom observations and student assessments were accomplished by a team of 24 who are devoted to the research process. They willingly coordinated schedules in order to accomplish the collection of the data. Betty Gail Timm and Andrew Hodgkins have scored all the writing samples collected from students.

The data was entered by a team of five undergraduates. They gained many skills in handling data sets and preparing the data for analysis.

We have greatly appreciated being involved in this evaluation as the schools in the state consider the options for developing effective kindergarten models for their students.

Deborah J. Amsden, M.S.  
Project Coordinator, Center for Disabilities Studies, University of Delaware

**Table of Contents**

Table of Contents ..... iii

List of Tables .....v

List of Figures..... vii

Introduction..... 1

    Purpose of the Evaluation .....2

    Population of Interest.....2

    Evaluation Methods .....3

Part I: Findings for the Full-Day Kindergartens during the 2006-2007 School Year .....8

    Kindergarten Profile.....8

    Students’ Experience in Full-Day Kindergarten.....14

    Child Outcomes .....38

        Woodcock Johnson III of General Knowledge.....38

        Math Battery .....40

        Writing Assessment .....42

Part II: Findings for the Second Grade Students Participating in Part-day or Full-day  
Kindergarten in 2004-2005 .....45

Limitations .....48

Discussion and Conclusions .....48

Recommendations.....53

References.....55

Appendix A: Purpose of Kindergarten .....59

Appendix B: UD Student Expanded Snapshot .....67

Appendix C: Weekly Schedule Template.....73

Appendix D: Kindergarten Readiness Checklist .....77

Appendix E: Educational Experience of the Teachers Participating in the Full-Day  
Kindergarten Evaluation .....81

Appendix F: Rubric for Writing Assessment.....85



## List of Tables

|   |    |
|---|----|
| Table 1. Classrooms in schools involved in the full-day kindergarten evaluation .....   | 8  |
| Table 2. Program characteristics for school district full-day kindergarten models. ....   | 9  |
| Table 3. Composition of school district full-day kindergarten classrooms .....  | 9  |
| Table 4. Ethnicity of students in full-day kindergarten .....   | 10 |
| Table 5. Gender of students in full-day kindergarten .....  | 10 |
| Table 6. Gender and ethnicity of full-day kindergarten students.....  | 10 |
| Table 7. Students with Limited English Proficiency and eligible for free or reduced meals at school.....  | 11 |
| Table 8. Special education services received by kindergarten students in the full-day kindergarten classes .....  | 12 |
| Table 9. Percentage of kindergarten students rated proficient at the beginning of the school year by their teachers in three domains of development. .... | 12 |
| Table 10. Kindergarten teachers rating of full-day kindergarten students on four characteristics.....   | 13 |
| Table 11. Average amount of time spent per week in curriculum content areas.....  | 14 |
| Table 12. Size of Instructional Group Observed Four Times During the School Year...   | 17 |
| Table 13. Size of Instructional Group by Student Classification.....  | 19 |
| Table 14. Content of Instruction Observed Four Times During the School Year .....   | 20 |
| Table 15. Integrated Instructional Content Observed Four Times During the School Year.....  | 21 |
| Table 16. Instructional Content by Instructional Group Size Observed Four Times During the School Year .....  | 22 |
| Table 17. Teacher Directedness Observed Four Times During the School Year .....   | 23 |
| Table 18. Instructional Content by “Teacher Directedness” .....   | 24 |
| Table 19. Instructional Interaction Observed Four Times during the School Year.....   | 25 |
| Table 20. Instructional Content by Teacher Interaction .....  | 26 |
| Table 21. Differentiated Instruction Strategies by Student Classification.....  | 27 |
| Table 22. Observation of Behavior Guidance Strategies Utilized During Four Observations During the School Year .....                                      | 28 |
| Table 23. Student Disengagement by Observation Period .....   | 29 |
| Table 24. Student Verbal Interaction Observed Four Times During the School Year ....  | 31 |
| Table 25: Student Verbal Interaction by Student Classifications .....   | 31 |
| Table 26. Verbal Complexity Observed Four Times During the School Year.....   | 32 |
| Table 27. Peer Interaction Observed Four Times During the School Year .....   | 34 |
| Table 28. Peer Interaction by Student Classification.....   | 35 |
| Table 29. Observation of Adult Interaction with the Target Child Observed Four Times During the School Year .....   | 36 |

|  |    |
|--|----|
| Table 30. Adult Interaction by Student Classification.....   | 37 |
| Table 31. Cognitive Complexity Observed Four Times During the School Year.....   | 38 |
| Table 32. Age Equivalencies for Understanding on the <i>Woodcock Johnson III</i> by Student Classification.....  | 39 |
| Table 33. Age Equivalencies for Vocabulary on the <i>Woodcock Johnson III</i> by Student Classifications.....  | 39 |
| Table 34. Age Equivalencies for Academic Knowledge on the <i>Woodcock Johnson III</i> by Student Classifications.....  | 39 |
| Table 35. Mean <i>Woodcock-Johnson III</i> Subscale Scores, Overall and by Student Classification.....   | 40 |
| Table 36. Number Knowledge by Student Classification.....  | 41 |
| Table 37. Calculation by Student Classification.....   | 41 |
| Table 38. Combination by Student Classification.....   | 41 |
| Table 39. Mean Math Battery Scores, Overall and by Student Classification.....   | 42 |
| Table 40. Writing Assessment Scores by Subscale.....   | 43 |
| Table 41. Writing Assessment Scores by Student Classification.....   | 44 |
| Table 42. Writing scores of Students Receiving Special Education Services Compared to Students who are Not Receiving Special Education Services.....                     | 44 |
| Table 43. Characteristics of second graders in this evaluation who had attended different kindergarten models.....   | 45 |
| Table 44. Ethnicity of second grade students who participated in different kindergarten models.....  | 46 |
| Table 45. Gender of second grade students participating in different kindergarten models.....  | 46 |
| Table 46. Frequency and percentage of end-of-year “Instructional Support Recommendations” for second grade students who had attended one of two kindergarten models..... | 47 |
| Table 47. Educational experience of the teachers participating in the full-day kindergarten evaluation.....  | 83 |

## List of Figures

|  |    |
|--|----|
| Figure A. Distribution of Size of Instructional Group.....   | 17 |
| Figure B. Changes in Size of Instructional Group over Time .....   | 18 |
| Figure C. Distribution of Instructional Content over Four Observations .....                             | 20 |
| Figure D. Instructional Content Observed Four Times during the School Year .....                         | 22 |
| Figure E. Observation of Teacher Directedness .....  | 23 |
| Figure F. Instructional Interaction Observed Four Times During the School Year .....                     | 25 |
| Figure G. Proportion of Student Verbal Interaction over Four Observations During the<br>School Year..... | 30 |
| Figure H. Verbal Complexity in Four Observations During the School Year.....                             | 33 |
| Figure I. Observation of Peer Interaction in Four Observations.....                                      | 34 |



Delaware Full-day Kindergarten  
Evaluation  
And  
Comparison of Second Grade  
Students Who Attended Full-day  
and Part-day Kindergarten

November 2007

**Martha J. Buell, Ph.D.**

**Myae Han, Ph.D.**

**Steven Holochwost, Ph.D.**

**Deborah J. Amsden, M.S**

**Teresita Cuevas, M.P.A.**

**James D. Salt, Ph.D.**

**Nancy J. Edwards, M. Ed.**

**Susan Sullivan**

**Michael Gamel-McCormick, Ph.D.**

Center for Disabilities Studies

461 Wyoming Road

College of Human Services, Education, and Public Policy

University of Delaware

Newark, DE 19716





**Delaware Full-day Kindergarten Evaluation:**  
**An Analysis of**  
**Students' Experience and Outcomes**  
**In Twenty Full-day Kindergarten Programs**  
**And**  
**A Comparison between Second Grade Students who Attended**  
**Kindergarten and Part-day Kindergarten**

November 2007

**Introduction**

This descriptive program evaluation includes four major components. These components include:

- a description of the experience of students in Delaware state-financed full-day kindergarten classrooms being engaged and interacting with the teacher, paraprofessional, peers and the learning environment of their classroom.
  - a description of the experience of students receiving special education services
  - a description of the experience of students who are eligible for free and reduced cost meals at school
  - a description of the experience of students who are English language learners
  - a description of the experience of all students in the kindergarten class
- a description of the “effective practices” implemented in full-day kindergarten
- a description of how students from full-day kindergarten perform specifically on the variables of student academic outcomes including writing, mathematics, and general knowledge
- a comparison of literacy skills for students currently in second grade who attended either a full-day or a part-day kindergarten program.

In June 2004, the Delaware General Assembly appropriated funds to establish ten pilot full-day kindergartens. In June 2005, the legislature appropriated funding to implement full-day kindergarten programs funded in 2004 and to fund full-day kindergarten in all charter schools offering full-day kindergarten. In June 2006, the Delaware General Assembly extended a requested that an evaluation of the full-day kindergarten models continue to be conducted, building on the 2005 and 2006 evaluation (see Amsden, et. al., 2005 and 2006).

In the fall of 2006, the Delaware Department of Education contracted with the University of Delaware Center for Disabilities Studies to conduct the evaluation of twenty school district full-day kindergartens. This analysis examines a set of twenty school district full-day kindergarten programs, located in nine of the state's sixteen school districts. Six schools are located in New Castle County, seven schools are located in Kent County, and seven schools are located in Sussex County.

## **Purpose of the Evaluation**

Discussions between Department of Education personnel and Center for Disabilities Studies established the following program evaluation priorities for this work:

1. Describe the profile of students, teachers and program characteristics in Delaware state-financed full-day kindergarten classrooms
2. During school year 2006-2007, describe how teachers in full-day kindergarten are implementing instructional practices in full-day kindergarten.
3. During school year 2006-2007, describe the various ways that children are engaged and interact with the teacher, paraprofessionals, peers, and the learning environment with special attention being given to children placed at risk due to income, children who are English language learners, and children who have been identified with special needs.
4. During school year 2006-2007, describe how students from full-day kindergarten perform specifically on the variables of:
  - a. student academic outcomes including writing, mathematics, and general knowledge
  - b. student behavior outcomes
  - c. student support services
5. Describe the student outcomes for second grade students who attended full-day kindergartens during school year 2004-2005 compared with a comparable sample of students who attended part-day kindergartens during school year 2004-2005 on students' literacy outcomes.

Based on these questions, a program evaluation design was developed by the Center for Disabilities Studies personnel and approved by Department of Education.

## **Population of Interest**

For this evaluation, those kindergartens funded by local school districts were considered. At the time of the evaluation, fourteen of Delaware's sixteen public school districts offered full-day kindergarten in at least one school within the district.

Of the twenty full-day kindergarten classrooms considered in this evaluation, one, Smyrna, was located in a separate early childhood center, while the remaining nineteen classrooms were located in public elementary schools. Three of the full-day kindergarten classrooms were located in urban areas of New Castle County and four were located in the urban areas of Kent County. Three of the full-day kindergarten classrooms were located in the suburban area of New Castle County, while the remaining ten full-day kindergarten classrooms were located in rural school districts. For the purpose of this evaluation, the types of programs providing kindergarten services are defined as follows:

1. **Kindergarten** - a program or class that serves as an introduction to school for five- and six-year-old children and four-year-old children identified as gifted and talented.
2. **Full-day Kindergarten** - a program or class for children that meets five days per week for at least five hours per day.
3. **Part-day Kindergarten** - a program or class for children that meets five days per week for up to three hours per day.
4. **Second Grade** - a full-day program or class for seven- to eight-year-old children that meets five days per week for at least six hours per day.

## **Evaluation Methods**

Included in this section is information about the selection of kindergarten classrooms to be part of the program evaluation, the selection of the second graders to be assessed as part of the program evaluation, and the measurement instruments used to describe how teachers in full-day kindergarten are implementing “effective practices” in full-day kindergarten. In addition, methods of handling and analyzing the data are described as well as a final description of the sample for this program evaluation.

### **Evaluation of Full-Day Kindergarten**

#### **Kindergarten Classroom Selection**

Twenty full-day kindergarten classrooms located in school districts participated in this evaluation. Teachers of full-day kindergarten programs were divided into two groups, those who were participating in a professional development cluster and those who were not participating in a professional development cluster about full-day kindergarten. From the two lists of teachers, ten teachers were randomly selected from each list to participate in the full-day kindergarten evaluation. Upon selection, superintendents of the public school districts were contacted to gain their permission to participate in the Full-Day Kindergarten Evaluation. In two cases, the superintendent requested that the evaluation staff work with the research office of the district to approve the evaluation. Upon receiving the approval from the superintendent or research office, the principal of the school was contacted to gain permission to participate in the evaluation, and finally, the teacher in the full-day kindergarten was contacted to gain consent to participate in the evaluation. All superintendents and principals contacted agreed to participate. The Full-

day Kindergarten Evaluation was approved by the research offices of the two school districts that required such approval.

### **Data Measures**

The measures used for this program evaluation were based on the primary evaluation questions and a theoretical description of high quality kindergarten programming (see Appendix A). In addition to the variables identified by the primary evaluation questions, the measurement methods needed to ensure that the following variables were documented for full-day kindergartens:

- curriculum content (e.g., literacy, mathematics) and
- classroom configurations, including number of teachers, number of students, and the backgrounds of students.

A description of the specific measures used for this evaluation follows.

#### *Measures: Kindergarten Classroom Activities*

The measures used to collect data about classroom activities, the content of classroom activities, and teachers' behaviors in the classroom included:

- a. The *UD STUDENT SNAPSHOT* (based on the *TEACHER SNAPSHOT*, Ritchie, Howes, Kraft-Sayre, & Weiser, 2002), with adaptations and extensions specifically created by the Center for Disabilities Studies personnel for this evaluation. This observational instrument collects information about students' experiences in kindergarten classrooms through time sampling. The information collected includes the curriculum content areas addressed, the interactions experienced, the size of the groups in which students are learning, and a description of the demonstration of developmental progress being made by the student. In addition to the original categories created by Ritchie, et al., new observational categories were added, including child verbal interaction, peer interaction, teacher directiveness, behavior guidance strategies, cognitive complexity of the questioning, group size, and materials. The additions were added to capture the components of high quality kindergartens as identified in the literature mentioned in Appendix A.

To see the items observed on the *UD STUDENT SNAPSHOT*, see Appendix B for the protocols. Four observations of each of the full-day kindergartens were conducted throughout the school year; one observation in January, February, March, and April.

- b. *Weekly Classroom Schedules*. These were collected once from each of the teachers. Teachers completed a standard data collection form developed by Center for Disabilities Studies personnel. This schedule provided information regarding children's weekly experiences in each of the kindergartens. The *Weekly Classroom Schedule* can be seen in Appendix C.

*Measures: Kindergarten Student Characteristics*

To document the characteristics of the students enrolled in the twenty school district full-day kindergartens, the following measures were used:

- a. *Student Demographic Information*. This data on gender, ethnicity, limited English proficiency, eligibility for free and reduced meals at school, and eligibility for special education services was made available by the Delaware Department of Education.
- b. *Readiness Checklist*. This checklist was adapted from the *Successful Transitions and Relationships (STAR)* project conducted by Richard Fabes at the University of Arizona. The adapted checklist was used as a way to describe the readiness of students for kindergarten. The *Readiness Checklist* was completed by teachers in February of the school year, reflecting on the students' readiness at the beginning of the school year. The checklist assesses teachers' perception of students' readiness in the following domains:
  - Social Development
  - School – Specific Instrumental Development
  - Reading and Writing
  - Logical Thinking and Use of Numbers
  - Perceptual-Motor Development
  - Student's Profile

*Measures: Kindergarten Student Outcomes*

- i. The *Number Sense Battery* (Jordan, et al., 2003) was used as a measure of early math development. The skills assessed were counting and counting principles, number recognition, number knowledge, nonverbal calculations, and number combinations.
- ii. The *Woodcock-Johnson III Tests of Achievement* was used as a standardized measure of general intellectual ability, specific cognitive abilities, scholastic aptitude, and achievement.
- iii. The *Writing Prompt* was used to assess students' writing skills and individual development. Nancy Edwards, master teacher at the University of Delaware's Laboratory Preschool and Myae Han, Ph.D., associate professor in the Department of Individual and Family Studies at the University of Delaware developed the writing prompt and the protocol for administering the writing prompt.

## **Evaluation of Literacy Outcomes for Second Grade Students**

### **Second Grade Student Selection**

Second grade students tracked for this program evaluation were from the ten pilot full-day kindergartens evaluated in 2004-2005 (see Amsden et. al., 2005). They were tracked and assessed during the 2005-2006 school year in order to determine their academic and behavioral outcomes as first graders and again as second graders. The students who had received full-day kindergarten services during 2004-2005 were matched with students who were demographically similar and had attended a part-day kindergarten in a Delaware school district during the 2004-2005 school year. The demographic characteristics used in the matching process were gender, ethnicity, special education service eligibility, eligibility for free or reduced meals at school, living in an urban or rural community, and age.

### **Data Measures**

#### *Measures: Second Grade Student Literacy Development.*

Data for this variable was collected using the *Dynamic Indicators of Basic Early Literacy Skills (DIBELS)*, a standardized, individually administered measure of students' early literacy development, assessing the early literacy skills of phonological awareness, alphabetic understanding, automaticity, and fluency. Students were assessed at the end of the academic year. Each of the subscale measures has been shown to be reliable and valid for predicting later reading proficiency in students. The *DIBELS* data was collected in two ways. Teachers in school districts that routinely use the *DIBELS* measure provided the scores to the research staff for those second grade students who are part of this longitudinal study. Trained data collectors assessed the other second grade students involved with the longitudinal study using the *DIBELS*. Of the sample of second graders (N=317), 54.9% (n=174) were assessed by their classroom teachers and 45.1% (n=143) were assessed by data collectors associated with this evaluation.

### **Data Collectors for Evaluation**

This program evaluation necessitated two types of data collectors: classroom observers and student assessors. The classroom observers were professionals who were formerly employed as teachers and administrators in schools. The classroom observers were trained to use the observation tools and established reliability in collecting data using the *UD STUDENT SNAPSHOT*. Specifically, for the *UD STUDENT SNAPSHOT*, the observers obtained at least .80 reliability when compared with a second observer.

The student assessors were people who had experience as teachers and administrators in the public schools and others who had experience working with young children. The student assessors administered the various assessments measuring student outcomes. They were specifically trained to administer the assessments used with the students.

The observers attended four training sessions during the course of the evaluation to ensure the reliability of the data collection.

The observers also served as a consistent communication liaison between the full-day kindergarten teachers, the school personnel, and the program evaluation personnel at the Center for Disabilities Studies. After the first observation, the classroom observers identified the next date for a classroom observation that was mutually convenient for the observers and teachers. They communicated specific information about the kindergartens, the students, and the types of interactions and curriculum content being taught. Their experience as teachers and administrators allowed them to be familiar with the culture of schools and be as unobtrusive as possible to collect the data for this evaluation.

### **Data Handling and Analysis**

All data collected from the full-day kindergartens and materials returned by the teachers were immediately coded and entered into software designed to analyze social science data. All raw data were then stored in locked cabinets while all electronic data were kept on a secure server in files with password protection accessible only to personnel working on the program evaluation. For student information, identifying information was removed and a student identification number assigned in order to protect the identity of the students.

This description of the students experience in school district full-day kindergartens and the comparison of the second grade students who had been in full-day kindergarten to students who had been in part-day kindergarten are designed to be a descriptive evaluation. Therefore, data for the kindergartens are reported in frequencies, with frequencies calculated and reported for each variable.

### **Sample of Full-day Kindergartens**

The twenty full-day kindergartens were operated by school districts in buildings housing other kindergartens or other grade levels. In some schools, the full-day kindergarten classroom was the only full-day kindergarten in the building. In other schools the full-day kindergarten classroom observed was one of several in the building. In some cases the other kindergartens in the school were part-day, in other cases, they were full-day programs. (See Appendix C for the full-day and part-day kindergartens in the schools participating in this evaluation.)

Table 1. Classrooms in schools involved in the full-day kindergarten evaluation

|   | <b>Part-day<br/>A.M.<br/>Classes</b> | <b>Part-Day<br/>P.M.<br/>Classes</b> | <b>Part-Day<br/>Teachers</b> | <b>Full-day<br/>Classes</b> | <b>Full-Day<br/>Teachers</b> |
|---|--------------------------------------|--------------------------------------|------------------------------|-----------------------------|------------------------------|
| <b>Kindergarten<br/>Classrooms in the<br/>schools<br/>participating in<br/>the evaluation</b> | 16 classes                           | 8 classes                            | 16<br>teachers               | 74 classes                  | 77*<br>teachers              |

\* Three classrooms had two full-time teachers.

### **Sample of Second Graders**

The students who had received full-day kindergarten services and who were original participants in the evaluation of full-day kindergarten during 2004-2005 were matched with students who were demographically similar and had attended a part-day kindergarten in Delaware school districts during 2004-2005. The Delaware Department of Education was able to provide the Center for Disabilities Studies with the schools that these students currently attended. Student performance data was collected on these students for this evaluation.

## **Part I: Findings for the Full-Day Kindergartens during the 2006-2007 School Year**

This section will present the profile of students' in the full-day kindergarten, the students' experience in the twenty full-day kindergarten classrooms of this evaluation, the profile of the teachers of the twenty full-day kindergarten classrooms; and will describe the student outcomes of the learning environment that teachers create during the school day as measured by the *UD STUDENT SNAPSHOT* and student assessments on the Woodcock Johnson III, a math battery, and a writing prompt.

### **Kindergarten Profile**

#### **Characteristics of the Kindergarten Class**

Information about the characteristics of the full-day kindergarten can be found in Table 2. Data on the following variables were collected:

- length of the school day,
- number of students per class,
- number of students receiving special education services,
- number of students eligible for free or reduced lunch, and
- number of teachers assigned to the classroom.

On the average, full-day kindergarten classrooms had 21 students, with one teacher. The kindergarten program was, on the average, six hours and fifty minutes. One of the classes in the evaluation was a dual language classroom with Spanish as the dual language and one was organized as a Teaching to Assist Mastery (TAM) classroom. A TAM classroom was designed to meet the needs of students with disabilities and regular education students learning together in one classroom.

Table 2. Program characteristics for school district full-day kindergarten models.

| <b>Characteristic:</b>              |               | <b>Class Size</b>               | <b>Teaching Hours</b>                 | <b>Teachers per Class</b> |
|-------------------------------------|---------------|---------------------------------|---------------------------------------|---------------------------|
| <b>Full-Day Kindergarten (N=20)</b> | Average Range | 20.9 students<br>14-26 students | 6 hrs. 50 min.<br>6 hrs. 35 min -7hrs | 1 teacher<br>1-2 teachers |

The classes averaged between 10 and 11 students who were eligible to receive free and reduced cost meals at school, between two and three students who were identified to receive special education services and between two and three students who had limited English Proficiency. See Table 3 for details about the characteristics of the twenty full-day kindergarten classrooms in this evaluation.

Table 3. Composition of school district full-day kindergarten classrooms

| <b>Characteristic:</b>              |               | <b>Free and Reduced Meal Eligibility</b> | <b>Special Education Eligibility</b> | <b>Limited English Proficiency</b> |
|-------------------------------------|---------------|--|--------------------------------------|------------------------------------|
| <b>Full-Day Kindergarten (N=20)</b> | Average Range | 10.5 students<br>3-22 students           | 2.4 students<br>0-14 students        | 2.35 students<br>0-15 students     |

### Demographics of Kindergarten Students

The demographic information of students was provided by the Delaware Department of Education. Data for students' ethnicity, gender, and eligibility for special education services was collected.

### Ethnicity of Students

Approximately half of the students who attended school district full-day kindergarten classrooms sampled for this evaluation were Caucasian and approximately one third were African American. See Table 4 for details.

Table 4. Ethnicity of students in full-day kindergarten

| <b>Ethnicity of Students:</b> |          | <b>Full-day Kindergarten Students<br/>(N=413)</b> |
|-------------------------------|----------|---|
| <b>Caucasian</b>              | n<br>(%) | 206<br>(49.9%)                                    |
| <b>African American</b>       | n<br>(%) | 135<br>(32.7%)                                    |
| <b>Latino</b>                 | n<br>(%) | 61<br>(14.8%)                                     |
| <b>Other</b>                  | n<br>(%) | 11<br>(2.7%)                                      |
| <b>Total</b>                  | N<br>(%) | 413<br>(100.0%)                                   |

Gender of Students

The gender of the students in the school district full-day kindergarten programs sampled for this evaluation was 50.8% male and 49.2% female. The analysis of the gender of the students and their ethnicity indicates that there are a similar proportion of males and females in each ethnicity group represented in this set of twenty full-day kindergarten classrooms. (see Tables 5 and 6 for details).

Table 5. Gender of students in full-day kindergarten

| <b>Gender of Students:</b> |          | <b>Full-day Kindergarten Students<br/>(N=413)</b> |
|----------------------------|----------|---|
| <b>Male</b>                | n<br>(%) | 210<br>(50.8%)                                    |
| <b>Female</b>              | n<br>(%) | 203<br>(49.2%)                                    |

Table 6. Gender and ethnicity of full-day kindergarten students

| <b>Gender:</b>                |          | <b>Male</b>    | <b>Female</b>  | <b>Totals<br/>(Race)</b> |
|-------------------------------|----------|----------------|----------------|--------------------------|
| <b>Race:</b>                  |          |                |                |                          |
| <b>Caucasian</b>              | n<br>(%) | 107<br>(25.9%) | 99<br>(24.0%)  | 206<br>(49.9%)           |
| <b>African American</b>       | n<br>(%) | 66<br>(16.0%)  | 69<br>(16.7%)  | 135<br>(32.7%)           |
| <b>Hispanic</b>               | n<br>(%) | 30<br>(7.3%)   | 31<br>(7.5%)   | 61<br>(14.8%)            |
| <b>Asian/Pacific Islander</b> | n<br>(%) | 7<br>(1.7%)    | 4<br>(1.0%)    | 11<br>(2.7%)             |
| <b>Total</b>                  | N<br>(%) | 210<br>(50.8%) | 203<br>(49.2%) | 413<br>(100.0%)          |

Limited English Proficiency

Of the 413 students enrolled in the twenty full-day kindergartens in this evaluation, 47 students (11.4%) were identified as being limited in English proficiency, compared to 1.7% of all public school students in Delaware (Delaware Department of Education, 2002) and 11.7% of elementary school students nationally (Kindler, 2002). See Table 7.

Eligible for Free and Reduced Meals

Of the 413 students enrolled in the twenty full-day kindergartens in this evaluation, 210 (50.8%) were identified as being eligible for free and reduced meals at school. See Table 7.

Table 7. Students with Limited English Proficiency and eligible for free or reduced meals at school.

| <b>Characteristic:</b>                                   |     | <b>Total</b> |
|--|-----|--------------|
| <b>Students with Limited English Proficiency</b>         | n   | 47           |
|  | (%) | (11.4%)      |
|  | N   | 413          |
| <b>Students Eligible for Free and Reduced Cost Meals</b> | n   | 210          |
|  | (%) | (50.8%)      |
|  | N   | 413          |

Special Education Services

Overall, 12.6% (n=52) of the full-day kindergarten students (N=412) received special education services. Of the 412 full-day kindergarten students in the twenty full-day kindergarten classes of this evaluation, 5.6% (n=23) were identified as needing speech and language services, 4.1% (n=17) were identified as needing services for a learning disability, and 7.0% (n=12) needing services for other types of disabilities, including hearing and visual impairments (see Table 8 for details).

Table 8. Special education services received by kindergarten students in the full-day kindergarten classes

| <b>Special Education Services:</b>                  |          | <b>Full-day Kindergarten Students<br/>(N=412 )</b> |
|---|----------|--|
| <b>Speech and Language</b>                          | n<br>(%) | 23<br>(5.6%)                                       |
| <b>Learning Disability</b>                          | n<br>(%) | 17<br>(4.1%)                                       |
| <b>All other disabilities</b>                       | n<br>(%) | 12<br>(7.0%)                                       |
| <b>Not receiving any special education services</b> | n<br>(%) | 358<br>(87.3%)                                     |

Readiness for Kindergarten

The *Kindergarten Readiness Checklist* was used to assess teachers’ perceptions of students’ skill proficiency upon entering kindergarten. Of the students enrolled in the full-day kindergartens, teachers indicated that 17.3% (n=65) were proficient in their social skills and 37.6% (n=146) were proficient in their school-specific skills such as:

- focuses attention during large group teacher-directed activities,
- can work independently, and
- demonstrates willingness to try new things.

Of the students in the full-day kindergarten evaluation, 39.0% (n=154) were proficient in their perceptual-motor development (see Table 9 for details). A copy of the *Kindergarten Readiness Checklist* is found in Appendix C.

Table 9. Percentage of kindergarten students rated proficient at the beginning of the school year by their teachers in three domains of development.

| <b>Kindergarten Readiness Factors:</b> |     | <b>Full-day Kindergarten Students</b> |
|--|-----|---------------------------------------|
| <b>Social Development</b>              | n   | 65                                    |
|  | (%) | (17.3%)                               |
|  | N   | 358                                   |
| <b>School-Specific Skills</b>          | n   | 146                                   |
|  | (%) | (37.6%)                               |
|  | N   | 362                                   |
| <b>Perceptual-Motor Development</b>    | n   | 154                                   |
|  | (%) | (39.0%)                               |
|  | N   | 362                                   |

The *Kindergarten Readiness Checklist* also included four items addressing teachers’ perceptions of students’ overall adjustment, academic readiness, intellectual readiness, and social readiness. Teachers were asked to rate the students “far below average,” “below average,” “average,” or “above average.” Teachers of full-day kindergarten rated 74.9% (N=363, n=272) of the full-day kindergarten students as “average” or above in their adjustment to the demands of kindergarten. Of the full-day kindergarten students, the teachers rated 73.3% of them as “average” or above in their social readiness for kindergarten and 72.9% of them as “average” or above in their intellectual readiness for kindergarten. Of the full-day kindergarten students, full-day kindergarten teachers rated 70.6% of students as “average” or above on academic skills. (see Table 10 for details).

Table 10. Kindergarten teachers rating of full-day kindergarten students on four characteristics.

| <b>Readiness:</b>   |       | <b>Far Below Average</b> | <b>Below Average</b> | <b>Average</b> | <b>Above Average</b> |
|---|-------|--------------------------|----------------------|----------------|----------------------|
| <b>Adjustment:</b> Overall, how successfully is this child able to adjust to the demands of kindergarten? (N=363) | n (%) | 22 (6.1%)                | 69 (19.0%)           | 183 (50.4%)    | 89 (24.5%)           |
| <b>Social:</b> Based on your experience, how socially ready is this child for kindergarten? (N=363)               | n (%) | 21 (5.8%)                | 76 (20.9%)           | 189 (52.1%)    | 77 (21.2%)           |
| <b>Intellectual:</b> Based on your experience, how intellectually ready is this child for kindergarten? (N=361)   | n (%) | 30 (8.3%)                | 68 (18.8%)           | 152 (42.1%)    | 111 (30.8%)          |
| <b>Academic:</b> Overall, how would you rate this child’s academic skills? (N=360)                                | n (%) | 31 (8.6%)                | 75 (20.8%)           | 142 (39.4%)    | 112 (31.2%)          |

### **Educational Level of the Full-day Kindergarten Teachers**

The information about the teachers’ educational level was taken from the Department of Education’s Delaware Educators Data System (DEEDS). This indicated that all the teachers were licensed and certified to teach in Delaware and that six teachers (30%) have a Bachelor’s Degree and fourteen teachers (70%) have a Master’s Degree. For information about the post secondary program of study pursued by the teachers, see Appendix E

### **Plan for Classroom Instructional Content**

#### Weekly Time Schedule

Teachers submitted a time schedule documenting the amount of instructional time they planned to spend on specific curriculum content areas each day of the week. In addition to curriculum content areas, teachers also reported on how much time they spent helping students to transition, dress, eat, and complete other daily tasks. These activities are referred to as “basics.” From these time schedules, known as the *Weekly Classroom Schedule*, the amount of time was calculated per week that teachers plan to spend on the curriculum content areas and on “basics.”

From this analysis, it was determined from teachers’ *Weekly Classroom Schedule* that literacy development activities constituted the highest average amount of time per week (589.7 minutes) of the curriculum content areas in a full-day kindergarten or 28.8% of the time. “Basics” representing transition time, toileting, and dressing children for activities, involved, on the average, 269.3 minutes a week or 23.1% of the time. The average amount of time spent on math was 245.1 minutes a week or 12.0% of the time. The kindergarten classes spent the least amount of time on fine motor activities (17.1 minutes), computer (53.7 minutes), and gross motor instruction (57.1 minutes). The range of time spent on various activities ranged from 0 minutes per week (recess, science, gross motor instruction, computer, and fine motor) to 860 minutes per week (literacy). For details about how the instructional time was used in the curriculum content areas, see Table 11.

Table 11. Average amount of time spent per week in curriculum content areas.

|                                | <b>Average Number of Minutes in a School Week</b> | <b>Percent of Time per Week</b> | <b>Range Minimum – Maximum Minutes per week</b> |
|--------------------------------|---|---------------------------------|---|
| <b>Literacy</b>                | 589.7   | 28.8%                           | 387.5-860.0                                     |
| <b>Basics</b>                  | 469.3   | 23.1%                           | 200.0-831.3                                     |
| <b>Math</b>                    | 245.1   | 12.0%                           | 55.0-625.0                                      |
| <b>Recess</b>                  | 156.3   | 7.7%                            | 0-300.0   |
| <b>Social Studies</b>          | 123.2   | 6.0%                            | 12.5-250.0                                      |
| <b>Aesthetics</b>              | 103.7   | 5.1%                            | 45.0-210.0                                      |
| <b>Science</b>                 | 99.3  | 4.9%                            | 0-200.0   |
| <b>Gross Motor Instruction</b> | 57.1  | 2.8%                            | 0-112.5   |
| <b>Computer</b>                | 53.7  | 2.6%                            | 0-120.0   |
| <b>Fine Motor</b>              | 17.1  | 0.8%                            | 0-75.0  |

### **Students’ Experience in Full-Day Kindergarten**

Using the *UD STUDENT SNAPSHOT*, each of the twenty full-day kindergartens were observed for:

- the learning environment of kindergarten for the students
- the instructional content of kindergarten for the students

- the interaction between the kindergarten teacher and other adults in the room and the students
- strategies used to differentiate the learning experiences for students, including those students with special needs and Limited English Proficiency.
- indicators of oral language development and peer interaction to describe student's achievement of developmental milestones.

The *UD STUDENT SNAPSHOT* (Ritchie, Howes, Kraft-Sayre, & Weiser, 2002), is an observational measure collected through time sampling, used to record behaviors in a classroom. The original *SNAPSHOT* was adapted and extended by the Center for Disabilities Studies personnel specifically for this evaluation. Four observations of each of kindergartens were conducted throughout the school year; in January, February, March, and April.

In completing the *UD STUDENT SNAPSHOT*, the observers watched a target student for 20 uninterrupted seconds, and then coded the observation during the next 60 seconds. When coding, the observer recorded the students' behavior in terms of whether the student was engaged in the activities of the classroom at the time of observation, the students' verbal interaction, content area being addressed (language arts, mathematics, science, etc.), peer interaction, size of instructional group (whole group, small group, individually), and cognitive complexity of the interactions (knowledge, understanding, applying, or analyzing and evaluating). This pattern of observation and coding occurred for approximately seven minutes with a five minute rest period before it resumed again. The seven minutes of observation and coding and the five minutes of rest are referred to as an observation cycle, with every 60 minutes resulting in 5 observation cycles. Because of lunch, specials, and the like, not all of the school day is spent in the classroom. It was usually possible to complete five observation cycles during each school day for a total of 25 snapshots of the students' behavior taken throughout the day.

The *UD STUDENT SNAPSHOT* has 87 codes, divided into thirteen categories. Of these thirteen categories, six have exclusive codes; that is, only one response category can be coded during each 20-second observation. In the other seven categories, students could exhibit multiple behaviors in each 20-second observation. When observing a student, if the target child exhibited a target behavior it was coded. This was the case whether or not the student engaged in the same sort of behavior(s) for all 20 seconds, if they exhibited the same behavior multiple times within the 20 second coding cycle, or if it was a fleeting one time demonstration. For instance, in the verbal interaction category, it would be possible for a student to make an elaborative statement for the entire 20-second observation. Conversely it is possible to exhibit a range of verbal interaction styles going from simple statements to open-ended questions, to elaborated statements, to statements made about imaginative play in a 20 second observation. Therefore, in the seven categories where multiple behaviors were coded, every 20-second observation had the potential to detect any and every student behavior. For this data, the most appropriate metric is frequency or the proportion of observations where the behavior was observed.

In this report, data from *UD STUDENT SNAPSHOT* will be presented. The total number of observations in all twenty classrooms during January was 2710, in February 2650 observations were made, in March 2615 observations were made, and in April 2575 observations were made. The average number of observations gathered in the four observation cycles was 2637.5 among the twenty full-day kindergarten classrooms. The data within the cells of the tables presents the frequencies of observations among the twenty classrooms, based on the proportion of the observed behavior to the total number of observations in each classroom

During each observation within an observation cycle of five observations, a different student was the target student. Of the five target students in an observation cycle, one student was receiving special education services, one student was receiving free or reduced cost meals at school, one was a student with Limited English Proficiency, and two were students who did not have any of these characteristics. Of the students in a classroom which met any of these characteristics, they were randomly selected to be a target student. For each of the five target students observed during an observation cycle, as many as four other students with the same characteristics were also selected. In the event that the first target student was not available during an observation cycle, an alternate was available for the observation. During each observation, the observer watched the target student and recorded their experience based on the 87 codes of the *UD STUDENT SNAPSHOT*.

### Learning Environment

Environmental structures greatly influence learning. Therefore we were interested in the learning settings that the students experienced through their day in kindergarten. The data on the learning environment was gathered by noting the size of the group the target student was a part of during each observation as well as the academic content being addressed.

### Instructional Group Size

At the time of each observation the observers noted whether the target student was working individually with a teacher, was part of a large group or was in a small group learning setting.

Consistent with the teachers' schedules, of the 9596 observations, it was found students were located in a full group setting 62.5% (n=5997) of time (Table 12). Small group settings were the next most frequently observed setting, observed an average of 22% of the time.

Table 12. Size of Instructional Group Observed Four Times During the School Year

| Group Size   |                        | Observation Period (N =9596) |                 |                 |                 |                 |
|--------------|------------------------|------------------------------|-----------------|-----------------|-----------------|-----------------|
|              |                        | Jan.                         | Feb.            | Mar.            | Apr.            | Total by Group  |
| Individual   | Observations (f)       | 212                          | 214             | 220             | 146             | <b>792</b>      |
|              | % of monthly total (P) | (8.8%)                       | (9.1%)          | (9.2%)          | (6.0%)          | <b>(8.3%)</b>   |
| Small Group  | Observations           | 567                          | 545             | 504             | 508             | <b>2124</b>     |
|              | % of monthly total (P) | (23.5%)                      | (23.1%)         | (21.0%)         | (21.0%)         | <b>(22.1%)</b>  |
| Large Group  | Observations           | 234                          | 155             | 160             | 134             | <b>683</b>      |
|              | % of monthly total (P) | (9.7%)                       | (6.6%)          | (6.7%)          | (5.5%)          | <b>(7.1%)</b>   |
| Full Group   | Observations           | 1404                         | 1449            | 1511            | 1633            | <b>5997</b>     |
|              | % of monthly total (P) | (58.1%)                      | (61.3%)         | (63.1%)         | (67.5%)         | <b>(62.5%)</b>  |
| <b>Total</b> | Observations (f)       | <b>2417</b>                  | <b>2363</b>     | <b>2395</b>     | <b>2421</b>     | <b>9596</b>     |
|              | % of total (P)         | <b>(100.0%)</b>              | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

The distribution of observations across all settings is presented in Figure A along with changes in these settings in Figure B.

Figure A. Distribution of Size of Instructional Group

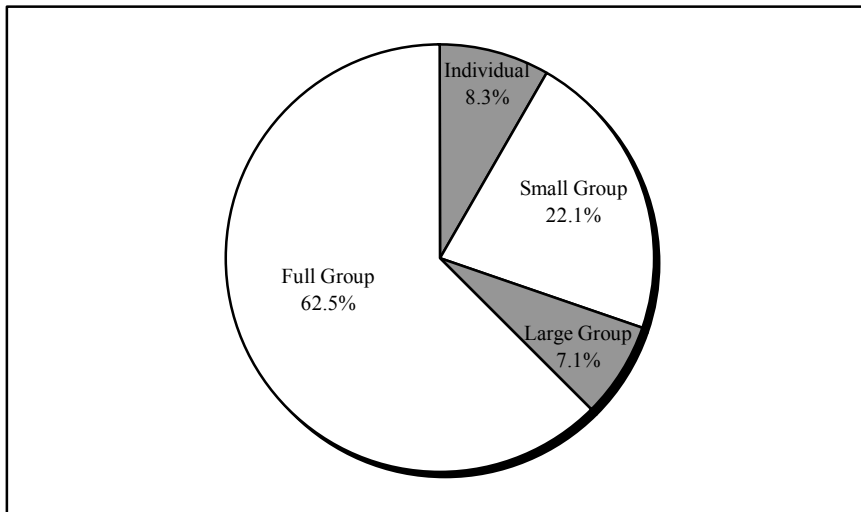
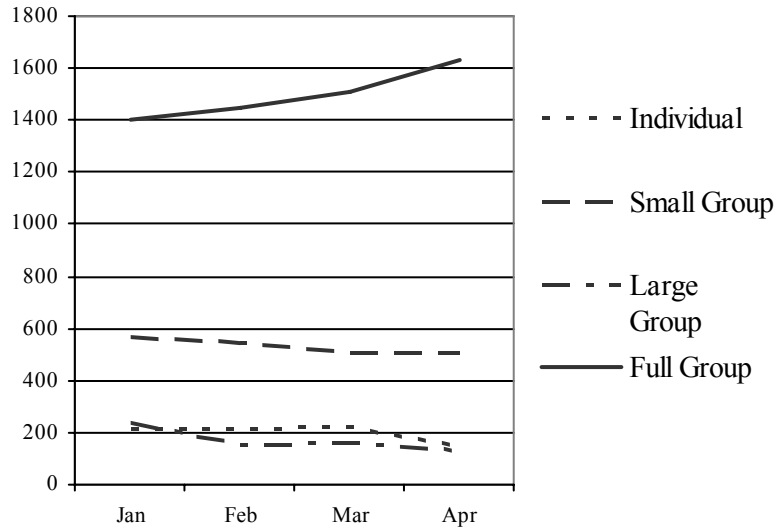


Figure B. Changes in Size of Instructional Group over Time



Over the year, it is noteworthy that the use of full group as the size of the instructional group increased between January to April resulting in the reduction of the use of the other instructional grouping strategies. As shown in the Figure B, the full group was a dominant group size when implementing instruction.

Because the observations were describing kindergarten through the experiences of students, it is possible to disaggregate the observations according to the characteristics of the target student identified for the observations. Students in each kindergarten were classified according to these categories: students receiving special education, students with Limited English Proficiency, students eligible for free and reduced cost meals at school, students having more than one of these risk factors, and students not having any of these risk factors. During each observation cycle of five observations, a child from each of the five categories was observed as the target child. Table 13 presents the data regarding the instructional group size for students in each of the five classifications during the four days of observations. All of the students in each of the subpopulations of interest spent over 60% of the observed time in a full group setting, about 20% of observation time in a small group setting, and 8% of time in an individual instructional setting.

Table 13 Size of Instructional Group by Student Classification.

| Group Size   |                         | Student Classification (N =9571) |                 |                 |                 |                 | Row Total       |
|--------------|-------------------------|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|              |                         | General                          | Spec Ed         | FRL             | LEP             | Multiple        |                 |
| Individual   | Observations (f)        | 282                              | 74              | 264             | 38              | 131             | <b>789</b>      |
|              | % of group total (P)    | (8.0%)                           | (8.5%)          | (8.5%)          | (8.4%)          | (8.2%)          | <b>(8.0%)</b>   |
| Small Group  | Observations            | 796                              | 190             | 669             | 100             | 364             | <b>2119</b>     |
|              | % of monthly total (P)  | (22.6%)                          | (21.9%)         | (21.4%)         | (22.1%)         | (22.1%)         | <b>(22.6%)</b>  |
| Large Group  | Observations            | 246                              | 63              | 226             | 37              | 109             | <b>681</b>      |
|              | % of monthly total (P)  | (7.0%)                           | (7.3%)          | (7.2%)          | (8.2%)          | (6.8%)          | <b>(7.0%)</b>   |
| Full Group   | Observations            | 2199                             | 540             | 1961            | 277             | 1005            | <b>5982</b>     |
|              | % of monthly total (P)  | (62.4%)                          | (62.3%)         | (62.9%)         | (61.3%)         | (62.9%)         | <b>(62.4%)</b>  |
| <b>Total</b> | <b>Observations (f)</b> | <b>3523</b>                      | <b>867</b>      | <b>3120</b>     | <b>452</b>      | <b>1609</b>     | <b>9571</b>     |
|              | <b>% of total (P)</b>   | <b>(100.0%)</b>                  | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with Limited English Proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or were students with Limited English Proficiency.

In general the size of the instructional group in which the target student was observed did not differ according to subpopulation. As noted, we assessed the group size of activities and instruction for students receiving special education services, students receiving free or reduced cost meals at school, students with Limited English Proficiency, and students with a combination of these characteristics (Table 12). The similar trend of the instructional grouping was found for all other populations.

### Instructional Content

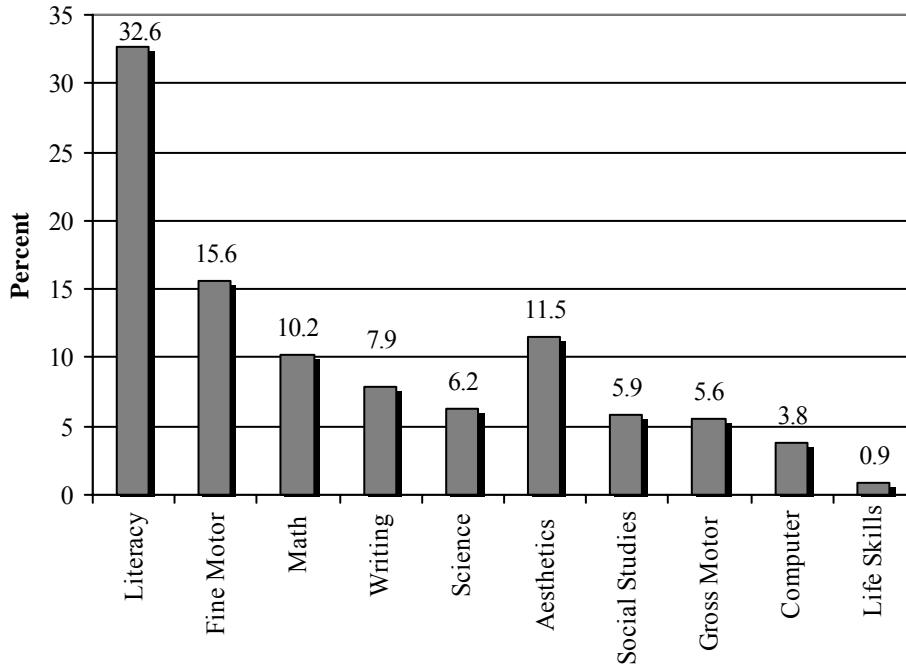
The *UD STUDENT SNAPSHOT* observation instrument collected information on the curriculum content that the students experienced during the school day. Nine curriculum areas were documented, with language arts having several subcategories: 1) being read to, 2) pre reading, 3) letter sounds, 4) oral language, and 5) writing. Language arts instruction was the curriculum area most often recorded. These subcategories of literacy activities are collapsed in the following table. The eight other curriculum areas were mathematics, science, social studies, aesthetics (which included art and music), fine motor development, gross motor development, computer skills, and life skills.

Of the 13711 observation cycles, literacy was, by far, the most frequently experienced curricular area (32.5%, n=4464). The next most commonly experienced activity was fine motor skills (15.6%, n=2139) followed by aesthetics (11.5% n=1576) and math (10.2%, n=1395) of the observations. For more details, see Table 14 and Figure C.

Table 14 Content of Instruction Observed Four Times During the School Year

| Instructional Content |                         | Observation Period (N =13711 ) |                 |                 |                 |                 |
|-----------------------|-------------------------|--------------------------------|-----------------|-----------------|-----------------|-----------------|
|                       |                         | Jan.                           | Feb.            | Mar.            | Apr.            | Total           |
| Literacy              | Observations (f)        | 1069                           | 1071            | 1158            | 1166            | <b>4464</b>     |
|                       | % of monthly total (P)  | (33.9%)                        | (31.9%)         | (31.5%)         | (33.2%)         | <b>(32.5%)</b>  |
| Fine Motor            | Observations            | 579                            | 493             | 550             | 517             | <b>2139</b>     |
|                       | % of monthly total (P)  | (18.4%)                        | (14.7%)         | (15.0%)         | (14.7%)         | <b>(15.6%)</b>  |
| Math                  | Observations            | 334                            | 296             | 443             | 322             | <b>1395</b>     |
|                       | % of monthly total (P)  | (10.6%)                        | (8.8%)          | (12.0%)         | (9.2%)          | <b>(10.2%)</b>  |
| Writing               | Observations            | 239                            | 287             | 294             | 260             | <b>1080</b>     |
|                       | % of monthly total (P)  | (7.6%)                         | (8.5%)          | (8.0%)          | (7.4%)          | <b>(7.9%)</b>   |
| Science               | Observations            | 193                            | 158             | 223             | 278             | <b>852</b>      |
|                       | % of monthly total (P)  | (6.1%)                         | (4.7%)          | (6.1%)          | (7.9%)          | <b>(6.2%)</b>   |
| Aesthetics            | Observations            | 341                            | 448             | 387             | 400             | <b>1576</b>     |
|                       | % of monthly total (P)  | (10.8%)                        | (13.3%)         | (10.5%)         | (11.4%)         | <b>(11.5%)</b>  |
| Social Studies        | Observations            | 144                            | 257             | 218             | 189             | <b>808</b>      |
|                       | % of monthly total (P)  | (4.6%)                         | (7.6%)          | (5.9%)          | (5.4%)          | <b>(5.9%)</b>   |
| Gross Motor           | Observations            | 103                            | 210             | 229             | 222             | <b>764</b>      |
|                       | % of monthly total (P)  | (3.2%)                         | (6.2%)          | (6.1%)          | (6.3%)          | <b>(5.6%)</b>   |
| Computer              | Observations            | 152                            | 94              | 146             | 124             | <b>516</b>      |
|                       | % of monthly total (P)  | (4.8%)                         | (2.8%)          | (4.0%)          | (3.5%)          | <b>(3.8%)</b>   |
| Life Skills           | Observations            | 0                              | 50              | 34              | 33              | <b>117</b>      |
|                       | % of monthly total (P)  | (0.0%)                         | (1.5%)          | (0.9%)          | (1.0%)          | <b>(0.8%)</b>   |
| <b>Total</b>          | <b>Observations (f)</b> | <b>3154</b>                    | <b>3364</b>     | <b>3682</b>     | <b>3511</b>     | <b>13711</b>    |
|                       | <b>% of total (P)</b>   | <b>(100.0%)</b>                | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

Figure C. Distribution of Instructional Content over Four Observations



Clearly literacy is a priority curricular area for teachers. In addition, teachers often incorporate more than one curricular area as they present information to students. In these instances both content areas would have been marked during the observations. When content for a particular observation was coded in multiple content areas, we designated that observation as showing evidence of integrated instruction, which is content from more than one curricular content area at one time. The amount of integration was modest across the observations periods with an average of 25% of the observations showing integration across the year. See Table 15 for the frequency of integrated instruction being observed.

Table 15. Integrated Instructional Content Observed Four Times During the School Year.

| Integrated Instructional Content | Observation Period |             |             |             | Total          |
|----------------------------------|--------------------|-------------|-------------|-------------|----------------|
|                                  | January            | February    | March       | April       |                |
| Frequency of observations        | 275                | 420         | 479         | 468         | <b>1642</b>    |
| Percentage of observations       | (16.1%)            | (28.3%)     | (27.7%)     | (28.1%)     | <b>(25.0%)</b> |
| <b>All Content Observations</b>  | <b>1713</b>        | <b>1485</b> | <b>1731</b> | <b>1664</b> | <b>6573</b>    |

The sample of observations collected for this evaluation found that students spent the majority of their classroom time being exposed to academic content areas in isolation rather than being exposed to an integration of curriculum.

#### Instructional Content by Instructional Group Size

Instructional content varied according to instructional group size. Figure D presents instructional content that was analyzed for this comparison, while Table 16 displays the distribution of instructional content by instructional group size for all four observations in which both content and instructional group size were noted. Integrated instructional content is defined here as any observation for which two or more instructional areas were observed during the same period. For all observations in which instructional content was noted, it was judged to be integrated in 25% of cases. Table 16 displays trends in content integration across observation periods, illustrating a sharp increase to a sustained level of increased content integration.

Figure D Instructional Content Observed Four Times during the School Year

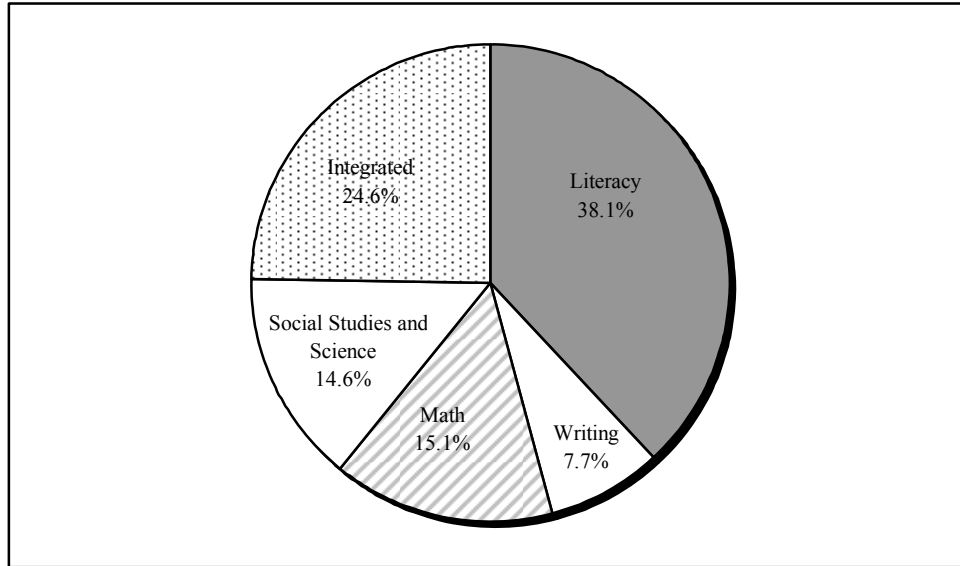


Table 16. Instructional Content by Instructional Group Size Observed Four Times During the School Year

| Instructional Content     |                  | Group Setting |                |               |                |                 |
|---------------------------|------------------|---------------|----------------|---------------|----------------|-----------------|
|                           |                  | Individual    | Small          | Large         | Full           | Total           |
| Literacy                  | Observations (f) | 118           | 591            | 233           | 1485           | <b>2427</b>     |
|                           | % of total (P)   | (4.9%)        | (24.4%)        | (9.6%)        | (61.2%)        | <b>(38.1%)</b>  |
| Integrated                | Observations (f) | 255           | 306            | 109           | 897            | <b>1567</b>     |
|                           | % of total (P)   | (16.3%)       | (19.5%)        | (7.0%)        | (57.2%)        | <b>(24.6%)</b>  |
| Math                      | Observations (f) | 44            | 254            | 81            | 580            | <b>959</b>      |
|                           | % of total (P)   | (4.6%)        | (26.5%)        | (8.4%)        | (60.5%)        | <b>(15.1%)</b>  |
| Social Science or Science | Observations (f) | 118           | 177            | 65            | 569            | <b>929</b>      |
|                           | % of total (P)   | (12.7%)       | (19.1%)        | (7.0%)        | (61.2%)        | <b>(14.6%)</b>  |
| Writing                   | Observations (f) | 29            | 243            | 28            | 190            | <b>490</b>      |
|                           | % of total (P)   | (5.9%)        | (49.6%)        | (5.7%)        | (38.8%)        | <b>(7.7%)</b>   |
| <b>Total</b>              | Observations (f) | <b>564</b>    | <b>1571</b>    | <b>516</b>    | <b>3721</b>    | <b>6372</b>     |
|                           | % of total (P)   | <b>(8.9%)</b> | <b>(24.7%)</b> | <b>(8.1%)</b> | <b>(58.4%)</b> | <b>(100.0%)</b> |

Teacher Directedness

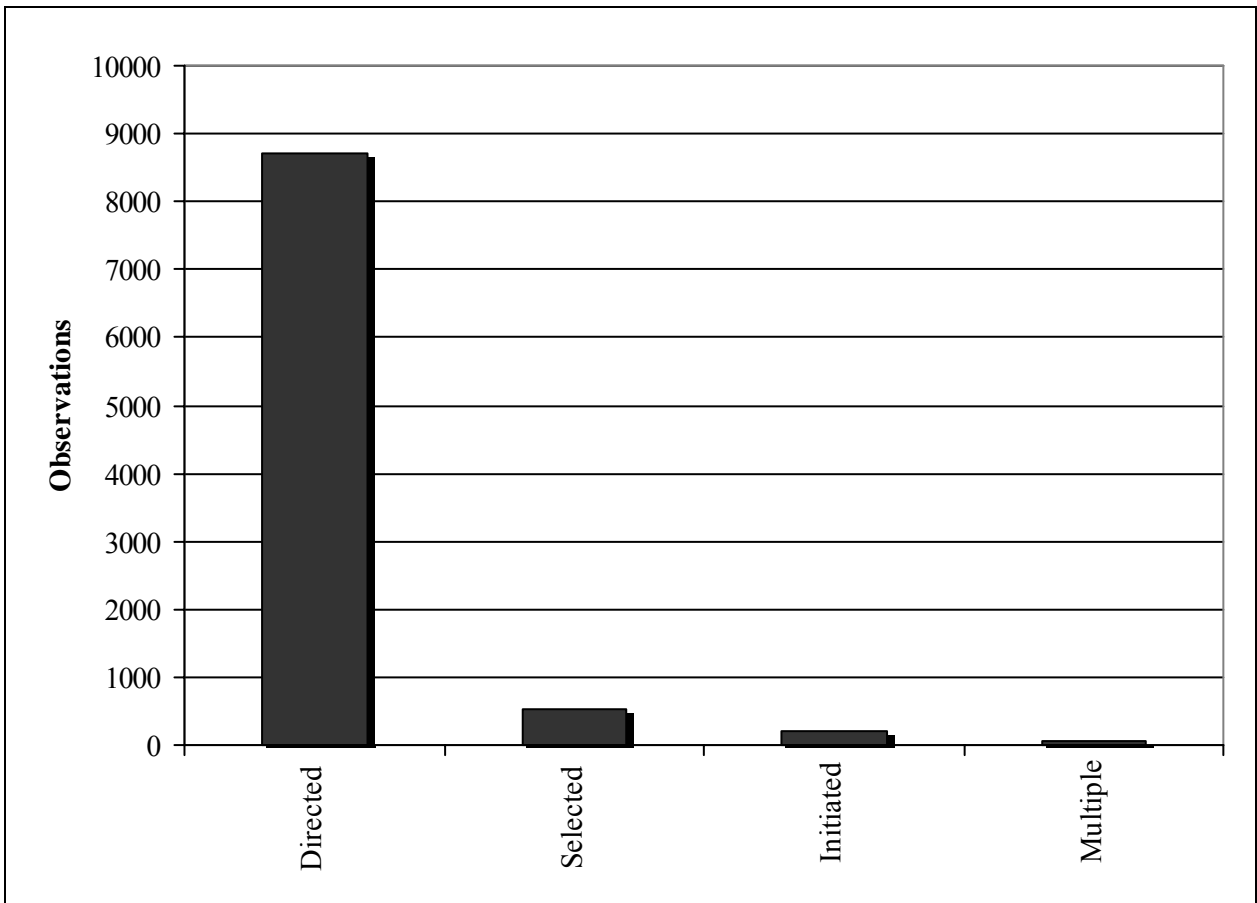
This category was used to capture the level at which the adult in closest proximity to the target child was directing the target students’ activities in the classroom at the time of the observation. Each of the observations for “teacher directedness” was coded as “the adult controlled all aspects of the learning opportunity for the target child (teacher directed),” “the target child was allowed to choose their own activity from the options the adult made available (student selected),” or “the target child was allowed to select their own activity or was allowed to combine materials to create a new activity (student initiated).” In these cases, the target child was provided the opportunity to determine use of time,

space and materials for his or her own purpose. “Teacher directedness” was also tracked across observation periods, along with the behavior guidance offered by the teacher and the interaction of student with the teacher or other adults present in the classroom. Trends in these activities across observation periods are presented in Table 17. These data are also presented in Figure E.

Table 17. Teacher Directedness Observed Four Times During the School Year

| Teacher Directedness |                  | Observation Period |                 |                 |                 |                 |
|----------------------|------------------|--------------------|-----------------|-----------------|-----------------|-----------------|
|                      |                  | January            | February        | March           | April           | Total           |
| Teacher Directed     | Observations (f) | 1969               | 2184            | 2243            | 2326            | <b>8722</b>     |
|                      | % of total (P)   | (89.1%)            | (92.0%)         | (93.5%)         | (92.9%)         | <b>(91.9%)</b>  |
| Student Selected     | Observations (f) | 182                | 128             | 91              | 117             | <b>518</b>      |
|                      | % of total (P)   | (8.2%)             | (5.4%)          | (3.8%)          | (4.7%)          | <b>(5.4%)</b>   |
| Student Initiated    | Observations (f) | 35                 | 48              | 57              | 61              | <b>201</b>      |
|                      | % of total (P)   | (1.6%)             | (2.0%)          | (2.4%)          | (2.4%)          | <b>(2.1%)</b>   |
| Multiple             | Observations (f) | 24                 | 16              | 8               | 0               | <b>48</b>       |
|                      | % of total (P)   | (1.1%)             | (0.6%)          | (0.3%)          | (0.0%)          | <b>(0.5%)</b>   |
| Total                | Observations (f) | <b>2210</b>        | <b>2376</b>     | <b>2399</b>     | <b>2504</b>     | <b>9489</b>     |
|                      | % of total (P)   | <b>(100.0%)</b>    | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

Figure E. Observation of Teacher Directedness



Instructional content also varied according to the level of “teacher directedness” provided by the teacher for class activities. The distribution of those observations in which both instructional content and “teacher directedness” were noted is presented in Table 18.

Table 18. Instructional Content by “Teacher Directedness”

| Instructional Content     |                  | Teacher Directedness |                  |                    |               |                 |
|---------------------------|------------------|----------------------|------------------|--------------------|---------------|-----------------|
|                           |                  | Teacher Directed     | Student Selected | Student Initiation | Multiple      | Total           |
| Literacy                  | Observations (f) | 2318                 | 72               | 7                  | 4             | <b>2401</b>     |
|                           | % of total (P)   | (96.5%)              | (3.0%)           | (0.3%)             | (0.2%)        | <b>(100.0%)</b> |
| Writing                   | Observations (f) | 445                  | 12               | 11                 | 5             | <b>473</b>      |
|                           | % of total (P)   | (94.1%)              | (2.5%)           | (2.3%)             | (1.1%)        | <b>(100.0%)</b> |
| Math                      | Observations (f) | 914                  | 30               | 3                  | 3             | <b>950</b>      |
|                           | % of total (P)   | (96.2%)              | (3.2%)           | (0.3%)             | (0.3%)        | <b>(100.0%)</b> |
| Social Science or Science | Observations (f) | 879                  | 39               | 21                 | 12            | <b>951</b>      |
|                           | % of total (P)   | (92.4%)              | (4.1%)           | (2.2%)             | (1.3%)        | <b>(100.0%)</b> |
| Integrated                | Observations (f) | 1541                 | 48               | 3                  | 8             | <b>1600</b>     |
|                           | % of total (P)   | (96.3%)              | (3.0%)           | (0.2%)             | (0.5%)        | <b>(100.0%)</b> |
| <b>Total</b>              | Observations (f) | <b>6079</b>          | <b>201</b>       | <b>45</b>          | <b>32</b>     | <b>6375</b>     |
|                           | % of total (P)   | <b>(95.4%)</b>       | <b>(3.2%)</b>    | <b>(1.2%)</b>      | <b>(0.5%)</b> | <b>(100.0%)</b> |

### Instructional Interaction

Instructional interaction was defined as the interactions of the adult closest to the target child during an observation cycle related to instruction as the teacher focused on the target child. This was coded in one of three categories: “didactic,” “invites exploration and experimentation,” and “scaffolds.” “Didactic” interaction occurred when the teacher provided instruction or demonstrated an activity to the child with no response from the target child expected or necessary. There is also one correct answer or way to do a task in a didactic interaction.

To be coded as “invites exploration or experimentation,” an interaction between adult and target child involved using materials which were available so that students could make choices, experiment and test hypotheses. “Scaffolding” interactions occurred when the teacher cultivated the curiosity of the target child to expand their knowledge and skills, helped the target child expand on their answers and thoughts, asked the child open ended questions, and linked the classroom activities to the target child’s life and experiences.

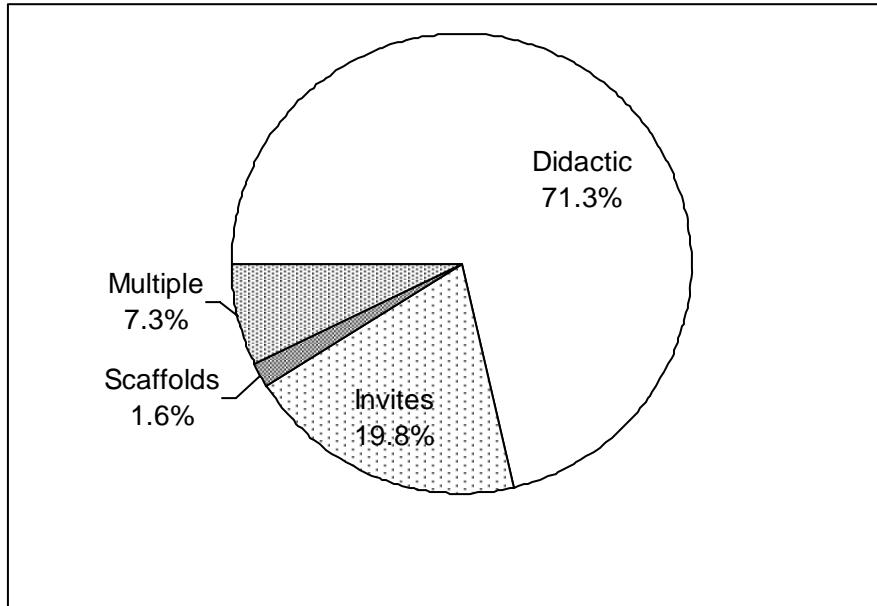
As can be seen in Table 19, of the interactions between adults in the classroom and students were largely didactic. Of the interactions between adults and students, 71.3% (n=4461) of the comments (N=6256) were didactic comments, stating directions or eliciting the correct answer.

Table 19. Instructional Interaction Observed Four Times during the School Year

| Instructional Interaction |                         | Observation Period  |                      |                   |                   |                    |
|---------------------------|-------------------------|---------------------|----------------------|-------------------|-------------------|--------------------|
|                           |                         | January<br>(N=2710) | February<br>(N=2650) | March<br>(N=2615) | April<br>(N=2575) | Total<br>(N=10550) |
| Didactic                  | Observations (f)        | 1126                | 1045                 | 1040              | 1250              | <b>4461</b>        |
|                           | % of total comments (P) | (75.9%)             | (63.4%)              | (64.7%)           | (82.4%)           | <b>(71.3%)</b>     |
| Invites<br>Exploration    | Observations (f)        | 310                 | 378                  | 372               | 179               | <b>1239</b>        |
|                           | % of total comments (P) | (20.9%)             | (23.0%)              | (23.1%)           | (11.8%)           | <b>(19.8%)</b>     |
| Scaffolding               | Observations (f)        | 19                  | 50                   | 22                | 8                 | <b>99</b>          |
|                           | % of total comments (P) | (1.3%)              | (3.0%)               | (1.4%)            | (0.5%)            | <b>(1.6%)</b>      |
| Multiple                  | Observations (f)        | 28                  | 174                  | 174               | 81                | <b>457</b>         |
|                           | % of total comments (P) | (1.9%)              | (10.6%)              | (10.8%)           | (5.3%)            | <b>(7.3%)</b>      |
| Total                     | Observations (f)        | <b>1483</b>         | <b>1647</b>          | <b>1608</b>       | <b>1518</b>       | <b>6256</b>        |
|                           | % of total comments (P) | <b>(100.0%)</b>     | <b>(100.0%)</b>      | <b>(100.0%)</b>   | <b>(100.0%)</b>   | <b>(100.0%)</b>    |

Figure F shows the proportional relationship of the types of comments made to the target students during an observation cycle.

Figure F. Instructional Interaction Observed Four Times During the School Year



The correspondence of instructional interaction and instructional content is presented in Table 20. Of each of the instructional content areas, literacy (N=1978) had the highest proportion of didactic comments (77.5%, n=1532) being made to the target child at a time of observation compared to any of the other content areas. Of the comments made when students were writing (N=310), 30.0% (n=93) were inviting exploration or experimentation. More comments scaffolding content (N=173) were made when the instructional content was integrated, which combines the content of multiple academic areas.

Table 20. Instructional Content by Teacher Interaction

| Instructional Content     |                                    | Instructional Interaction     |                               |                            |                             |                                |
|---------------------------|------------------------------------|-------------------------------|-------------------------------|----------------------------|-----------------------------|--------------------------------|
|                           |                                    | Didactic                      | Invites                       | Scaffolds                  | Multiple                    | Total                          |
| Literacy                  | Observations (f)<br>% of total (P) | 1532<br>(77.5%)               | 288<br>(14.6%)                | 15<br>(0.8%)               | 143<br>(7.2%)               | <b>1978</b><br><b>(100.0%)</b> |
| Writing                   | Observations (f)<br>% of total (P) | 203<br>(65.5%)                | 93<br>(30.0%)                 | 5<br>(1.6%)                | 9<br>(2.9%)                 | <b>310</b><br><b>(100.0%)</b>  |
| Math                      | Observations (f)<br>% of total (P) | 487<br>(66.1%)                | 186<br>(25.2%)                | 5<br>(0.7%)                | 59<br>(8.0%)                | <b>737</b><br><b>(100.0%)</b>  |
| Social Science or Science | Observations (f)<br>% of total (P) | 413<br>(62.3%)                | 181<br>(27.3%)                | 10<br>(1.5%)               | 59<br>(9.0%)                | <b>663</b><br><b>(100.0%)</b>  |
| Integrated                | Observations (f)<br>% of total (P) | 1824<br>(71.5%)               | 491<br>(19.2%)                | 64<br>(2.5%)               | 173<br>(6.8%)               | <b>2552</b><br><b>(100.0%)</b> |
| <b>Total</b>              | Observations (f)<br>% of total (P) | <b>4459</b><br><b>(71.5%)</b> | <b>1239</b><br><b>(19.9%)</b> | <b>99</b><br><b>(1.6%)</b> | <b>443</b><br><b>(7.1%)</b> | <b>6240</b><br><b>(100.0%)</b> |

### Differentiated Instruction

Because not all students are alike, differentiated instruction applies an approach to teaching and learning so that students have multiple options for acquiring information and making sense of ideas. The model of differentiated instruction requires teachers to be flexible in their approach to teaching and adjusting the curriculum and presentation of information to learners rather than expecting students to modify themselves for the curriculum. Differentiated instruction is a teaching theory based on the premise that instructional approaches should vary and be adapted in relation to the individual and diverse students in the class. (Hall, NCAC, 2002, p. 2).

Using the *UD STUDENT SNAPSHOT* observation instrument, differentiated instruction data were collected. During any observation, all the types of differentiated instruction that were observed being used with the target child would be counted. “Individualized instruction” was defined as changing the verbal interaction for a specific student, pointing at an item for a specific student, or giving a student supports to do the task. “Peer support” was defined as having a peer help a student learn an important concept or model a task. “Physical support” was defined as providing physical support to the child. “Environmental support” was defined as changing the physical environment or the social environment to accommodate the child’s needs or creating other cues so that the child would know what the sequence of the day would be. “Changes in materials” was defined as using different materials to teach the content or to adjust the materials that most of the students use to accommodate the needs of the students. Using “special equipment” was defined as using special or adaptive devices to allow a student to participate or increase their level of participation. Having a student produce a “varied type of product” was defined as varying the complexity of the product reflecting performance expectations similar to the students’ abilities and/or task analyzing the process of accomplishing the task. “Using students’ native language” was defined as speaking in a language other than English to support the student in understanding a concept or direction.

Across all student observations, differentiated instruction occurred in 487 out of a total of 10,414 observation, representing 4.7% of all cases. Observations in which any form of differentiated instruction was observed were rare given the overall number of observations. Among 4.7% of the observations, individualized instruction and environmental support were the most commonly observed differentiation practices, accounting for 1.9% and 1.3% of cases, respectively. Only two cases of special equipment were observed. All other forms of differentiated instruction occurred in the range between 0.1% to 0.6%.

Table 21. Differentiated Instruction Strategies by Student Classification.

| Differentiation Strategies |                         | Student Classification (N =10755) |                    |                 |                |                      | Row Total<br>(N=10414) |
|----------------------------|-------------------------|-----------------------------------|--------------------|-----------------|----------------|----------------------|------------------------|
|                            |                         | General<br>(N=3889)               | Spec Ed<br>(N=948) | FRL<br>(N=3338) | LEP<br>(N=489) | Multiple<br>(N=1750) |                        |
| Individualized Instruction | Observations (f)        | 73                                | 19                 | 60              | 13             | 36                   | <b>201</b>             |
|                            | % of group total (P)    | (39.6%)                           | (48.7%)            | (36.8%)         | (68.4%)        | (45.6%)              | <b>(41.5%)</b>         |
| Environmental Support      | Observations            | 55                                | 9                  | 52              | 3              | 23                   | <b>142</b>             |
|                            | % of group total (P)    | (29.9%)                           | (23.1%)            | (31.9%)         | (15.8%)        | (29.2%)              | <b>(29.3%)</b>         |
| Physical Support           | Observations            | 30                                | 5                  | 23              | 0              | 8                    | <b>66</b>              |
|                            | % of monthly total (P)  | (16.3%)                           | (12.8%)            | (14.1%)         | (0%)           | (10.1%)              | <b>(13.6%)</b>         |
| Changes in Materials       | Observations            | 13                                | 3                  | 13              | 1              | 5                    | <b>35</b>              |
|                            | % of monthly total (P)  | (7.1%)                            | (7.7%)             | (8%)            | (5.3%)         | (6.3%)               | <b>(7.3%)</b>          |
| Peer Support               | Observations            | 6                                 | 2                  | 10              | 2              | 3                    | <b>23</b>              |
|                            | % of monthly total (P)  | (3.3%)                            | (5.1%)             | (6.2%)          | (10.5%)        | (3.8%)               | <b>(4.8%)</b>          |
| Varied in Type of Product  | Observations            | 4                                 | 0                  | 3               | 0              | 2                    | <b>9</b>               |
|                            | % of monthly total (P)  | (2.2%)                            | (0%)               | (1.8%)          | (0%)           | (2.5%)               | <b>(1.9%)</b>          |
| Child's Native Language    | Observations            | 2                                 | 1                  | 1               | 0              | 2                    | <b>6</b>               |
|                            | % of monthly total (P)  | (1.1%)                            | (2.6%)             | (0.6%)          | (0%)           | (2.5%)               | <b>(1.2%)</b>          |
| Special Equipment          | Observations            | 1                                 | 0                  | 1               | 0              | 0                    | <b>2</b>               |
|                            | % of monthly total (P)  | (0.5%)                            | (0%)               | (0.6%)          | (0%)           | (0%)                 | <b>(0.4%)</b>          |
| <b>Total</b>               | <b>Observations (f)</b> | <b>184</b>                        | <b>39</b>          | <b>163</b>      | <b>19</b>      | <b>79</b>            | <b>484</b>             |
|                            | <b>% of total (P)</b>   | <b>(4.7%)</b>                     | <b>(4.1%)</b>      | <b>(4.8%)</b>   | <b>(3.8%)</b>  | <b>(4.5%)</b>        | <b>(4.6%)</b>          |

General = any student not classified in another category  
 FRL = Students eligible for free or reduced cost meals  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or were students with Limited English Proficiency.  
 Spec Ed = students receiving special education  
 LEP = students with Limited English Proficiency

### Social Behavioral Guidance

Another category added to the original *SNAPSHOT* was to observe the behaviors of the adult closest to the target student in order to assess the level at which they facilitated the student's interaction with peers. The categories in this dimension of adult support for student activities included "facilitates peer interactions" which was coded when adult closest to the student helped the students interact with peers. "Reinforces behavior" was defined as the adult using praise or reward to reinforce the prosocial behavior of the target student. "Promotes problem solving" was defined as acting as a mediator or facilitator of students' discussion of a problem and identifying solutions. "States rules and instructions" was defined as providing rules for participation, use of materials, and behavior. "Request" was defined as specifically stating what a student should be doing.

“Reminds verbally” was defined as a teacher restating a rule, asking students to recall rules, and directing students’ attention to posted rules. “Removes student” was defined as removing a student from an activity and sending the student to another activity, sending a student away from activities to sit for some period of time, or sending a student away from particular students. “Adult solves problem” was defined as an adult in the closest proximity to the target student deciding on a solution for a problem or determining the consequences of problems without students’ input.

In general, the students in this study were being given guidance on what was expected of their behavior with 36.0% of the observations recording an adult stating a rule (N=2503, n=902). The next most often recorded behavioral guidance was requesting students to behave in appropriate ways, followed by students who were recorded being given reinforcement for and reminders of positive behavior.

Table 22. Observation of Behavior Guidance Strategies Utilized During Four Observations During the School Year

| Behavioral Guidance          |                  | Observation Period |                 |                 |                 |                 |
|------------------------------|------------------|--------------------|-----------------|-----------------|-----------------|-----------------|
|                              |                  | January            | February        | March           | April           | Total           |
| States Rules                 | Observations (f) | 228                | 185             | 247             | 242             | <b>902</b>      |
|                              | % of total (P)   | (41.8%)            | (29.9%)         | (37.3%)         | (35.7%)         | <b>(36.0%)</b>  |
| Requests                     | Observations (f) | 111                | 177             | 148             | 118             | <b>554</b>      |
|                              | % of total (P)   | (20.3%)            | (28.6%)         | (22.4%)         | (17.4%)         | <b>(22.1%)</b>  |
| Reinforces Behavior          | Observations (f) | 51                 | 103             | 164             | 141             | <b>459</b>      |
|                              | % of total (P)   | (9.3%)             | (16.7%)         | (24.8%)         | (20.8%)         | <b>(18.3%)</b>  |
| Reminds Verbally             | Observations (f) | 100                | 103             | 58              | 92              | <b>353</b>      |
|                              | % of total (P)   | (18.3%)            | (16.7%)         | (8.8%)          | (13.6%)         | <b>(14.1%)</b>  |
| Promotes Problem Solving     | Observations (f) | 27                 | 12              | 25              | 48              | <b>112</b>      |
|                              | % of total (P)   | (4.9%)             | (1.9%)          | (3.8%)          | (7.1%)          | <b>(4.5%)</b>   |
| Facilitates Peer Interaction | Observations (f) | 23                 | 13              | 17              | 21              | <b>74</b>       |
|                              | % of total (P)   | (4.2%)             | (2.1%)          | (2.6%)          | (3.1%)          | <b>(3.0%)</b>   |
| Removes from Room            | Observations (f) | 3                  | 18              | 3               | 12              | <b>36</b>       |
|                              | % of total (P)   | (0.5%)             | (2.9%)          | (0.4%)          | (1.8%)          | <b>(1.4%)</b>   |
| Adult Solves Problem         | Observations (f) | 3                  | 7               | 0               | 3               | <b>13</b>       |
|                              | % of total (P)   | (0.5%)             | (1.1%)          | (0.0%)          | (0.4%)          | <b>(0.5%)</b>   |
| Total                        | Observations (f) | <b>546</b>         | <b>618</b>      | <b>662</b>      | <b>677</b>      | <b>2503</b>     |
|                              | % of total (P)   | <b>(100.0)%</b>    | <b>(100.0)%</b> | <b>(100.0)%</b> | <b>(100.0)%</b> | <b>(100.0)%</b> |

Pianta and colleagues (Rimm-Kaufman; La Paro, Downer, & Pianta, 2005) have found that a positive social environment relates to student’s cognitive success. Teachers that are warm and responsive and create happy environments support students’ cognitive development. In addition, positive peer interaction is associated with positive academic outcomes as well as increased cognitive skills (Henry & Rickman, 2007). Additionally, early peer interaction is an important predictor of later social adjustments and outcomes. (Cillessen, 1997).

Engagement

When a child is paying attention they are better able to learn from the instructional approaches and methods a teacher provides. However, for many and varied reasons, students are not engaged or focused throughout a school day. As a first step in coding what the student is doing during the kindergarten day; the observers determined if the child was engaged, that is watching or interacting with materials, adults or peers; or if the child was disengaged, that is staring off into space, not attending to the task at hand, their peers or the adult that is speaking to them. In general the students were engaged to a very high degree throughout these *UD STUDENT SNAPSHOT* observations. Indeed students were judged to be non-engaged in less than 1% of the observations.

Table 23. Student Disengagement by Observation Period

| Student Disengagement      | Observation Period (N=10549) |          |          |          |         |
|----------------------------|------------------------------|----------|----------|----------|---------|
|                            | Jan.                         | Feb.     | Mar.     | Apr.     | Total   |
| Observations (f)           | 61                           | 9        | 25       | 4        | 97      |
| % of observation total (P) | (.0060%)                     | (.0010%) | (.0020%) | (.0003%) | (.009%) |

In January, 61 students spent some small portion of their day being disengaged, as the spring progressed that number dropped until in April, over the course of an entire day's observation only 4 students showed signs of disengagement.

Student Verbal Interaction

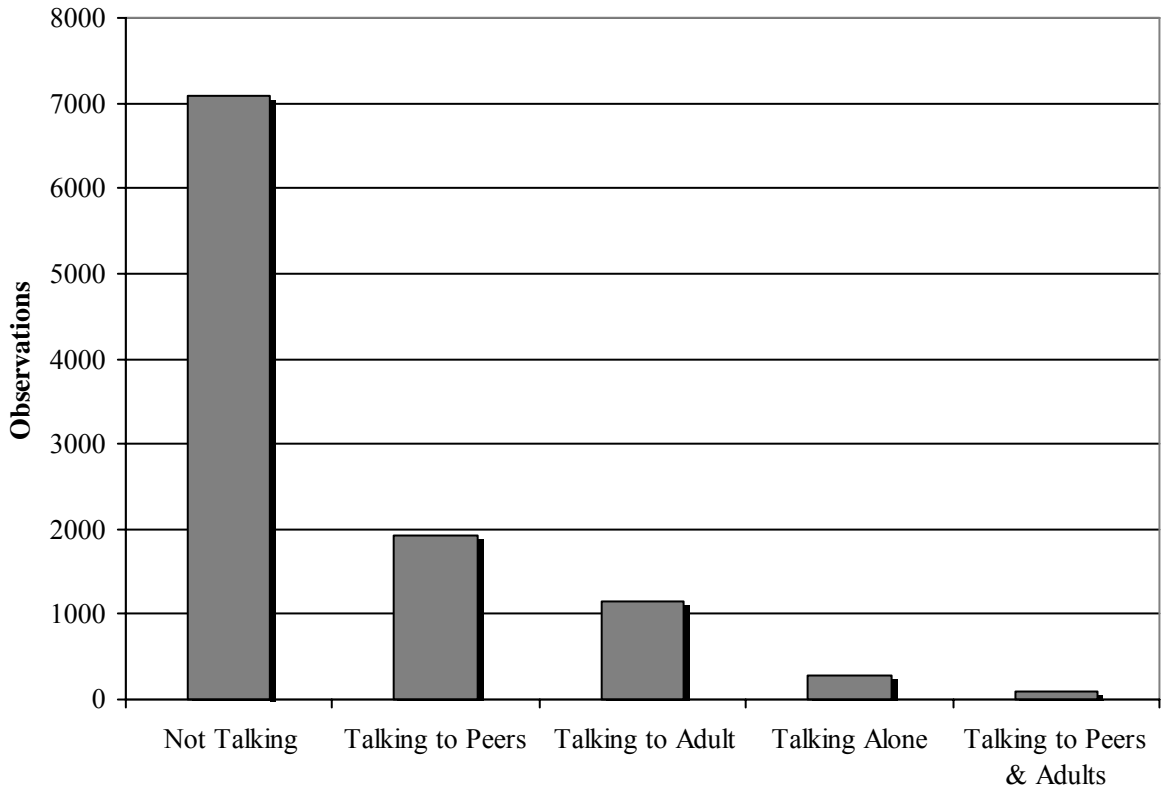
This section was one of the additions made to the original *SNAPSHOT* protocol developed by Ritchie et al (2002). Students' verbal interactions were measured in two ways – the amount of talking done by the child and the content of talking done by the child. Oral language is an important goal of early literacy development, because it is related to successful reading achievement (McCardle, Scarborough, Catts, 2001; Snow, Burns, & Griffin, 1998). Specifically, young students' oral language skills provide a foundation for learning how to read and lay the groundwork for the advanced linguistic skills essential for later reading achievement such as comprehension (NICHD, 2005). Not only are verbal interactions necessary to facilitate children's oral language skills, it is through verbal communication that the curriculum is transmitted (Aulls, 1998). Further the rate of talking produced by children is a proximal indicator of student learning (Au & Mason, 1981).

The scale is designed to assess whether or not a child is talking, and if they are talking, who the child is talking to, a peer or adult; the type of verbal interaction, whether a response or a question; as well as the complexity of their verbal utterance. The codes range from (1) not talking or (2) talking to one's self, (3) talking to a teacher or adult, or (4) talking to peers,

Using the *UD STUDENT SNAPSHOT*, information about student verbal interactions was collected. As can be seen in Figure G, the results showed that students were most commonly observed not talking (67.3%, n=7088). When students did talk, they were

observed to be talking with their peers (18.2%, n=1916) more frequently than they were observed talking with the teacher and/or the paraprofessional (10.9%, n=1145) in the room.

Figure G. Proportion of Student Verbal Interaction over Four Observations During the School Year



During the four observation (N=10548), certain types of verbal interaction showed changes over time. Students increased the amount of talking with their peers, increasing from 16.2% of the time in January (n=439) to 21.1% of time in April (n=544). At the same time, the amount of talking students did alone decreased from 3.4% in January (n=93) to 1.9% in April (n=51). Of the observations (N=7104), 10.9% included a child talking to an adult in the classroom, either the teacher or paraprofessional. See Table 24 for more information about student verbal interaction over the course of the school year.

Table 24. Student Verbal Interaction Observed Four Times During the School Year

| Student Verbal Interaction  |                  | Observation Period |                 |                 |                 |                 |
|-----------------------------|------------------|--------------------|-----------------|-----------------|-----------------|-----------------|
|                             |                  | January            | February        | March           | April           | Total           |
| Not Talking                 | Observations (f) | 1872               | 1776            | 1785            | 1671            | <b>7104</b>     |
|                             | % of total (P)   | (69.1%)            | (67.0%)         | (68.2%)         | (64.9%)         | <b>(67.3%)</b>  |
| Talking to Peers            | Observations (f) | 439                | 493             | 444             | 544             | <b>1920</b>     |
|                             | % of total (P)   | (16.2%)            | (18.6%)         | (16.9%)         | (21.1%)         | <b>(18.2%)</b>  |
| Talking to an Adult         | Observations (f) | 274                | 281             | 314             | 280             | <b>1149</b>     |
|                             | % of total (P)   | (10.1%)            | (10.6%)         | (12.0%)         | (10.9%)         | <b>(10.9%)</b>  |
| Talking Alone               | Observations (f) | 93                 | 70              | 56              | 51              | <b>270</b>      |
|                             | % of total (P)   | (3.4%)             | (2.6%)          | (2.1%)          | (1.9%)          | <b>(2.6%)</b>   |
| Talking to Peers and Adults | Observations (f) | 30                 | 30              | 16              | 29              | <b>105</b>      |
|                             | % of total (P)   | (1.1%)             | (1.1%)          | (0.8%)          | (1.1%)          | <b>(0.9%)</b>   |
| Total                       | Observations (f) | <b>2708</b>        | <b>2650</b>     | <b>2615</b>     | <b>2575</b>     | <b>10548</b>    |
|                             | % of total (P)   | <b>(100.0%)</b>    | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

Student verbal interaction was also analyzed by the student’s classification to see if all students were talking or if there are trends by student classification. In analyzing this data by student classification, it appears that students are consistent in the amount of talking that they do with peers, teachers, and paraprofessionals. Those students with multiple classifications did more talking alone than did other students, being observed to talk alone 7.8% of the time (N=1896, n=149) compared to students in the other classification groups who talked alone less than 3.2% of the time.

Table 25: Student Verbal Interaction by Student Classifications

| Student Verbal Interaction  |                         | Student Classification (N =10524) |                 |                 |                 |                 | Row Total       |
|-----------------------------|-------------------------|-----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                             |                         | General                           | Spec Ed         | FRL             | LEP             | Multiple        |                 |
| Not Talking                 | Observations (f)        | 2583                              | 670             | 2277            | 345             | 1213            | <b>7088</b>     |
|                             | % of group total (P)    | (66.4%)                           | (70.5%)         | (67.0%)         | (68.8%)         | (64.0%)         | <b>(67.4%)</b>  |
| Talking to Peers            | Observations            | 726                               | 159             | 620             | 87              | 324             | <b>1916</b>     |
|                             | % of monthly total (P)  | (18.7%)                           | (16.6%)         | (18.3%)         | (17.4%)         | (17.1%)         | <b>(18.2%)</b>  |
| Talking to an Adult         | Observations            | 436                               | 85              | 382             | 51              | 191             | <b>1145</b>     |
|                             | % of monthly total (P)  | (11.2%)                           | (8.9%)          | (11.2%)         | (10.1%)         | (10.1%)         | <b>(10.9%)</b>  |
| Talking Alone               | Observations            | 101                               | 30              | 87              | 13              | 149             | <b>842</b>      |
|                             | % of group total (P)    | (2.6%)                            | (3.2%)          | (2.6%)          | (2.5%)          | (7.8%)          | <b>(8.0%)</b>   |
| Talking to Peers and Adults | Observations            | 42                                | 6               | 32              | 6               | 19              | <b>105</b>      |
|                             | % of monthly total (P)  | (1.1%)                            | (0.6%)          | (0.9%)          | (1.2%)          | (1.0%)          | <b>(0.9%)</b>   |
| <b>Total</b>                | <b>Observations (f)</b> | <b>3888</b>                       | <b>950</b>      | <b>3398</b>     | <b>502</b>      | <b>1896</b>     | <b>10524</b>    |
|                             | <b>% of total (P)</b>   | <b>(100.0%)</b>                   | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with limited English proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or were students with Limited English Proficiency.

Verbal Complexity

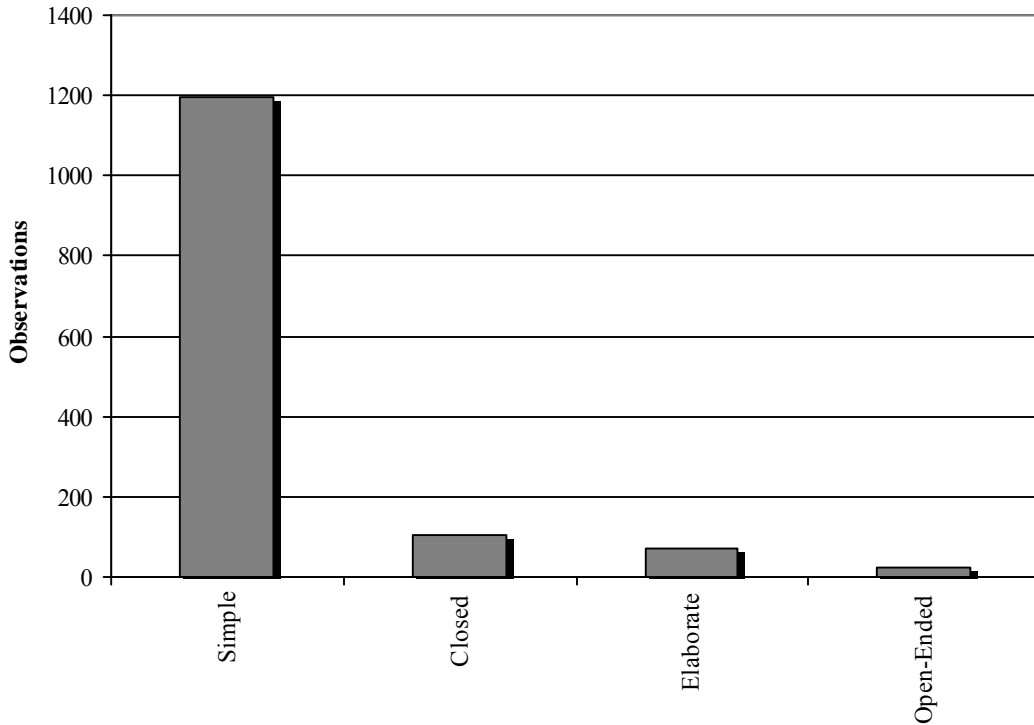
The verbal complexity of the target student’s speech was recorded during each observation when the student was engaged in social interaction. The categories of verbal complexity included: 1) talking socially, 2) making simple statements, 3) giving a response to a closed ended question, 4) providing and giving an elaborated statement, or 5) providing a response to an open- ended question.

In general, when students were talking they exhibited simple or less complex verbal output. It is possible that they were capable of more complex verbal expressions, but were not in a situation to provide it. Table 26 showed that the majority of verbal interaction was the use of simple statement (N=2619, 49.5 %, n=1299). Higher level of verbal interactions such as elaborate statements, open-ended questions, and the talk about symbolic play were in significantly low frequency on average: “talking about symbolic representation” (2.1%) “elaborate statement” (3.6%), and “open-ended questions” (1.4%). For information on verbal complexity observed in students’ conversation, see Table 26 and Figure H.

Table 26. Verbal Complexity Observed Four Times During the School Year

| Verbal Complexity       |                  | Observation Period (N=10549) |                      |                   |                   | Row Total<br>(N=10547) |
|-------------------------|------------------|------------------------------|----------------------|-------------------|-------------------|------------------------|
|                         |                  | January<br>(N=2708)          | February<br>(N=2650) | March<br>(N=2614) | April<br>(N=2575) |                        |
| Simple                  | Observations (f) | 371                          | 374                  | 244               | 310               | <b>1299</b>            |
|                         | % of total (P)   | (55.5%)                      | (53.4%)              | (40.4%)           | (47.9%)           | <b>(49.5%)</b>         |
| Talking Socially        | Observations (f) | 199                          | 231                  | 267               | 253               | <b>950</b>             |
|                         | % of total (P)   | (29.8%)                      | (33%)                | (44.2%)           | (39.1%)           | <b>(36.2%)</b>         |
| Closed                  | Observations (f) | 51                           | 45                   | 45                | 38                | <b>179</b>             |
|                         | % of total (P)   | (7.6%)                       | (6.4%)               | (7.4%)            | (5.8%)            | <b>(6.8%)</b>          |
| Elaborate               | Observations (f) | 17                           | 31                   | 28                | 20                | <b>96</b>              |
|                         | % of total (P)   | (2.5%)                       | (4.4%)               | (4.6%)            | (3.1%)            | <b>(3.6%)</b>          |
| Open-Ended              | Observations (f) | 4                            | 14                   | 9                 | 12                | <b>39</b>              |
|                         | % of total (P)   | (0.6%)                       | (2.0%)               | (1.4%)            | (1.8%)            | <b>(1.4%)</b>          |
| Symbolic Representation | Observations (f) | 26                           | 5                    | 11                | 14                | <b>56</b>              |
|                         | % of total (P)   | (3.8%)                       | (0.7%)               | (1.8%)            | (2.1%)            | <b>(2.1%)</b>          |
| <b>Total</b>            | Observations (f) | <b>668</b>                   | <b>700</b>           | <b>604</b>        | <b>647</b>        | <b>2619</b>            |
|                         | % of total (P)   | <b>(100.0%)</b>              | <b>(100.0%)</b>      | <b>(100.0%)</b>   | <b>(100.0%)</b>   | <b>(100.0%)</b>        |

Figure H. Verbal Complexity in Four Observations During the School Year



### Peer Interaction

This section refers to the complexity of the student’s social interactions with other students. The categories are listed from the simplest to the most complex. The interactions ranged from 1) solitary play 2) Parallel/parallel aware play, 3) simple social play where the child interacts with another, 4) complementary reciprocal play that involves turn taking and/or conversation, 5) cooperative pretend play where children act out imaginary scenarios requiring abstract representation, 6) complex pretend when children are not only acting out abstract representational scenarios, they are assigning roles and interacting with each other according to those roles.

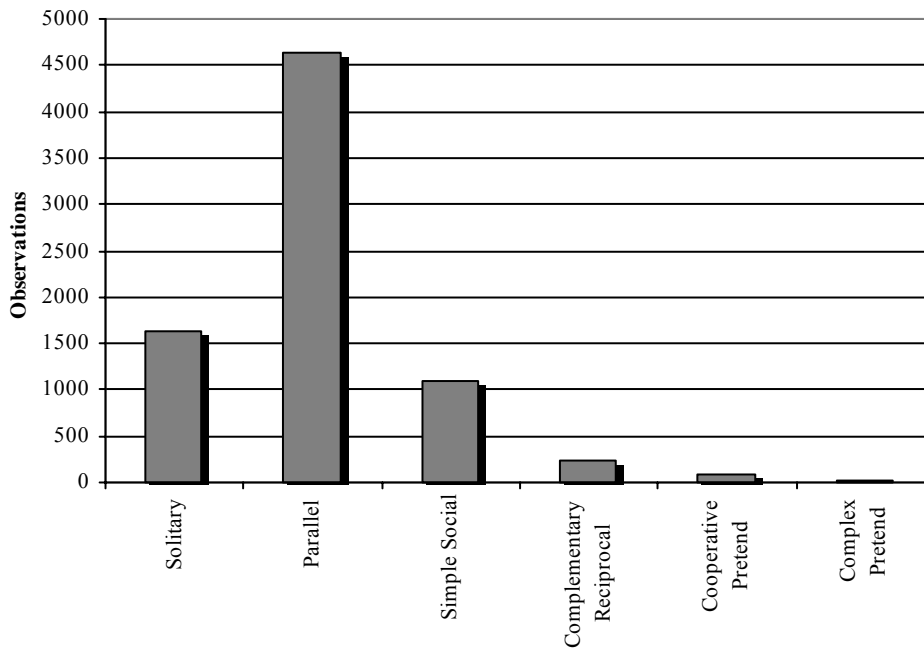
The results showed that of the 10549 observation cycles, 75.4% (n=7956) involved a peer interaction. Of this time (N=7956), parallel play (60.3%, n=4805) and solitary play (21.1%) were the most common form of peer interaction observed. The higher forms of interaction such as complementary reciprocal, cooperative and complex pretend were recorded in less than 5% of the observations.

During the four months of observation, certain types of interaction showed changes over time. The proportion of solitary play decreased over the four months, and the proportion of parallel play and complementary reciprocal play increased. See Table 27 for more information about the change in student’s peer interaction.

Table 27. Peer Interaction Observed Four Times During the School Year

| All Students<br>Peer Interaction |  | Observation Period             |                                |                                |                                |                                |
|----------------------------------|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                  |  | January                        | February                       | March                          | April                          | Row Total                      |
| Solitary                         | Observations (f)<br>% of total (P)               | 528<br>(29.5%)                 | 353<br>(17.2%)                 | 359<br>(18.0%)                 | 440<br>(20.5%)                 | <b>1680</b><br><b>(21.1%)</b>  |
| Parallel                         | Observations (f)<br>% of total (P)               | 923<br>(51.7%)                 | 1289<br>(63.1%)                | 1284<br>(64.6%)                | 1309<br>(61.1%)                | 4805<br><b>(60.3%)</b>         |
| Simple Social                    | Observations (f)<br>% of total (P)               | 274<br>(15.3%)                 | 304<br>(14.9%)                 | 263<br>(13.2%)                 | 295<br>(13.7%)                 | <b>1136</b><br><b>(14.2%)</b>  |
| Complementary<br>Reciprocal      | Observations (f)<br>% of total (P)               | 34<br>(1.9%)                   | 64<br>(3.1%)                   | 69<br>(3.4%)                   | 70<br>(3.2%)                   | <b>237</b><br><b>(2.9%)</b>    |
| Cooperative<br>Pretend           | Observations (f)<br>% of total (P)               | 24<br>(1.3%)                   | 24<br>(1.1%)                   | 12<br>(0.6%)                   | 24<br>(1.1%)                   | <b>84</b><br><b>(1.0%)</b>     |
| Complex Pretend                  | Observations (f)<br>% of total (P)               | 2<br>(0.1%)                    | 7<br>(0.3%)                    | 1<br>(0.1%)                    | 4<br>(0.1%)                    | <b>14</b><br><b>(0.1%)</b>     |
| <b>Column Totals</b>             | <b>Observations (f)</b><br><b>% of total (P)</b> | <b>1785</b><br><b>(100.0%)</b> | <b>2041</b><br><b>(100.0%)</b> | <b>1988</b><br><b>(100.0%)</b> | <b>2142</b><br><b>(100.0%)</b> | <b>7956</b><br><b>(100.0%)</b> |

Figure I. Observation of Peer Interaction in Four Observations



This data was also analyzed by the different student classifications. In comparing the peer interaction by student classification categories, it appears that proportionately fewer students who have limited English proficiency spent time in solitary play and proportionately more spent time in parallel play and simple social play.

Table 28. Peer Interaction by Student Classification

| Peer Interaction         |                               | Student Classification |                 |                 |                 |                 | Row Total       |
|--------------------------|-------------------------------|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                          |                               | General                | Spec Ed         | FRL             | LEP             | Multiple        |                 |
| Solitary                 | Observations (f)              | 621                    | 138             | 568             | 65              | 287             | <b>1679</b>     |
|                          | % of group total (P)          | (20.9%)                | (19.5%)         | (22.4%)         | (16.8%)         | (21.3%)         | <b>(21.1%)</b>  |
| Parallel                 | Observations                  | 1789                   | 438             | 1511            | 251             | 801             | <b>4790</b>     |
|                          | % of monthly total (P)        | (60.3%)                | (62.0%)         | (59.6%)         | (65.0%)         | (59.5%)         | <b>(60.3%)</b>  |
| Simple Social            | Observations                  | 420                    | 104             | 349             | 60              | 202             | <b>1135</b>     |
|                          | % of monthly total (P)        | (14.1%)                | (14.7%)         | (13.7%)         | (15.5%)         | (15.0%)         | <b>(14.3%)</b>  |
| Complementary Reciprocal | Observations                  | 98                     | 19              | 77              | 6               | 36              | <b>236</b>      |
|                          | % of group total (P)          | (3.3%)                 | (2.6%)          | (3.0%)          | (1.5%)          | (2.6%)          | <b>(2.9%)</b>   |
| Cooperative Pretend      | Observations                  | 32                     | 6               | 24              | 4               | 18              | <b>84</b>       |
|                          | % of monthly total (P)        | (1.1%)                 | (0.8%)          | (0.9%)          | (1.0%)          | (1.3%)          | <b>(1.0%)</b>   |
| Complex Pretend          | Observations                  | 6                      | 1               | 6               | 0               | 1               | <b>14</b>       |
|                          | % of monthly total (P)        | (0.2%)                 | (0.1%)          | (0.2%)          | (0%)            | (0.1%)          | <b>(0.1%)</b>   |
| Total                    | <b>Observations</b>           | <b>2966</b>            | <b>706</b>      | <b>2535</b>     | <b>386</b>      | <b>1345</b>     | <b>7938</b>     |
|                          | <b>% of monthly total (P)</b> | <b>(100.0%)</b>        | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with limited English proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or were students with Limited English Proficiency.

### **Teacher and Adult Support**

The next section of the *UD STUDENT SNAPSHOT* collects information on the behaviors of the adults in the target students’ immediate vicinity. The adult who was coded in these observations may be the lead teacher in the classroom. However, if the classroom aides and/or paraprofessionals were in charge of an activity or were working with the target student at the time of the observation, they would have been the adult whose behavior was recorded for this observation. The data provided from these observations captures the available supports and the attributed behaviors of the adults in the target students’ learning environment.

### **Adult Interaction**

The *UD STUDENT SNAPSHOT* assessed the level of involvement and responsiveness of the adult in closest proximity to the target student. If a student was working independently, this category was given a rating of “not in range”. However, if an adult was within three feet of the student then their behavior concerning the student was rated, ranging from: 1) “ignore” given when the adult does not react to a child’s bid for attention or their acting out behavior, 2) “routine,” physically providing assistance or materials but not verbally interacting with the child. The adult’s behaviors was coded as “minimal” if during the observation they responded to a direct request for help or gave directives with no expectation for a reply. The interaction was coded as “simple” if the adult answered a question with a short statement, or provided simple instructions or directions. The behavior was coded as “elaborate” when the adult extensively interacted with the child with a clearly affirming gesture (for example a “high five”), engaged in

reciprocal conversation with a child, or expands on a child’s idea with materials or suggestions.

Table 29 reported that 26% (n=2098) of observation time (N=8079), the adults were not in range with the target student. Of the observation cycles that adults were interacting with the target student, the adults were using simple interaction 26.7% (n=2161) of the time, routine related interaction for 24% (n=1936) of the time, and minimal interaction for 11.3% (n=917) of the time. Only 7.2% (n=588) of time, elaborate interaction was observed

Table 29. Observation of Adult Interaction with the Target Child Observed Four Times During the School Year

| Adult Response:     |                         | Observation Period |          |          |          |          |
|---------------------|-------------------------|--------------------|----------|----------|----------|----------|
|                     |                         | January            | February | March    | April    | Total    |
| <b>Not in range</b> | Observations(f)         | 428                | 417      | 631      | 622      | 2098     |
|                     | % of total (P)          | (22.5%)            | (24.0%)  | (30.3%)  | (26.4%)  | (25.9%)  |
| <b>Ignore</b>       | Observations (f)        | 148                | 111      | 90       | 30       | 379      |
|                     | % of total (P)          | (7.8%)             | (6.4%)   | (4.3%)   | (1.3%)   | (4.6%)   |
| <b>Routine</b>      | Observations (f)        | 454                | 420      | 552      | 510      | 1936     |
|                     | % of total (P)          | (23.9%)            | (24.1%)  | (26.5%)  | (21.7%)  | (23.9%)  |
| <b>Minimal</b>      | Observations (f)        | 227                | 186      | 245      | 259      | 917      |
|                     | % of total (P)          | (11.9%)            | (10.7%)  | (11.8%)  | (11.0%)  | (11.3%)  |
| <b>Simple</b>       | Observations (f)        | 562                | 459      | 386      | 754      | 2161     |
|                     | % of total (P)          | (29.6%)            | (26.4%)  | (18.5%)  | (32.0%)  | (26.7%)  |
| <b>Elaborate</b>    | Observations (f)        | 82                 | 147      | 181      | 178      | 588      |
|                     | % of total (P)          | (4.3%)             | (8.4%)   | (8.7%)   | (7.6%)   | (7.2%)   |
| <b>Total</b>        | <b>Observations (f)</b> | 1901               | 1740     | 2085     | 2353     | 8079     |
|                     | <b>% of total (P)</b>   | (100.0%)           | (100.0%) | (100.0%) | (100.0%) | (100.0%) |

There was little change with the types of adult interaction over the time. On a positive side, ‘ignore’ decreased over time and ‘elaborate interaction’ increased slightly more. However, the trends of percentage in each interaction type remained the same during the academic year.

Table 30 showed the types of adult interaction by classification of students. The trend again remained the same. This is also an indication of the lack of the differentiated instruction.

Table 30. Adult Interaction by Student Classification.

| Adult Interaction:  |                | Student Classifications |                 |                 |                 |                 |                 |
|---------------------|----------------|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                     |                | General                 | Spec Ed         | FRL             | LEP             | Multiple        | Total           |
| <b>Not in range</b> | Observations   | 762                     | 204             | 671             | 113             | 342             | <b>2092</b>     |
|                     | % of total (P) | (25.4%)                 | (29.1%)         | (25.8%)         | (29.5%)         | (26.2%)         | <b>(25.9%)</b>  |
| <b>Ignore</b>       | Observations   | 136                     | 27              | 130             | 24              | 61              | <b>378</b>      |
|                     | % of total (P) | (4.5%)                  | (3.8%)          | (5.0%)          | (6.3%)          | (4.7%)          | <b>(4.6%)</b>   |
| <b>Routine</b>      | Observations   | 725                     | 143             | 642             | 85              | 337             | <b>1932</b>     |
|                     | % of total (P) | (24.2%)                 | (20.4%)         | (24.7%)         | (22.2%)         | (23.9%)         | <b>(23.9%)</b>  |
| <b>Minimal</b>      | Observations   | 357                     | 79              | 295             | 39              | 145             | <b>915</b>      |
|                     | % of total (P) | (11.9%)                 | (11.3%)         | (11.3%)         | (10.2%)         | (11.5%)         | <b>(11.3%)</b>  |
| <b>Simple</b>       | Observations   | 789                     | 208             | 686             | 87              | 388             | <b>2158</b>     |
|                     | % of total (P) | (26.3%)                 | (29.6%)         | (26.4%)         | (22.7%)         | (26.5%)         | <b>(26.7%)</b>  |
| <b>Elaborate</b>    | Observations   | 227                     | 41              | 176             | 35              | 105             | <b>584</b>      |
|                     | % of total (P) | (7.6%)                  | (5.8%)          | (6.8%)          | (9.1%)          | (7.2%)          | <b>(7.2%)</b>   |
| <b>Total</b>        | Observations   | <b>2996</b>             | <b>702</b>      | <b>2600</b>     | <b>383</b>      | <b>1378</b>     | <b>8059</b>     |
|                     | % of total (P) | <b>(100.0%)</b>         | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> | <b>(100.0%)</b> |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with limited English proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or were students with Limited English Proficiency.

Our data did not show differences across the year in the patterns of adult responsiveness and verbal interaction with students. The good news is that there did not seem to be differences in the patterns of adult interaction and exchange between the different subpopulations of the students we followed in this study.

When looked at across the students, adults are often not near enough to the students to respond to them. When adults are near enough to respond to a student’s request for information, or feedback adults were most likely to respond with simple input either short statements or short directions. Rarely were students given elaborate feedback, however, students were rarely ignored.

### Cognitive Complexity

The *UD STUDENT SNAPSHOT* assessed the level of cognitive complexity of information and instruction occurring in the classroom. The codes for this observation are based on Bloom’s Taxonomy of Educational Activities. If a student was working on defining, labeling, recognizing, recalling, or stating information, the activity was coded as “knowledge. If a student was describing, explaining or asking open ended questions, the activity was coded as “understanding.” If the student was using information to solve problems, or create activities, the activity was coded as “applying.” If the student was classifying objects, comparing, experimenting, estimating, predicting, or often using open-ended questions, the activity was coded as “analyzing and evaluating.”

Table 31 reported that 56.2% (n=5930) of observation time (N=10549), students were engaged in activities at the knowledge level of Bloom’s Taxonomy. Another quarter of the time, students were engaged in activities that allowed them to apply information. In looking at the changes over time, the proportion of observations of students engaged in knowledge level activities increased over the course of the year, while activities done for understanding and application of information decreased over the school year.

Table 31. Cognitive Complexity Observed Four Times During the School Year

| Cognitive Complexity                         |                       | Observation Period (N=10549) |                      |                   |                   |                    |
|--|-----------------------|------------------------------|----------------------|-------------------|-------------------|--------------------|
|  |                       | January<br>(N=2709)          | February<br>(N=2650) | March<br>(N=2615) | April<br>(N=2575) | Total<br>(N=10549) |
| <b>Knowledge</b>                             | Observations(f)       | 1224                         | 1377                 | 1597              | 1732              | <b>5930</b>        |
|  | % of total (P)        | (45.2%)                      | (52.0%)              | (61.1%)           | (67.3%)           | <b>(56.2%)</b>     |
| <b>Understanding</b>                         | Observations          | 443                          | 294                  | 394               | 301               | <b>1432</b>        |
|  | % of total (P)        | (16.3%)                      | (11.0%)              | (15.0%)           | (11.6%)           | <b>(13.5%)</b>     |
| <b>Applying</b>                              | Observations          | 718                          | 813                  | 760               | 504               | <b>2795</b>        |
|  | % of total (P)        | (26.5%)                      | (30.6%)              | (29.0%)           | (19.5%)           | <b>(26.4%)</b>     |
| <b>Analyzing/Synthesizing<br/>Evaluating</b> | Observations          | 34                           | 30                   | 53                | 40                | <b>157</b>         |
|  | % of total (P)        | (1.2%)                       | (1.1%)               | (2.0%)            | (1.5%)            | <b>(1.4%)</b>      |
| <b>Total</b>                                 | <b>Observations</b>   | <b>2709</b>                  | <b>2650</b>          | <b>2615</b>       | <b>2575</b>       | <b>10549</b>       |
|  | <b>% of total (P)</b> | <b>(100.0%)</b>              | <b>(100.0%)</b>      | <b>(100.0%)</b>   | <b>(100.0%)</b>   | <b>(100.0%)</b>    |

In explaining the framework of the Understanding by Design framework, Grant Wiggins and Jay McTighe point out that “Students reveal their understanding most effectively when they are provided with complex, authentic opportunities to explain, interpret, apply, shift perspective, empathize, and self-assess. When applied to complex tasks, these "six facets" provide a conceptual lens through which teachers can better assess student understanding.” They would encourage an increase in complex activities, rather than to have complex activities decrease in frequency.

**Child Outcomes**

**Woodcock Johnson III of General Knowledge**

Student performance was assessed using three instruments: the *Woodcock Johnson III Scales*, a standardized math battery, and a writing assessment. Tests were administered once in the fall and again in the spring, allowing a change score to be calculated for each assessment. Tables 32 – 34 below present mean *Woodcock Johnson III* subscale scores for the total sample and disaggregated by student classifications. Mean scores are age equivalencies, in fractional months: a score of 72.0 means that a student is performing at the equivalent of 72 months, or 6 years.

Table 32. Age Equivalencies for Understanding on the *Woodcock Johnson III* by Student Classification

|          | Fall** |       |       | Spring** |       |       | Change |      |       |
|----------|--------|-------|-------|----------|-------|-------|--------|------|-------|
|          | N      | Mean  | SD    | N        | Mean  | SD    | N      | Mean | SD    |
| General  | 154    | 78.68 | 12.31 | 147      | 87.63 | 14.38 | 142    | 8.58 | 12.57 |
| FRL      | 140    | 77.07 | 10.6  | 140      | 83.44 | 10.58 | 128    | 7.06 | 9.93  |
| Multiple | 50     | 71.38 | 11.82 | 51       | 76.82 | 16.09 | 48     | 6.60 | 10.45 |
| Spec Ed  | 25     | 69.48 | 9.14  | 25       | 77.04 | 11.98 | 24     | 6.88 | 10.62 |
| LEP      | 15     | 76.67 | 13.01 | 16       | 81.44 | 11.68 | 15     | 5.47 | 13.29 |
| Overall  | 384    | 76.47 | 11.8  | 379      | 83.67 | 13.62 | 357    | 7.52 | 11.28 |

Table 33. Age Equivalencies for Vocabulary on the *Woodcock Johnson III* by Student Classifications

|          | Fall** |       |       | Spring** |       |       | Change |       |       |
|----------|--------|-------|-------|----------|-------|-------|--------|-------|-------|
|          | N      | Mean  | SD    | N        | Mean  | SD    | N      | Mean  | SD    |
| General  | 153    | 75.80 | 16.62 | 146      | 83.34 | 18.11 | 141    | 6.76  | 12.4  |
| FRL      | 141    | 69.00 | 14.30 | 139      | 75.16 | 17.03 | 128    | 5.96  | 14.11 |
| Multiple | 50     | 62.90 | 22.93 | 50       | 67.10 | 23.28 | 47     | 5.23  | 11.93 |
| Spec Ed  | 25     | 64.56 | 14.66 | 25       | 76.00 | 18.09 | 24     | 11.92 | 13.71 |
| LEP      | 14     | 66.70 | 16.20 | 16       | 72.31 | 26.78 | 14     | 9.07  | 15.71 |
| Overall  | 383    | 70.60 | 17.24 | 376      | 77.20 | 19.62 | 354    | 6.71  | 13.23 |

Table 34. Age Equivalencies for Academic Knowledge on the *Woodcock Johnson III* by Student Classifications

|          | Fall** |       |       | Spring** |       |       | Change |      |       |
|----------|--------|-------|-------|----------|-------|-------|--------|------|-------|
|          | N      | Mean  | SD    | N        | Mean  | SD    | N      | Mean | SD    |
| General  | 153    | 75.67 | 10.87 | 147      | 83.42 | 10.83 | 142    | 7.54 | 7.71  |
| FRL      | 141    | 70.17 | 11.43 | 136      | 77.20 | 9.79  | 125    | 7.3  | 11.7  |
| Multiple | 50     | 66.08 | 12.65 | 49       | 73.59 | 13.98 | 47     | 7.55 | 11.34 |
| Spec Ed  | 25     | 70.52 | 9.15  | 25       | 76.48 | 8.52  | 24     | 6.04 | 7.86  |
| LEP      | 14     | 71.79 | 14.39 | 16       | 74.75 | 12.33 | 14     | 3.14 | 9.25  |
| Overall  | 383    | 71.92 | 11.80 | 373      | 79.02 | 11.44 | 352    | 7.18 | 9.85  |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with limited English proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or were students with Limited English Proficiency.  
 Overall= all students are considered in the analysis

Between group differences were highly significant for all three subscales for both fall and spring. In the fall, significance tests for these differences yielded  $F = 6.29$ ,  $p = .000$  for the understanding subscale,  $F = 7.71$ ,  $p = .000$  for the vocabulary subscales, and  $F = 8.41$ ,  $p = .000$  for the academic knowledge subscale. In general, students who were not classified with any risk factor started kindergarten on average at their actual age equivalency of approximately 6 to 6.5 years. Each subpopulation of students scored lower than this on their fall test scores. Students with a special education label, students with multiple risk factors tended to start kindergarten with the youngest age equivalent scores in each of the subscales.

While all students made gains, the gains were not equal across the subgroups, although observed differences were not statistically significant. Of note is the gain of 11 months increase in the vocabulary scores, more than an entire academic school year, by the students with a special education designation. However the pattern of gains was not consistent across the subscales. For instance, the laudable gain of 9 months for the students with limited English proficiency in vocabulary was not matched in the understanding subscale where only a 3 month mean increase was assessed.

Because all students gained, but the pattern was not consistent across the groups, such that those with the lowest scores made the greatest gains, we find significant differences in the spring post test scores. For the spring, these figures were  $F = 8.57, p = .000$ ;  $F = 8.10, p = .000$ ; and  $F = 10.98, p = .000$ , respectively. By examining the data in a non-orthogonal fashion (wherein students with multiple classifications count individually in each contrast), it is clear that between-group differences are being driven by students in all three classification groups. Table 35 presents these data, with parenthetical numbers representing the mean increase in scores from the fall to the spring administration. Here, between group differences were highly significant for all contrasts (LEP Yes versus LEP No, etc.), with the highest p value at .023.

Table 35. Mean *Woodcock-Johnson III* Subscale Scores, Overall and by Student Classification

| Age Equivalency Scores | Mean Fall Score |             |             | Mean Spring Score |                   |                   |
|------------------------|-----------------|-------------|-------------|-------------------|-------------------|-------------------|
|                        | Understand      | Vocab       | Knowledge   | Understand        | Vocab             | Knowledge         |
| <b>LEP</b>             | 72.6            | 60.1        | 65.8        | 76.7 (5.8)        | 65.6 (6.5)        | 71.9 (6.4)        |
| Non-LEP                | 77              | 71.8        | 72.6        | 84.6 (7.8)        | 78.8 (7.8)        | 80.0 (7.3)        |
| <b>Spec Ed</b>         | 71.3            | 68.1        | 69.5        | 77.5 (6.6)        | 75.9 (6.6)        | 77.5 (7.3)        |
| Non-Spec Ed            | 77.2            | 70.9        | 72.3        | 84.6 (7.7)        | 77.4 (7.7)        | 79.2 (7.2)        |
| <b>FRL</b>             | 75.6            | 67.4        | 69.1        | 81.7 (7.0)        | 73.0 (5.8)        | 76.2 (7.0)        |
| Non-FRL                | 77.3            | 73.7        | 74.7        | 85.6 (8.1)        | 81.5 (7.6)        | 81.8 (7.4)        |
| <b>Overall</b>         | <b>76.5</b>     | <b>70.5</b> | <b>71.9</b> | <b>83.7 (7.5)</b> | <b>77.2 (7.7)</b> | <b>79.0 (7.2)</b> |

LEP = students with Limited English Proficiency

Spec Ed = students receiving special education

FRL = Students eligible for free or reduced cost meals

It is clear that students enter kindergarten with differential abilities that result in performance gaps and that these gaps persist despite gains that they might make in their kindergarten year. However, the fact that students without any risk factor designation were not making consistent gains in the areas of knowledge, understanding, and vocabulary is also of note. It seems that the experience of all kindergarten students should be examined in order to determine how to best maximize their achievement.

In addition to the Woodcock Johnson III, we also collected data on students' math performance.

### Math Battery

Tables 36 – 38 below present mean Math battery scores for the total sample and divided by demographic group. Math battery scores could range from 0 to 8.

Table 36. Number Knowledge by Student Classification

|          | Fall** |      |     | Spring** |      |     | Change |      |     |
|----------|--------|------|-----|----------|------|-----|--------|------|-----|
|          | N      | Mean | SD  | N        | Mean | SD  | N      | Mean | SD  |
| General  | 153    | 5.9  | 1.7 | 145      | 6.8  | 1.3 | 143    | 0.8  | 1.4 |
| FRL      | 148    | 5.3  | 1.8 | 139      | 6.6  | 1.3 | 133    | 1.1  | 1.8 |
| Multiple | 48     | 4.8  | 1.8 | 49       | 6.0  | 1.8 | 46     | 1.0  | 2.0 |
| Spec Ed  | 26     | 5.0  | 1.6 | 25       | 5.7  | 1.6 | 25     | 0.6  | 1.8 |
| LEP      | 15     | 5.7  | 1.7 | 15       | 6.8  | 1.1 | 15     | 1.1  | 1.2 |
| Overall  | 390    | 5.5  | 1.8 | 373      | 6.5  | 1.4 | 362    | 1.0  | 1.7 |

Table 37. Calculation by Student Classification

|          | Fall** |      |     | Spring** |      |     | Change |      |     |
|----------|--------|------|-----|----------|------|-----|--------|------|-----|
|          | N      | Mean | SD  | N        | Mean | SD  | N      | Mean | SD  |
| General  | 153    | 7.5  | 2.2 | 145      | 8.6  | 2.1 | 143    | 1.1  | 2.3 |
| FRL      | 147    | 6.9  | 2.2 | 139      | 8.1  | 1.9 | 132    | 1.1  | 2.2 |
| Multiple | 46     | 6.7  | 2.2 | 48       | 7.9  | 2.1 | 43     | 1.2  | 2.0 |
| Spec Ed  | 26     | 6.8  | 2.1 | 25       | 7.5  | 2.5 | 25     | 0.8  | 3.1 |
| LEP      | 15     | 8.3  | 2.6 | 15       | 8.7  | 2.1 | 15     | 0.5  | 2.3 |
| Overall  | 387    | 7.1  | 2.2 | 372      | 8.2  | 2.1 | 358    | 1.1  | 2.3 |

Table 38. Combination by Student Classification

|          | Fall** |      |     | Spring** |      |     | Change |      |      |
|----------|--------|------|-----|----------|------|-----|--------|------|------|
|          | N      | Mean | SD  | N        | Mean | SD  | N      | Mean | SD   |
| General  | 154    | 3.4  | 2.7 | 133      | 5.6  | 2.4 | 132    | 2.0  | 2.60 |
| FRL      | 148    | 2.8  | 2.2 | 136      | 4.8  | 2.5 | 130    | 2.0  | 2.42 |
| Multiple | 45     | 2.7  | 2.6 | 47       | 5.1  | 2.6 | 41     | 2.8  | 2.78 |
| Spec Ed  | 26     | 2.0  | 1.8 | 24       | 3.8  | 2.2 | 24     | 1.8  | 2.23 |
| LEP      | 15     | 3.4  | 3.2 | 13       | 6.7  | 1.7 | 13     | 3.5  | 2.73 |
| Overall  | 388    | 3.0  | 2.5 | 353      | 5.1  | 2.5 | 340    | 2.1  | 2.55 |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with limited English proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or students with Limited English Proficiency.  
 Overall= all students are considered in the analysis

Again we see the pattern of students starting the kindergarten year with differential mathematics ability and ending the year at all differing levels. Between group differences were significant at the level of  $p < .05$  for both administrations of the math subscales. For the fall administration, significance tests of between group differences produced the following results: number knowledge ( $F = 4.50, p = .001$ ), calculation ( $F = 3.09, p = .016$ ), and combination ( $F = 2.54, p = .039$ ). For the spring administration, respective results were  $F = 5.77, p = .000$ ;  $F = 2.80, p = .026$ ;  $F = 4.86, p = .001$ .

Change in math performance from fall to spring approached significance ( $F = 2.11, p = .079$ ) only for the combination subscale.

Analysis in a non-orthogonal fashion revealed that between-group differences are being driven by students in both special education and free and reduced meals groups. However, it must be noted that the change in math performance from fall to spring

approached significance ( $F = 2.11, p = .079$ ) only for the combination subscale. This means that students did not make significant gains in their mathematical ability from fall to spring, regardless of their classification. Table 39 presents the math battery assessment by subscale and by student classification.

Table 39. Mean Math Battery Scores, Overall and by Student Classification

| Mean Scores    | Mean Fall Score |            |            | Mean Spring Score |                  |                  |
|----------------|-----------------|------------|------------|-------------------|------------------|------------------|
|                | Knowledge       | Calc       | Combo      | Knowledge         | Calc             | Combo            |
| <b>LEP</b>     | 5.1             | 4.8        | 2.8        | 6.4 (1.3)         | 5.5 (1.0)        | 5.0 (3.5)        |
| Non-LEP        | 5.5             | 4.5        | 3.0        | 6.5 (0.9)         | 5.9 (1.2)        | 5.7 (2.0)        |
| <b>Spec Ed</b> | 5.0             | 4.0        | 2.6        | 5.7 (0.6)         | 5.0 (1.9)        | 4.4 (0.9)        |
| Non-Spec Ed    | 5.5             | 4.6        | 3.1        | 6.6 (1.0)         | 5.7 (2.2)        | 5.2 (1.0)        |
| <b>FRL</b>     | 5.2             | 4.3        | 2.8        | 6.4 (1.1)         | 5.3 (1.0)        | 4.7 (2.2)        |
| Non-FRL        | 5.7             | 4.8        | 3.2        | 6.6 (0.8)         | 5.8 (1.0)        | 5.4 (2.1)        |
| <b>Overall</b> | <b>5.5</b>      | <b>4.5</b> | <b>3.0</b> | <b>6.5 (1.0)</b>  | <b>5.6 (1.0)</b> | <b>5.1 (2.1)</b> |

LEP = students with Limited English Proficiency

Spec Ed = students receiving special education

FRL = Students eligible for free or reduced cost meals

### Writing Assessment

The rubric to evaluate students' writing samples were developed based on a Six-trait writing (Spandel, 2005) instruction and the emergent stages of writing development (Sulzby, 1990). The criteria for each trait were modified to be able to assess pre-kindergarten students' writing by including emergent writing skills. The assessors followed the protocol to collect students' writing samples. Students were asked to write about their favorite things at school to someone they like. The writing rubric assessed five areas of writing: a) Stages of writing (drawing/scribbling, letter-like-unit, Nonphonetic letter string, phonetic spelling, pre-convention writing), b) Ideas/Organization (use of picture, letters, phrases or sentence), c) Word choice (drawing/scribble, recognizable letters, readable words, use of variety of words), d) Fluency (drawing/letter string, awareness of sentence, readable sentence, complete sentence), and e) Convention (use of space, awareness of upper and lower case use, punctuation). The writing rubric is attached in Appendix F.

The students' scores on the writing assessment are reported in Table 40. The description of the scoring is reported here:

- Writing stage – Out of possible 5 points for each skill, a mean for writing stage was 2.86 in Fall and increased to 4.05 in Spring. The Fall score indicates that students used letter-like units or nonphonetic letter strings in their writing. In spring, students used phonetic spelling or invented spelling in their writing. The score 5 was set for a 'pre-conventional stage' which is using close matches between letters and letter sounds and some sight words are spelled correctly.
- Ideas/Organization – The fall mean score was 3.09 which indicates that students used recognizable pictures or used letters or words to label pictures. The spring mean

score was 4.04 which denotes that more students used phrases or sentences which the reader can infer with or without pictures. The score 5 was set for ‘readable one or two sentences about the idea.’

- Word choice – The Fall mean score was 2.37 and increased to 3.78 in Spring. This indicates that students used recognizable letters or letters to represent the words for their word choice in fall. In spring, they used two or more readable words. The score 5 was set for ‘use of variety of words such as noun, verbs to form a complete sentence.’
- Fluency – the mean score moved from 2.23 in Fall to 3.57 in Spring. This indicates that in fall, students used random strings of letters to represent the awareness of sentences. In spring, they used letter strings to form some readable sentences. The score 5 was set for writing at least one complete sentence which may have some spelling or punctuation errors.
- Convention – The mean score for the Fall was 1.85. This indicates that more students used only a drawing or used random space with no awareness of writing spaces. In the Spring, the mean score was 3.06 showing an awareness of space and use of horizontal writing. The score 5 was set for the use of space, punctuation (period, question mark, exclamation point), and the use of upper and lower case letters.

Table 40. Writing Assessment Scores by Subscale

| <b>Writing Skills Score</b> | <b>Mean Fall Score</b> | <b>Mean Spring Score</b> |
|-----------------------------|------------------------|--------------------------|
| Writing Stage               | 2.86                   | 4.05                     |
| Ideas/Organization          | 3.09                   | 4.04                     |
| Word Choice                 | 2.37                   | 3.76                     |
| Fluency                     | 2.23                   | 3.57                     |
| Convention                  | 1.85                   | 3.06                     |

*Note: Possible total score was 5 for each skill. The score 5 was set for the benchmark based on the state’s kindergarten standard grade level expectation. This indicates that all students are expected to meet the score 5 at the end of the Kindergarten year.*

The mean scores from aggregated writing skills were computed and reported by different student classifications in Table 41. The mean score change of all classified students was less than that of non-classified students. It is also interesting to note that the mean score for students with Limited English Proficiency dropped 0.67 in spring. Students who are limited in English proficiency had the lowest mean score in the spring.

Table 41. Writing Assessment Scores by Student Classification

|          | Fall |      |     | Spring |      |     | Change |      |     |
|----------|------|------|-----|--------|------|-----|--------|------|-----|
|          | N    | Mean | SD  | N      | Mean | SD  | N      | Mean | SD  |
| General  | 143  | 2.8  | 1.6 | 150    | 4.2  | 1.4 | 134    | 1.3  | 1.9 |
| FRL      | 141  | 3.0  | 1.5 | 133    | 4.1  | 1.3 | 126    | 1.1  | 1.9 |
| Multiple | 48   | 2.5  | 1.4 | 49     | 3.8  | 1.5 | 45     | 1.2  | 1.9 |
| Spec Ed  | 25   | 2.6  | 1.5 | 26     | 3.6  | 1.6 | 25     | 1.0  | 2.0 |
| LEP      | 15   | 3.6  | 1.6 | 15     | 3.5  | 1.7 | 15     | -0.1 | 1.9 |
| Overall  | 372  | 2.9  | 1.5 | 373    | 4.1  | 1.4 | 345    | 1.2  | 1.9 |

General = any student not classified in another category    Spec Ed = students receiving special education  
 FRL = Students eligible for free or reduced cost meals    LEP = students with limited English proficiency  
 Multiple = Students who could be classified in two or more of the following groups of students: those who received special education services, those who were eligible for free or reduced cost meals at school, and/or students with Limited English Proficiency.  
 Overall= all students are considered in the analysis

There were differences between the groups on their writing ability as reported in Table 42. The between group differences were significant for the fall ( $F = 2.14, p = .075$ ), spring ( $F = 2.30, p = .058$ ) and the change between fall and spring ( $F = 1.90, p = .110$ ).

Table 42. Writing scores of Students Receiving Special Education Services Compared to Students who are Not Receiving Special Education Services

| Writing Stage Score                                       | Mean Fall Score | Mean Spring Score | Mean Increase |
|---|-----------------|-------------------|---------------|
| Students who are not receiving Special Education Services | 2.93            | 4.16              | 1.23          |
| Students Receiving Special Education Services             | 2.45*           | 3.46**            | 1.01          |

\*  $p \leq .05$ ; \*\*  $p \leq .01$

Overall, the students made significant gains from fall to spring in writing ability ( $t = 11.19, p = .000$ ). However, we need to remember that the total score 5 was set for the expected grade level performance. Even in spring, many students were not meeting the grade level expectation. Specifically, classified student's mean scores (limited English proficiency, special education, free and reduced meals) were significantly lower than students who did not have any of these classifications. The students with limited English ability had the lowest scores on this measure in the spring.

## Part II: Findings for the Second Grade Students Participating in Part-day or Full-day Kindergarten in 2004-2005

The findings of the program evaluation of the 2004-2005 full-day kindergarten pilot classrooms indicated that students who attended the full day kindergarten classrooms in 2004-2005 had positive outcomes in comparison to those students who attended part-day kindergartens that same year (Amsden et al., 2005). In order to determine longer-term outcomes for students enrolled in full-day kindergartens, the Delaware General Assembly requested that the students in the full-day pilots be tracked through their first grade and second grade experience and compared to students who had participated in part-day kindergartens. The students who had received full-day kindergarten services during 2004-2005 were matched with students who were demographically similar and had attended a part-day kindergarten in Delaware school districts during 2004-2005. Despite the attempt to match students across the two kindergarten models, it was not possible to find an equal number of students who were eligible for special education who had participated in part-day kindergarten in 2004-2005. One other area of difference between these two groups of students was their eligibility for free or reduced school meals (see Table 43 for details). Other than these two variables, the students in the two groups were demographically comparable.

Of the 349 students assessed last year as first graders, 318 students were assessed as second graders or 91.1% of the sample. This year, the sample of second grade students who had attended full-day kindergarten included 31 students (17.8%) who were eligible to receive special education services and 69 students (48.9%) who were eligible to receive free or reduced meals at school. The sample of second grade students who had attended part-day kindergarten included 16 students (9.1%) who were eligible to receive special education services and 52 students (34.9%) who were eligible for free or reduced meals at school.

Table 43. Characteristics of second graders in this evaluation who had attended different kindergarten models.

| <b>Kindergarten Model:</b> |       | <b>Special Education Eligibility</b> | <b>Free or Reduced Meal Eligibility</b> |
|----------------------------|-------|--------------------------------------|---|
| Full-Day (N=174)           | n (%) | 31 (17.8%)                           | 69 (48.9%)                              |
| Part-Day (N=175)           | n (%) | 16 (9.1%)                            | 52 (34.9%)                              |

### Demographics of Students in the Two Comparison Groups

The demographic information of students was provided by the Delaware Department of Education. In addition to special education eligibility and eligibility for free or reduced school meals, data for students' ethnicity and gender was collected.

**Ethnicity and Gender of Students**

The ethnicity of the second grade students who attended part-day and full-day kindergarten was similar. Approximately 50% of the students who participated in both models were Caucasian. Approximately a third of the students who participated in both models were African American. There were a greater number of males who attended full-day kindergarten in this sample, compared to the number of males in part-day kindergarten and females in either kindergarten model. See Tables 21 and 22 for details.

Table 44. Ethnicity of second grade students who participated in different kindergarten models.

| <b>Kindergarten Model:</b>  |       | <b>Full-day Kindergarten</b> | <b>Part-day Kindergarten</b> | <b>Total</b> |
|-----------------------------|-------|------------------------------|------------------------------|--------------|
| <b>Students' Ethnicity:</b> |       |                              |                              |              |
| Caucasian                   | n (%) | 86 (51.5%)                   | 79 (52.3%)                   | 165 (51.9%)  |
| African American            | n (%) | 55 (32.9%)                   | 47 (31.1%)                   | 102 (32.1%)  |
| Latino                      | n (%) | 25 (15.0%)                   | 24 (15.9%)                   | 49 (15.4%)   |
| Other                       | n (%) | 1 (0.6%)                     | 1 (0.7%)                     | 2 (0.6%)     |
| Total                       | N (%) | 167 (49.8%)                  | 151 (50.1%)                  | 318 (100.0%) |

Table 45. Gender of second grade students participating in different kindergarten models.

| <b>Kindergarten Model:</b> |       | <b>Full-day Kindergarten</b> | <b>Part-day Kindergarten</b> | <b>Total</b> |
|----------------------------|-------|------------------------------|------------------------------|--------------|
| <b>Gender of Students:</b> |       |                              |                              |              |
| Male                       | n (%) | 96 (57.5%)                   | 73 (48.3%)                   | 169 (53.1%)  |
| Female                     | n (%) | 71 (42.5%)                   | 78 (51.7%)                   | 149 (46.8%)  |
| Total                      | N (%) | 167 (49.8%)                  | 151 (50.1%)                  | 318 (100.0%) |

**Data Collection**

Data for the comparison of the literacy skills of second grade students who had participated in part-day kindergarten and students who had participated in full-day kindergarten was collected during May 2007. Students' literacy skills were assessed using the *Dynamic Indicators of Basic Early Literacy Skills (DIBELS)* designed for second graders to measure students' skills in phoneme segmentation fluency, nonsense word fluency, and oral fluency. This cohort of students has been assessed using this measure since they were in kindergarten. Data was collected by the students' classroom teachers in school districts that assess students using the *DIBELS* measure, and provided to the research staff. Trained data collectors assessed the other second grade students involved with this longitudinal study using the *DIBELS*.

**Student Outcomes in Early Literacy: Dynamic Indicators of Basic Early Literacy Skills (DIBELS )**

Students' literacy skills were assessed in May 2007 using the second grade *Dynamic Indicators of Basic Early Literacy Skills (DIBELS)* to measure students' skills in oral

reading and retell reading fluency. Based on a student’s score, he or she received one of three instructional support recommendations: “benchmark” (meeting the expected skill level), “strategic” (needing instructional support in a specific area of literacy development) or “intensive” (needing instructional support across all areas of literacy development). Slightly more students who had participated in full-day kindergarten were recommended for “benchmark” instruction when compared to students who had participated in part-day kindergarten (see Table 46 for details).

Table 46. Frequency and percentage of end-of-year “Instructional Support Recommendations” for second grade students who had attended one of two kindergarten models.

| <b>Kindergarten Model:</b> |       | <b>Full-day Kindergarten<br/>(N=167)</b> | <b>Part-day Kindergarten<br/>(N=151)</b> |
|----------------------------|-------|--|--|
| <b>Risk Categories:</b>    |       |  |  |
| Benchmark                  | n (%) | 67 (41.9%)                               | 73 (58.9%)                               |
| Strategic                  | n (%) | 48 (30.0%)                               | 22 (17.7%)                               |
| Intensive                  | n (%) | 45 (28.1%)                               | 29 (23.4%)                               |
| Total                      | N (%) | 160 (100.0%)                             | 124 (100.0%)                             |

## **Limitations**

As with any program evaluation, there are limitations to these findings. One of the limitations to this full-day kindergarten evaluation is the limits on the time to collect information about students, teachers, and what happens during the school day. The teachers, school district administrators, and students have graciously cooperated with all the activities of this evaluation; within the limits of their highly valued time. The description of the students, teachers, and classrooms provided here is what could be collected with the resources available. To consider strategies to efficiently collect additional information about students' preparation for the transition to the educational system, school district philosophies and policies about full-day kindergarten programs, and teacher philosophies and strategies for organizing the time and instruction during full-day kindergarten would provide additional context for the demographic profile of students, teachers, and the results of the classroom observations.

## **Discussion and Conclusions**

### **Full-Day Kindergarten**

In this evaluation, the daily activities and contexts of students attending full-day kindergarten in Delaware's public schools were sampled, including those students representing various sub-populations of students. These subpopulations included students identified as having special education services, students who receive free and reduced cost meals at school, and students who are limited in their English proficiency. In past studies of school success, researchers have found that these subgroups sometimes struggle with school and may have less success in school settings. Indeed it is because of the ubiquitous gap in performance between these subgroups of students and the majority students that policies such as No Child Left Behind have been implemented.

In the evaluation presented, the student's experiences did not vary as a function of subgroup classification. In general, all students experienced the same activities and environments without differentiated instruction regardless of classification. In addition, there was not much difference in the activities and the environments the students experienced from one data collection point to the next. The patterns of students' experiences remained consistent across time with each teacher being more consistent overtime with her scores than there was between teachers. The findings from specific dimensions of the student's day will be discussed below.

Students in different classrooms experienced very different kindergarten. For instance at one data collection point, students in one classroom were recorded as being in a full group setting for 83 (66%) of the 125 times student schedule was observed. This is in contrast to another classroom at the same data collection point, where children were recorded as being in large group for 37 (25%) of the 150 observations. However, across

all the classrooms where time samples were collected in four observations, students spent most of their time in a full (62.5%) or large group (7%) settings. This represents almost 70% of all the time that they were attending the kindergarten program. According to developmentally appropriate practice, teachers should give children tasks, that with effort, children can accomplish and present them with content that is accessible at their level of understanding. This is more likely to happen in an individual or small group setting. The overuse of full group settings limits children's independent problem solving, motivation, and persistence (NAEYC, 1997). The amount of full and large group settings did not vary much across the year, however it is notable that there was a trend towards more full group and less individual work as the year progressed. Further, few differences were found in settings according to the child's classification as a student with special needs, or being limited in their English proficiency.

In terms of activities and behaviors, we find that the students in this evaluation regardless of classification were generally engaged in the same activities. In terms of academic content, students were given proportionally more exposure to literacy information focused on pre reading skills, mathematics, and aesthetics than other content areas. Certainly a focus on literacy is necessary to increase the skills necessary for reading and later elementary academic content. However, it is possible that while literacy is being emphasized other curricular areas are not being given enough attention. Delaware currently has several goals for social studies and science and these may be difficult to meet if students are spending relatively little time participating in instructional opportunities designed to cover these content areas. Regardless of the content area, (ie math, science, language arts) in the majority of the observations, the academic content areas were addressed in isolation rather than in an integrated fashion. Further, the proportion of exposure to these content areas did not vary across the academic year or by the classification of the students. NAEYC recommends that early childhood curriculum should frequently integrate across traditional subject-matter divisions to help students make meaningful connections and provide opportunities for rich conceptual development.

Given the press for children to excel in several differing academic areas, moving to a more integrated curricular approach may help meet several curricular goals simultaneously. For instance, it is possible to teach literacy skills within the context of a social studies or science lesson. If this were done perhaps we would begin to see children's exposure to these curricular areas increase.

In most of the observations students were not talking. In those observations that did include students' speaking, they were generally using simple statements. Likewise students were not interacting with peers in most of the observations. However, when the students were in situations where they had an opportunity to interact with peers, they were generally engaged in parallel rather than interactive activities. According to the developmental profile of social development, kindergartners are expected to engage in more cognitively challenging and complex social interactions using symbolic and representational thinking. However, this type of social interaction was rarely exhibited by students in this evaluation.

Data on the adults, the teachers and paraprofessionals, in the students' environment and how they were interacting with the students were also collected. Often during the observation there was no adult in proximity to the target students. However in those cases where there was an adult and the student made a bid for attention or asked a question, the adult tended to give minimal or simple feedback. When adults were guiding students' behavior, they tended to state rules or make requests with little attempt to facilitate students' problem solving or social interaction. The adults also tended to make all the decision about what the students would be doing without giving the students choices in their selection of activities.

In their examination of first grade literacy activities Bogner, Raphael, and Pressley, (2002) found that children were more engaged in first grade literacy activities when they had teachers who "scaffolded" their learning and encouraged child choice in activities. A closer examination of the data reveals an inverse relationship between "didactic instruction" and "invites exploration." It is worth noting that in this data, children were offered more "didactic interaction" rather than more cognitively challenging interaction at the end of the year. This occurred despite the fact that, as the academic year progressed students may have gained skills enabling them to take on more cognitively challenging interactions. The impetus for this trend may be worth exploring, as this is one of the few measures that changed over time.

The adults in the environment were also limited in their use of differentiated instruction. This finding is notable given the subpopulation of students who were the majority of the targets for this evaluation. And if one considers differentiation both temporally as well as within an activity, the lack of differentiation is even more striking. In the majority of the observations, all students in a class were given essentially the same learning opportunities with no accommodations for either those who may struggle or for those who may need a greater challenge. Likewise these opportunities did not change from one data collection time to the next. Indeed the fact that whole group learning increased while individual learning opportunities decreased from January to April is rather startling.

National Association for the Education of Young Children and International Reading Association (1998) addressed the issue of individual differences in current education emphasizing that there are increasing variations among young children, making teaching more challenging. In order to meet the needs of the diverse children found in today's classrooms, teachers must attend to individual differences in children's language and cultural backgrounds, interests, and abilities. Given that well over 40% of all the child observations in this evaluation were taken from students who were still learning to speak English or who had an identified special need, the low incidence of students experiencing some form of differentiation is troubling. Additionally the fact that children without any designation were provided with differentiated learning opportunities at proportionally higher frequencies than children with Limited English Proficiency, special education identification, or a combination of risk factors is striking. However, the lack of differentiation may be explained by the pattern of group size discussed earlier. When a student is a part of a large or full group, the ability to accommodate any special learning needs of that student is decreased.

Pianta and colleagues (Rimm-Kaufman; La Paro, Downer, & Pianta, 2005) have found that a positive social environment relates to children's cognitive success. Teachers that are warm and responsive and create happy environments support children's cognitive development. Palludan (2007) found that teachers talked differently to ethnic minority children than they did to majority children in Denmark. The minority children were talked to in a "teaching tone" a one way transfer of information, where the majority children were talked to in an "exchange tone" where they were given the privilege of both getting and giving information. The researcher argues that it is these kinds of differences in teacher-child interaction that begin to build the inequality found in schools between the minority and majority children.

While the students in this evaluation were given support for positive interaction such as being reminded of rules and guidance on how to behave, it appears that less support was given that might facilitate peer interaction. While this might represent a positive characteristic of these classrooms, in that this may mean that students were not often involved in conflicts that necessitated adult intervention, based on the low incidence of peer interaction, it is likely that it also means that students were not being given support to develop social skills and competence.

This might be an area where additional support could be given so that students are better prepared for success both in kindergarten and later grades.

#### Academic content variables

As noted, the majority of the academic content the students experience was in the area of literacy specifically focused on pre reading skills. When we took a closer look at the contexts for the various academic content areas, there were few differences in delivery. Literacy, math, science, and social studies tended to be experienced in a large or full group setting. Students tended to be instructed with didactic methods, particularly in the area of literacy. Further, the information that students were being given was at the basic or simple level of cognitive complexity. Students tended to be given little autonomy in choosing these activities. The only difference in this pattern was for writing. When the target children were engaged in a writing activity it was more often experienced in a small group setting while all other academic contents occurred in the full or large group settings.

In sum, students in this sample were spending the bulk of their time in a full group, listening to an adult give them information, with major emphasis placed on pre reading skills. There was little opportunity for the verbal interaction with the adult who was giving the information, and little opportunity for discussion with peers. Students were given few choices about activities and they were rarely supported to work independently. Additionally, the incidence of students having input information or activities differentiated in order to better fit their learning needs was exceedingly rare. As noted this finding is concerning when one considers the students who were the target of this evaluation, principally those with special needs and limited English proficiency.

The picture of a kindergarten day that this data represents differs dramatically with what is recommended in terms of optimizing the learning of young children. Organizations ranging from the United States Department of Defense to the National Association for the Education of Young Children advocate for a balance of large and small group work as well as a balance of teacher-directed and child-selected learning activities. These organizations also advocate for instruction that is differentiated in order to better meet the learning needs of the students. This differentiation should happen across both students and across time, as students become more competent, their challenges should increase. Learning opportunities should change to meet the students' emerging abilities and needs.

Despite the lack of appropriate learning opportunities experienced by the majority of students in this evaluation, the students did make achievement gains over the course of the school year. These results are discussed below.

### Child Outcome Scores

Researchers collected data on the students' performance across various academic domains in both the fall and the spring. In general, the students made gains on almost every indicator. However, because students started the school year with varying ability levels, and during the course of the school year the pattern of gains was not consistent, and because, in general, those with the lowest scores did not make the most gains, the end of the year achievement scores continued to reflect an achievement gap. In every subpopulation risk category that was assessed, the students who identified as having the risk factor exhibited lower ability scores than did those students who were not designated with those risk factors. The students with limited English proficiency had lowest achievement in writing. However, in many cases the students without risk factors did not make the kinds of gains across the school year that one would expect. The area with the least gains was writing ability, where most students did not meet expected grade level performance regardless of risk designation.

When the data on the students' experiences is compared with the assessment data, one is left to wonder how differences in the kindergarten experience may have resulted in these student outcomes. For instance if there had been more or an emphasis on differentiation would the students who are identified as having special needs, or limited English proficiency had different and possibly higher outcome scores. Likewise the scores of all students may have been improved across the performance domains assessed if the learning environments had offered a greater range and depth of academic content with more opportunities for independent practice. Recommendations for program revisions that may result in optimizing learning opportunities follow.

### **Longitudinal Outcomes of Second Grade Students who attended Full-day Kindergarten compared to those who attended a part-day kindergarten**

The second grade students who participated in some of the earliest full-day kindergarten programs were found to be maintaining their literacy skill development through the second grade. The analysis of the data of their outcomes on the *Dynamic Indicators of Basic Early Literacy Skills (DIBELS)* indicates that within this matched sample of second grade students based on ethnicity, gender, and eligibility for free and reduced meals at school; that slightly more students who were enrolled in full-day kindergarten models were recommended for benchmark instruction in literacy skills compared to their counterparts who attended a part-day kindergarten program. This indicates that their literacy skills are what would be expected for second grade students.

## **Recommendations**

**To be aligned with more effective practices in full-day kindergarten program organization, the following would be recommended:**

- Students may benefit from having instructional areas integrated, thereby maximizing their exposure to all content areas. While the focus on pre reading literacy skills is necessary, when these skills are experienced in isolation from substantive content, the opportunity to address content and skill in more than one academic area is missed.
- Students will benefit from having more exposure to a wider variety of academic content areas. Whether the content is integrated or not, increased exposure to academic content in the areas of science and social studies, and to a lesser degree mathematics is mandated
- Students will benefit from more verbal interaction with both adults and peers. When students are supported in having discussions and reciprocal conversations, they gain the opportunity to build rich language and literacy skills. Additionally, when teachers are the conversational partners they are given opportunities to assess the student's knowledge and understanding.
- Students will benefit from having a better balance of large group, small group, and individual work. This variety will facilitate creating an environment where students are more likely to encounter activities and opportunities that require a wider range of cognitive challenges.
- Students will benefit from a better implementation of differentiated instruction practices. Students with various special needs or risk factors are likely to make greater gains when content or activities allow them to more fully understand, participate, or achieve. Differentiation can be thought of as a dimension of

instruction that addresses not only students' different learning needs, but also how needs and abilities change across time. From this perspective, students are likely to benefit when they are offered activities and learning opportunities that change as they gain skills.

- Adjusting the group size children are taught in and moving from more whole group work to more individual or small group work as the year progresses, or as the students' capabilities mature, may better challenge students' emerging skills and abilities.

## References

- Amsden, D., & Buell, M. (2005). *Delaware Pilot Full-day Kindergarten Evaluation: A Comparison of Ten Full-day and Eight Part-day Kindergarten Programs School Year 2004-2005*. Newark, DE: University of Delaware.
- Aulls, M.W. (1998). Contributions of classroom discourse to what content students learn during curriculum enactment. *Journal of Educational Psychology*, 90(1), 56 - 69.
- Au & Mason (1981). Social organizational factors in learning to read: The balance of rights hypothesis. *Reading Research Quarterly*, 17, 115 – 152.
- Bogner, K., Raphael, L., & Pressley, M. (2002). How grade 1 teachers motivate literate activity by their students. *Scientific Studies of Reading*, 6(2), 135–165.
- Bowman, B.; Donovan, S.; & Burns, M. (2001). *Eager to Learn: Educating our Preschoolers*. Washington, DC: National Academy Press.
- Brosterman, Norman. (1997) *Inventing Kindergarten*. New York: Harry N. Abrams, Inc.
- Cilleessen, A., Haselager, G., & van Leishout, C. (April, 1997). Early Peer Interactions: A Predictor of Later Social Adjustment: Results from a Five-Year Longitudinal Study. Paper presented at the Annual Meeting of the Eastern Psychological Association, Washington, DC. April 10-13th.
- Clark, P., & Kirk, E. (2000). All-day Kindergarten: Review of Research. *Childhood Education*, 76(4), 228-231.
- Clarke-Stewart, K. Alison. (1987). Predicting Child Development from Child Care Forms and Features: The Chicago Study. In Deborah A. Phillips (Ed.), *Quality in child care: What Does Research Tell Us?* (pp. 21-41). Washington, DC: National Association for the Education of Young Children.
- Erwin, Eric J.; Carpenter, Ellen; & Kontos, Susan. (1993, April). *What Preschool Teachers Do When Children Play*. Paper presented at the meeting of the American Educational Research Association, Atlanta, GA.
- Fabes, Richard. (2006) Readiness checklist: Review of Research. Tempe, AZ: University of Arizona.
- Fisher, B. (1995). *Thinking and Learning Together: Curriculum and Community in a Primary Classroom*. Portsmouth, NH: Heinemann.
- Goffin, Stacie G. & Wilson, Catherine S. (2001). *Curriculum Models and Early Childhood Education, Appraising the Relationship*. New Jersey: Merrill Prentice Hall.

- Good, R. & Kaminski, R. (2002). *Dynamic Indicators of Basic Early Literacy Skills* (6th Ed.): *Administration and Scoring Guide*. Eugene, OR: University of Oregon.
- Good, R.; Simmons, D.; Kame'enui, E.; Kaminski, R.; & Wallin, J. (2002). *Summary of Decision Rules for Intensive, Strategic, and Benchmark Instructional Recommendations in Kindergarten through Third Grade* (Technical Report No. 11). Eugene, OR: University of Oregon.
- Griffin, S. (2004) The Development of Math Competence in the Preschool and Early School Years: Cognitive Foundations and Instructional Strategies, *Mathematical Cognition, Chapter 1* 1-32
- Hall, Tracey. *Differentiated Instruction*. (2002) National Center on Accessing the General Curriculum, CAST and the U.S. Department of Education.
- Hausken, E.G. & Rathbun, A.H. (2002) *Adjustment to Kindergarten: Child, Family, and Kindergarten Program Factors*. ED 463849.
- Henry, G. T. & Rickman, D. K. (Feb 2007). *Do Peers Influence Children's Skill Development in Preschool?* *Economics of Education Review*; v26 n1 p100-112
- Howes, C. (1990). *Social Play Scale, Social Pretend Play Scale, and Adult Play Scale: Training tape script*. Los Angeles: University of California, Graduate School of Education.
- Howes, C., & Matheson, C. (1992). Sequences in the Development of Competent Play with Peers: Social and Social Pretend Play. *Developmental Psychology*, 28, 961-974.
- Hresko, W.; Herron, S. & Peak, P. (1996) *Test of Early Writing Language – 2*. Bloomington, MN: Pearson Education, Inc.
- Johnson, J., Christie, J., & Wardle, F. (2005) *Play, Development and Early Education*. Boston: Allyn & Bacon.
- Jordan, N. C., Kaplan, D., Nabors Oláh, L., & Locuniak, N. (2004) *Number Sense Battery*. Newark, DE: University of Delaware.
- Kontos, Susan, Howes, Carollee, Shinn, Marybeth, & Galinsky, Ellen. (1995). *Quality in Family Child Care and Relative Care*. New York: Teachers College Press. ED 390 536.
- Levine, S. C., Jordan, N. C., & Huttenlocher, J. (1992). Development of Calculation Abilities in Young Children, *Journal of Experimental Child Psychology*, 53, 72-103

- McCardle, P., Scarborough, H.S., & Catts, H. (2001). Predicting, Explaining, and Preventing Children's Reading Difficulties. *Learning Disabilities Research and Practice, 16*(4), 230 –239.
- McCartney, Kathleen. (1984). Effect of Quality of Day Care Environment on Children's Language Development. *Developmental Psychology, 20*(2), 244-260. [EJ 307 259](#).
- NAEYC (1997). Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through age 8: A position statement of the National Association For the Education of Young Children. Washington,DC:NAEYC.
- NAEYC/NAECPSD. (2003). Joint Position Statement: Early childhood curriculum, assessment, and program evaluation. <http://naecs.crc.uiuc.edu/position/pscape.pdf>
- National Association of Elementary School Principals. (1990). *Early Childhood Education and the Elementary School Principal: Standards for Quality Programs for Young Children*. Washington, DC: Author
- National Board for Professional Teaching Standards. (2001). Early Childhood NBPTS Generalist Standards for Teachers of Students Ages 3-8. (2<sup>nd</sup> Ed.). Washington, DC: NBPTS.
- NICHD Early Childhood Care Research Network (2005). Pathways to reading: The role of oral language in the transition to reading. *Developmental Psychology, 41*(2), 428 – 442.
- Palludan, C. 2007. Two Tones: The Core of Inequality in Kindergarten? *International Journal of Early Childhood*, v39 n1 p75-91 2007.
- Parten, M (1932). Social Participation Among Preschool Children. *Journal of Abnormal and Social Psychology*. Vol.27. (243-268)
- Pellegrini, Anthony D. (1984). The effects of exploration and play on young children's associative fluency: A review and extension of training studies. In Thomas D. Yawkey & Anthony D. Pellegrini (Eds.), *Child's play: Developmental and Applied* (pp. 237-253). Hillsdale, NJ: Erlbaum.
- Rimm-Kaufman, LaParo, Downer, and Pianta, 2005. The Contribution of Classroom Setting and Quality of Instruction to Children's Behavior in Kindergarten Classrooms. *Elementary School Journal*, v. 105, n4. p377. March 2005, pp 18.
- Saltz, Eli; Dixon, David; & Johnson, James. (1977). Training Disadvantaged Preschoolers on Various Fantasy Activities: Effects on Cognitive Functioning and Impulse Control. *Child Development, 48*(2), 367-380. [EJ 164 702](#).

- Snow, C., Burns, S., & Griffin, P. (Eds.). (1998). *Preventing Reading Failure in Young Children*. Washington, DC: National Academy Press.
- Spandel, V (2005). *Creating Writers: through 6-Trait Writing Assessment and Instruction*. 4<sup>th</sup> ed. Boston, MA: Pearson
- Sulzby, E (1990). Assessment of Emergent Writing and Children's Language while Writing. In L.Morrow & J.Smith (Eds). *Assessment for Instruction in Early Literacy* (pp.83-109). Englewood Cliffs, NJ: Prentice Hall.
- Whitebook, Marcy; Howes, Carollee; & Phillips, D. (1989). *Who cares? Child Care Teachers and the Quality of Care in America*. Oakland, CA: Child Care Employee Project. ED 323 032.
- Wiggins, G, McTighe, J. 2007. *Authentic Education*.  
<http://www.authenticeducation.org/ubd.html>.
- Wilcox-Herzog, Amanda S., & Kontos, Susan. (1998). The Nature of Teacher Talk in Early Childhood Classrooms and its Relationship to Children's Play with Objects and Peers. *Journal of Genetic Psychology*, 159(1), 30-44.
- Woodcock, R.; McGrew, K.; & Mather, N. (2001). *Woodcock-Johnson III Tests of Achievement*. Itasca, IL: Riverside Publishing.

## **Appendix A: Purpose of Kindergarten**



## Appendix A

### The Purpose of Kindergarten

Historically, kindergarten has had two primary purposes:

1. to address children's physical, behavioral and emotional development in order to be ready for formal schooling and
2. to begin cognitive instruction to meet specific academic goals (e.g. Frobel, *The Education of Man*, 1887; Montessori, *The Montessori Method*, 1912).

These two purposes have often been argued to be mutually exclusive. In actuality, the two purposes, or goals, are mutually supportive. Strong academic instruction cannot take place without addressing children's social and emotional needs and strong developmental instruction must address children's developing cognitive skills. For the past 100 years theorists and practitioners have recognized that learning occurs in social contexts and those contexts must support learning.

Vygotsky's socio-cultural theory emphasizes that cognitive activity and development occur in social situations. Children engage in problem-solving activities in collaboration with an adult who structures and models ways to solve problems (Goffin and Wilson, 2001).

The integration of the two purposes (social and cognitive development) has been further emphasized as an essential tenet of developmental interaction theory (e.g. Biber, 1977; Shapiro & Biber, 1972). This is where teachers work "to integrate thought and feeling, thought and action...spontaneous and ritualized forms of response...[to]...help children see connections (and) appreciate learning situation[s] more completely." The process of integration of social and cognitive learning is seen as especially critical to creativity and maximum engagement in learning (Goffin and Wilson, 2001).

These points were emphasized more recently in a 1999 study with Delaware's kindergarten teachers that asked them to identify the purpose kindergarten. Kindergarten teachers overwhelmingly stated that it was as important for children to learn strong social-emotional skills as it was to address their academic skills (Lovett, Foley & Gamel-McCormick, 1999).

#### *High Quality Kindergarten*

With the above purposes of kindergarten in mind, it is necessary to define what constitutes good quality kindergarten. As many early childhood researchers have pointed out, curriculum design, teacher quality, and resources are very important compared to the length of the day. Children who spend more time in low quality programs do not necessarily gain skills and knowledge.

High quality kindergarten programs can have significant positive outcomes for children. Programs that embed content into meaningful contexts and that are responsive to the interests and developmental needs of young children and use engaging, child-oriented, active teaching practices tend to produce children who learn more and “are better prepared to master the complex demands of formal schooling” (Bowman, Donovan, & Burns, 2001, p.307).

High quality kindergarten programs have specific characteristics. These include well designed curriculum content; instructional strategies that are engaging and meaningful for children; assessment that uses systematic observation and multiple sources of evidence over time; teacher interactions with children that are sensitive and responsive; and strong, positive family and community interactions (NAEYC, 2003; NBPTS, 2001).

#### *Curriculum Content and Child Engagement*

High quality programs recognize that children learn best when they are actively engaged within positive social contexts. As stated in a comprehensive review of children’s early development:

Advances in cognitive abilities do not simply unfold with age; nor is the child a passive receptacle for knowledge delivered by others. Rather, current understandings suggest that cognitive development takes place in the context of the child’s interactions with others and within the environment-interactions which the child is a very active participant.” (Bowman, Donovan, & Burns, 2001, p.39).

High quality kindergarten programs recognize the importance and efficiency of integrating curricular content across subject areas while employing a wide variety of instructional strategies that engage all developmental domains in order to meet the needs of all children. Quality kindergarten programs recognize the need to adapt curriculum and teaching strategies to meet the varied needs of the children served in those programs. “Because children differ in so many respects, teaching strategies with any curriculum need to be flexibly adapted to meet the specific needs and prior knowledge of the individual children within the group. (Bowman, Donovan, & Burns, 2001, p.315).

#### *Teacher-directed/Child-initiated Instruction*

Teachers in high quality kindergartens need to provide different levels of instruction in activities and use a range of techniques including direct instruction, scaffolding, indirect instruction (taking advantage of moments of opportunity), and opportunities for children to learn on their own (self-directed learning). (Bowman, Donovan, & Burns, 2001, p.315). The developmentalist, Urie Brofenbrenner, described the proximal processes that are favorable to optimal cognitive development (and brain development) as ones in which the child can construct meaning from the experiences. A child must be an active agent in the process, there must be choices for the child to make, and the social and physical environment must provide informational feedback to the child. (Bowman, Donovan, & Burns, 2001, p. 41)

### *Cognitive Complexity*

High quality kindergartens address the multiple developmental levels of the children in their programs. There is the opportunity for children to work at a knowledge level (e.g., identification of objects, naming pictures, making observations) as well as opportunities to synthesize information, make comparisons and draw conclusions. No matter the age of the children, teachers in high quality programs provide the opportunities to learn both discreet facts, tasks, and skills and to learn how to ask questions, make observations, combine information, state hypotheses and draw conclusions. Again, as summarized in a major review of research in 2001, Bowman and her colleagues concluded that “the metacognitive skills that allow students to learn more deliberately and have been shown to raise achievement in all (literacy, mathematics, science) academic areas can be introduced in preschool curriculum. Curricula that encourages children to reflect, predict, question, and hypothesize set them on course for effective, engaged learning” (Bowman, Donovan and Burns, 2001, p. 231).

### *Group Size*

The number of students in a class is also related to the quality of the instruction in the class. Small class sizes have an impact on teacher-child interactions, the social and behavioral guidance used by teachers and the level cognitive complexity provided in the class. Small classes with low teacher-child ratios “are associated with higher scores on global measures of quality and, more specifically, more extensive teacher-child interaction, more individualization, less restrictive and controlling teacher behavior, and children engaging in more social interaction, more extensive and complex language, and more complex play (e.g. McGurk et al., 1995; Layzer et al., 1993; Clark-Stewart and Gruber, 1994; Howes, 1997; Kontos et al., 1997; Howes et al., 1992). Small class size is also clearly correlated with children’s performance outcomes and “were found to increase student achievement” especially for “children from lower-income families” (e.g. Achilles et al., 1995; Ferguson, 1998; Krueger, 1997; Wenglinsky, 1997; Mosteller, 1995; Bowman, Donovan and Burns, 2001, p.145).

### *Assessment*

The role of assessment in early childhood education is threefold:

1. assessment to inform instruction,
2. assessment for diagnostic and selection purposes, and
3. assessment for accountability and program evaluation.

High quality kindergarten programs carefully select and use each assessment in the way in which it was designed and intended. Recognizing how “development in young children is uneven and episodic,” early childhood educators understand how standardized test results can be easily misused and misinterpreted. High quality kindergarten programs recognize that “important educational decisions should be grounded in multiple sources of information,” and that, “no test score should be looked at as infallible” (Bowman, Donovan and Burns, 2001, p.306). For the purpose of using assessment to inform instruction, “there must be sustained opportunities for the interactions between teacher and child to occur, and, second,

these interactions must occur over time, rather than on a single occasion... learning can be assessed only over time and in context” (Bowman, Donovan and Burns, 2001, p.249-250)

*Positive Family School Communication and Collaboration*

Finally, high quality kindergarten programs recognize how valuable the home-school relationship is in understanding the child as an individual within the context of family and culture. In Bowman’s review of 30 years of early childhood education research, she and her colleagues concluded that “[c]hildren who do well in school tend to have parents who have close relationships with teachers and caregivers, reinforcing the traditional belief in the importance of such partnerships. The teacher who has extensive contact with the child’s family can better understand the child as an individual and have an appreciation for the contexts in which the child functions, the parents’ aims and hopes for the child, and the values of the child’s culture” (Bowman, Donovan and Burns, 2001, p. 181).

## References

- Bowman, B., Donovan, S., & Burns, M. (2001). *Eager to Learn: Educating our Preschoolers*. Washington, DC: National Academy Press.
- Delaware Department of Education. (2002). *Annual Report of Delaware's Limited English Proficient (LEP) Students, Staff, and Programs*. Dover, DE: Author.
- Goffin, Stacie G. & Wilson, Catherine S. (2001). *Curriculum Models and Early Childhood Education, Appraising the Relationship*. New Jersey: Merrill Prentice Hall.
- Kindler, A.L. (2002). *Survey of the States' Limited English Proficient Students and Available Educational Programs and Services 2000-2001 Summary Report*. Washington, DC: Office of English Language Acquisition, Language Enhancement and Academic Achievement for Limited English Proficiency Students.
- Lovett, K., Foley, J., & Gamel-McCormick, M. (1999). *Transitions from Pre-Kindergarten to Kindergarten: Teachers' Perceptions*. Newark, DE: Center for Disabilities Studies/Interagency Resource Management Committee.
- NAEYC/NAECPSD. (2003). Joint Position Statement: Early childhood curriculum, assessment, and program evaluation. <http://naecs.crc.uiuc.edu/position/pscape.pdf>
- National Board for Professional Teaching Standards. (2001). *Early Childhood NBPTS Generalist Standards for Teachers of Students Ages 3-8*. (2<sup>nd</sup> Ed.). Washington, DC: NBPTS.



## **Appendix B: UD Student Expanded Snapshot**



STUDENT EXPANDED SNAPSHOT (UD 2/28/2007)

|                        |                      |                            |
|------------------------|----------------------|----------------------------|
| Can be multiple scored | Observer Name: _____ | Lead Teacher's Name: _____ |
| Must be single scored  | School Name: _____   | School District: _____     |
|                        | Date of Obs.: _____  | Start: _____               |

| ↔Observation↔                      | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ↔STUDENT↔                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>0. DISENGAGED*</b>              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>1. NON-PLAY</b>                 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Distracted                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Onlooker                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Conflict                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>2. Child Verbal Interaction</b> | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Not Talking                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Not Audible                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Talking alone                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Talking to Teacher                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Talking to Para                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Talking to Peers                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Talking Socially                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Simple statements                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Closed Questions                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Elaborate Statements               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Open-ended questions               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Talk about symbolic Play           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>3. SCHEDULE</b>                 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Basics                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Rest time(nap)                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Meals-Snacks                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Whole group instruction            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Teacher Dir. Small Groups          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Free Choice/Centers                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Special class                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Outside Time                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Recess                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>4. PEER INTERACT.</b>           | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Solitary                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Parallel/Par aware                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Simple Social                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Complem. Recip.                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Coop. Pretend                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Complex Pretend                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| <b>5. INSTRUCTION CONTENT</b>                   | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Read To   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pre-read/read                                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Letter/sound                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Oral Lang                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Writing   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Math  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Science   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Computer  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Social Studies                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Aesthetics                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Gross Motor                                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Fine Motor                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Life skills                                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>ADULT Interaction Section</b>                | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Teacher =1/Para =2                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>6. ADULT INTERACTION</b>                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Not in Range                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Ignore  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Routine   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Minimal   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Simple  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Elaborated                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>7. TEACHER INTERACT</b>                      | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Didactic  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Invites Exploration                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Scaffolds                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Differentiated instruction</b>               | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Individualized instruction                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Peer support                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Physical Support                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Environmental Support                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Changes in Materials content                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Special Equipment                               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Varies types of product                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Use of child's native language or sign language |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| <b>9. TEACHER DIRECTIVE</b>     | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Teacher Directed                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Student Selected                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Student Initiated               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>10. BEHAVIOR GUIDANCE</b>    | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Facilitates Peer Interact       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Reinforces Behavior             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Promotes problem solving        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| States rules/instruct Requests  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Reminds verbally                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Removes student                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Adult solves problem            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>11. COGNITIVE COMPLEXITY</b> | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Knowledge                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Understanding                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Applying                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Analyze/Synth /Evaluate         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>12. GROUP SIZE</b>           | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Individual Student              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Small Group                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Large Group                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Full Group                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>13. MATERIALS</b>            | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| No materials                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Representational material       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Real materials                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Multiple Materials              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Teacher used mats.              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Students used mats.             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Materials shared                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Category has two groups of codes; one of which must be chosen in each set

Category has one code that can be doubled scored/with ONE other

Set 1 in category to be single scored

Set 2 in category to be single scored



## **Appendix C: Weekly Schedule Template**



### Weekly Teacher Schedule

School \_\_\_\_\_

Grade: Kindergarten

Teacher (s) \_\_\_\_\_

**Directions:** Please fill out the class schedule on the form below.

1. Describe the events in terms of curriculum content areas (ie. math, science, social studies, language arts, music, gross motor, fine motor, etc. Be sure to indicate the content area for each activity, especially if it is not obvious by reading the activity name.
2. Indicate the specific content covered during group time or circle time (For example, group time-math activity)
3. If your schedule includes specials, please indicate which (ie. art, gym, library, music, etc.)

|       | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|-------|--------|---------|-----------|----------|--------|
| 8:00  |        |         |           |          |        |
| 8:30  |        |         |           |          |        |
| 9:00  |        |         |           |          |        |
| 9:30  |        |         |           |          |        |
| 10:00 |        |         |           |          |        |
| 10:30 |        |         |           |          |        |
| 11:00 |        |         |           |          |        |
| 11:30 |        |         |           |          |        |
| 12:00 |        |         |           |          |        |
| 12:30 |        |         |           |          |        |
| 1:00  |        |         |           |          |        |
| 1:30  |        |         |           |          |        |
| 2:00  |        |         |           |          |        |
| 2:30  |        |         |           |          |        |
| 3:00  |        |         |           |          |        |
| 3:30  |        |         |           |          |        |



## **Appendix D: Kindergarten Readiness Checklist**



## Kindergarten Readiness Checklist 2006-07

**Instructions: Please read carefully before beginning.**

Please rate the child on your expectations of the skills that a student should have when he/she starts kindergarten at the beginning of the school year. Please circle the appropriate response to the right of each statement. Please use the following scale to identify your response:

|              |                            |                                   |            |
|--------------|----------------------------|-----------------------------------|------------|
| 1 =          | 2 =                        | 3 =                               | 4 =        |
| Not Apparent | Early Stage of Development | Intermediate Stage of Development | Proficient |

**I. SOCIAL DEVELOPMENT**

|   |   |   |   |   |
|---|---|---|---|---|
| 1. Uses appropriate strategies to initiate interactions with peers and uses alternate strategies when initial attempts fail | 1 | 2 | 3 | 4 |
| 2. Responds appropriately to other's expressed emotions and intentions  | 1 | 2 | 3 | 4 |
| 3. Overall emotional tone is positive when interacting with peers and adults  | 1 | 2 | 3 | 4 |
| 4. Displays age-appropriate impulse control and regulation during challenging situations                                    | 1 | 2 | 3 | 4 |
| 5. Peer relationships are generally positive and satisfying   | 1 | 2 | 3 | 4 |
| 6. Effectively uses adults as sources of support, comfort, and assistance   | 1 | 2 | 3 | 4 |

**II. SCHOOL-SPECIFIC INSTRUMENTAL DEVELOPMENT**

|  |   |   |   |   |
|--|---|---|---|---|
| 7. Focuses attention during large group teacher-directed activities  | 1 | 2 | 3 | 4 |
| 8. Can work independently  | 1 | 2 | 3 | 4 |
| 9. Demonstrates willingness to try new things                        | 1 | 2 | 3 | 4 |
| 10. Generally completes tasks in allotted time                       | 1 | 2 | 3 | 4 |
| 11. Understands and generally follows playground and classroom rules | 1 | 2 | 3 | 4 |
| 12. Enjoys being in school   | 1 | 2 | 3 | 4 |
| 13. Can work effectively in a group                                  | 1 | 2 | 3 | 4 |
| 14. Actively participates in class activities                        | 1 | 2 | 3 | 4 |

**III. READING AND WRITING**

|   |   |   |   |   |
|---|---|---|---|---|
| 15. Chooses books and stories during free-choice activities                     | 1 | 2 | 3 | 4 |
| 16. Recognizes most upper and lower case letters and knows most of their sounds | 1 | 2 | 3 | 4 |
| 17. Uses some initial letter-sound associations to predict meaning              | 1 | 2 | 3 | 4 |
| 18. Uses context clues to predict meaning                                       | 1 | 2 | 3 | 4 |
| 19. Recognizes some common words  | 1 | 2 | 3 | 4 |
| 20. Draws and paints pictures   | 1 | 2 | 3 | 4 |
| 21. Writes name   | 1 | 2 | 3 | 4 |
| 22. Writes using upper and lower case letters with few or no reversals          | 1 | 2 | 3 | 4 |
| 23. Writes numerals with few or no reversals                                    | 1 | 2 | 3 | 4 |

**IV. LOGICAL THINKING AND USE OF NUMBERS**

|  |   |   |   |   |
|--|---|---|---|---|
| 24. Actively uses all senses to examine and explore familiar or unfamiliar objects   | 1 | 2 | 3 | 4 |
| 25. Shows interest in and understanding of the concept of comparing. (e.g. more or less, full or empty, taller or shorter, etc.) | 1 | 2 | 3 | 4 |
| 26. Uses elaborate language to describe objects and events   | 1 | 2 | 3 | 4 |
| 27. Uses language to initiate and maintain interactions with adults and peers  | 1 | 2 | 3 | 4 |

## Kindergarten Readiness Checklist 2006-07

|  |   |   |   |   |
|--|---|---|---|---|
| 28. Uses language to gather information and solve problems (asks questions)  | 1 | 2 | 3 | 4 |
| 29. Understands and uses such concepts as many, more, less, etc.   | 1 | 2 | 3 | 4 |
| 30. Uses appropriate labels (one, two, etc) when counting objects  | 1 | 2 | 3 | 4 |
| 31. Uses counting reliably to quantify perceptual (< 5) numbers  | 1 | 2 | 3 | 4 |
| 32. Uses counting reliably to quantify elementary (5 to 12) numbers  | 1 | 2 | 3 | 4 |
| 33. Uses counting to quantify larger number (20+) objects  | 1 | 2 | 3 | 4 |
| <b>V. PERCEPTUAL-MOTOR DEVELOPMENT</b>   |   |   |   |   |
| 34. Demonstrates a positive disposition toward movement activities, enjoys, and feels confident during physical activities                 | 1 | 2 | 3 | 4 |
| 35. Demonstrates age-appropriate static and dynamic balance (can stand on one foot, traverse a low walking board or balance beam, etc.)    | 1 | 2 | 3 | 4 |
| 36. Demonstrates age-appropriate locomotor patterns (walking, running, hopping, jumping, climbing, creeping)                               | 1 | 2 | 3 | 4 |
| 37. Demonstrates age-appropriate fine motor movement differentiation (manages small manipulative toys, cuts efficiently, etc)              | 1 | 2 | 3 | 4 |
| 38. Demonstrates age-appropriate eye-hand coordination (drawing strokes are fluid and confident, closes figures when drawing and printing) | 1 | 2 | 3 | 4 |

### VI. STUDENT PROFILE

For each item below, indicate whether the statement is TRUE or FALSE for this child as you have come to know the child.

|   | TRUE                     | FALSE                    |
|---|--------------------------|--------------------------|
| 39. Has problems speaking clearly and effectively                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 40. Is intellectually gifted and talented                             | <input type="checkbox"/> | <input type="checkbox"/> |
| 41. Is eager to learn new things                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 42. Is often pulled out from the group because of behavioral problems | <input type="checkbox"/> | <input type="checkbox"/> |
| 43. May have a learning disability                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| 44. Is creative   | <input type="checkbox"/> | <input type="checkbox"/> |

For each of these items below, please complete these statements as you have come to know the child:

45. Overall, how would you rate this child's academic skills

Far Below Average    Below Average    Average    Above Average    Far Above Average

46. Some children have an easy time adjusting to the demands of kindergarten. In contrast, other children have difficulty making this adjustment. Based on your experience, how easy or difficult will this adjustment be for this child?

Far Below Average    Below Average    Average    Above Average    Far Above Average

47. Based on your experience, how intellectually ready is this child for kindergarten?

Far Below Average    Below Average    Average    Above Average    Far Above Average

48. Based on your experience, how socially ready is this child for kindergarten?

Far Below Average    Below Average    Average    Above Average    Far Above Average

49. How many days was this child absent from school? \_\_\_\_\_ days

50. Why was this child absent from school? Check as many as apply.

- Due to illness
- Other

## **Appendix E: Educational Experience of the Teachers Participating in the Full-Day Kindergarten Evaluation**



Table 47. Educational experience of the teachers participating in the full-day kindergarten evaluation.

| <b>Major:</b>                     | <b>Degree Level:</b> | <b>Bachelor's</b>        | <b>Master's</b>           | <b>Total</b>               |
|-----------------------------------|----------------------|--------------------------|---------------------------|----------------------------|
| Early Childhood Education         |                      | 1                        |                           | 1                          |
| Education, General                |                      |                          | 2                         | 2                          |
| Elementary Education              |                      | 1                        |                           | 1                          |
| Exceptional Children and Youth    |                      |                          | 1                         | 1                          |
| Literacy                          |                      |                          | 1                         | 1                          |
| Master of Instruction             |                      |                          | 1                         | 1                          |
| Nursery Kindergarten Education    |                      | 2                        |                           | 2                          |
| Primary/Kindergarten Education    |                      | 1                        | 1                         | 2                          |
| Reading                           |                      |                          | 1                         | 1                          |
| School Counseling                 |                      |                          | 2                         | 2                          |
| School Leadership and Instruction |                      |                          | 2                         | 2                          |
| Special Education                 |                      |                          | 2                         | 2                          |
| Unknown                           |                      | 1                        | 1                         | 2                          |
| <b>Total</b>                      |                      | <b>6</b><br><b>(30%)</b> | <b>14</b><br><b>(70%)</b> | <b>20</b><br><b>(100%)</b> |



## **Appendix F: Rubric for Writing Assessment**



Child Name: \_\_\_\_\_ Evaluated by \_\_\_\_\_

**Pre-K Writing rubric** (Developed by Myae Han, Nancy Edwards, 3-19,2007 revised)

| <b>WRITING STAGE</b>  | <b>Drawing/ Scribbling 1</b>   | <b>Letter like unit 2</b>  | <b>Nonphonetic letter string 3</b>   | <b>Phonetic spelling 4</b>  | <b>Pre-conventional writing 5</b>   |
|---|--|--|--|---|---|
| Note. Drawing can be checked with other rating.   | Use of picture to represent writing/ continuous lines represent writing            | Series of marks that have some letter-like characteristics               | Use of random letter shows no evidence of letter-sound relationship  | Initial or a few consonants represent the whole word  | Almost perfect match between letters and sounds. Some sight words are spelled correctly   |
| <b>IDEAS/ORGANIZATION</b>   | <b>Exploring 1</b>   | <b>Emerging 2</b>  | <b>Developing 3</b>  | <b>Effective 4</b>  | <b>Strong 5</b>   |
|   | Marks or random picture on paper. Ideas not clear from sample. Random use of space | Guessable picture with minimal details <b>or</b> guessable letter shapes | Recognizable pictures with more details <b>or</b> recognizable letters or word <b>or</b> using letter or word to label picture | Use of phrases or a sentence with/without picture. Reader can infer main idea                 | Readable one or two sentences about the idea with or without pictures.                    |
| <b>WORD CHOICE</b>  | <b>Exploring 1</b>   | <b>Emerging 2</b>  | <b>Developing 3</b>  | <b>Effective 4</b>  | <b>Strong 5</b>   |
|   | Drawing, Scribbles/ no letter shapes yet   | Guessable <b>or</b> recognizable letter <b>or</b> letter shapes          | Recognizable letters to represent the word (e.g. p for play )  | Readable two or more words  | Use of variety of words (nouns, verbs) to form a complete sentence                        |
| <b>FLUENCY</b>  | <b>Exploring 1</b>   | <b>Emerging 2</b>  | <b>Developing 3</b>  | <b>Effective 4</b>  | <b>Strong 5</b>   |
|   | Only drawing/ No letter word strings yet   | Use of random letter or word strings.                                    | Letter or word strings suggest beginning phrases or sentences (e.g. ilpdg. I like play dog)                                    | Letter or word strings form readable sentences (e.g. ilktplwm-dg. I like to play with my dog) | Writes at least one complete simple sentence (may have some spelling/ punctuation errors) |
| <b>CONVENTION</b>   | <b>Exploring 1</b>   | <b>Emerging 2</b>  | <b>Developing 3</b>  | <b>Effective 4</b>  | <b>Strong 5</b>   |
| <ul style="list-style-type: none"> <li>• Use of space</li> <li>• Awareness of upper(beginning of sentence) &amp; lower letter</li> <li>• Punctuation (period, question marks, exclamation points...)</li> </ul> | Picture only/ No recognizable convention/ writing placed on random spaces          | Writing is positioned horizontally . No awareness of space               | Writing is positioned horizontally & Awareness of space.   | # 3 and shows at least one more awareness among conventions                                   | # 3 and shows at least two more awareness among convention.                               |





*Equal Opportunity Statement*

**AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER**

The University of Delaware is committed to assuring equal opportunity to all persons and does not discriminate on the basis of race, color, gender, religion, ancestry, national origin, sexual orientation, veteran status, age, or disability in its educational programs, activities, admissions, or employment practices as required by Title IX of the Education Amendments of 1972, Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Americans with Disabilities Act, other applicable statutes, and University policy. Inquiries concerning these statutes and information regarding campus accessibility should be referred to the Affirmative Action officer, 305 Hullihen Hall, 302/831-2835 (voice), 302/831-4552 (TDD)