

Early Childhood Program Participation & K-12 Outcomes

March 2014

Section 615(14)-(a)(i), (iv) of the Washington State Operating Budget (2ESSB 5034) passed during the 2013 Legislative Session requires the Education Research and Data Center (ERDC) to use available data to report on early childhood program participation and K-12 outcomes:

“The education research and data center must provide a report on early childhood program participation and K-12 outcomes to the house of representatives appropriations committee and the senate ways and means committee using available data by November 2013 for the school year ending in 2012 and again in March 2014 for the school year ending in 2013.”

The November 2013 report¹ focused on the following topics:

- Brief overview of publicly-funded programs administered by Department of Early Learning (DEL);
- Overview of DEL data available to ERDC;
- An exploratory analysis of DEL’s Early Childhood Education and Assistance Program (ECEAP) data linked to the Office of Superintendent of Public Instruction (OSPI) Washington public K-12 enrollment data;
- A brief discussion of data quality and limitations; and
- Overview of activities and projects involving early childhood data and ERDC.

Since the completion of the November 2013 report, ERDC has received data that allow for the examination of the transition from early learning to kindergarten for children who participated in ECEAP in 2012-13. The new data sources include:

- From DEL, 2012-13 ECEAP participant data, as well as Teaching Strategies GOLD® assessment scores for 2012-13; and
- From OSPI, Teaching Strategies GOLD® assessment results (kindergarten-readiness assessments) for Fall 2013 state-funded full-day kindergarten students and students from volunteer schools.

¹ "Report to the Legislature: Early Childhood Program Participation and K-12 Outcomes." Washington State Education Research, November 2013. <www.erd.c.wa.gov/briefs/pdf/Nov2013_Report_to_the_Legislature.pdf>.

The Washington State Education Research & Data Center (ERDC) in the Washington Office of Financial Management is charged with conducting analyses of early learning, K-12, higher education programs and career and education issues and development of a P-20/Workforce (P20W) data system to support these studies. ERDC focuses on longitudinal education studies, particularly those that involve transitions across education sectors and those that involve workforce-education connections.

This report will discuss the following topics:

- A description of the three data sources used in this document;
- A discussion of the linking of ECEAP participant data to related K-12 data; and
- A first look at the results of linking 2012-13 ECEAP children, their spring assessment outcomes, and fall 2013 assessment outcomes for kindergartners.

Teaching Strategies GOLD®

Both DEL and OSPI use Teaching Strategies GOLD® (GOLD®)² for the assessment of the developmental levels of early learners.³ GOLD® developmental assessments, as implemented in Washington, measure children's progress toward research-based age expectations in six content areas: social emotional, physical, language, literacy, cognitive development, and mathematics.

The DEL GOLD® license allows GOLD® use by all ECEAP contractors. The OSPI GOLD® license allows use by K-12 schools only.⁴

ECEAP GOLD® Data

ECEAP is a program serving low-income children who are 3 or 4 years old on August 31 of the school year served, not yet eligible for kindergarten, and their families. ECEAP provides three interconnected services – early learning, health services coordination, and family engagement and support. DEL administers ECEAP and contracted with 40 local organizations in 2012-13 to provide ECEAP services.⁵

Children participating in ECEAP are assessed three times during the year and assessment scores entered in GOLD® online. In 2012-13, the first year GOLD® was required statewide in ECEAP, over 4,300 ECEAP children had ratings in both fall and spring, allowing for the measurement of progress in the six development areas.⁶

DEL's implementation of GOLD® measures twenty-five specific objectives and 51 specific dimensions across the six areas of development and learning – social emotional, physical, language, literacy, cognitive, and mathematics. In each of the six areas, the attainment of each child is classified as "Above Age Level," "At

² "Alignment of Washington State Early Learning and Development Guidelines With Teaching Strategies GOLD® Objectives for Development & Learning: Birth Through Kindergarten." Teaching Strategies, LLC. <www.k12.wa.us/WaKIDS/pubdocs/AlignmentTSGoldwithWaEarlyLrngDevGuidelines.pdf>

³ Developmental assessments are only one aspect of ECEAP and WaKIDS. Family connection activities that bring together teachers, students, and families occur in both ECEAP and WaKIDS settings. In addition, ECEAP provides family support services. Transition to Kindergarten is a focus of both programs.

⁴ "DEL and OSPI Teaching Strategies GOLD® Licenses." Washington State Department of Early Learning, Aug 2013. <www.del.wa.gov/publications/eceap/docs/GOLD_OSPI_DEL_license.pdf>.

⁵ "Early Childhood Education and Assistance Program, Head Start and Early Head Start in Washington State." Washington State Department of Early Learning. <www.del.wa.gov/publications/partnerships/docs/ECEAP_HS_Profile_2012.pdf>.

⁶ "ECEAP Outcomes 2012-13." Washington State Department of Early Learning. <www.del.wa.gov/publications/eceap/docs/ECEAP_outcomes_2012-13.pdf>.

Age Level,” or “Below Age Level,” depending on whether the objectives associated with the area have been met.

DEL provided assessment data for all 3- and 4-year-old ECEAP children who were assessed. Since this report focuses on K-12 outcomes for ECEAP participants, only 4-year-old children and a limited number of 2012-13 ECEAP 3-year-olds who tested into kindergarten early are included in the following results summary. There were 6,299 ECEAP children in this kindergarten-eligible group. Of these, Spring 2013 GOLD® assessments were available for at least one developmental area for 6,098 – almost 97 percent.

Table 1 shows the counts of 2012-13 4-year-old ECEAP children who participated in ECEAP for at least 120 days in 2012-13 and for whom Spring 2013 GOLD® results are available. Distribution of the scores by three assessment levels is also shown. Results are included for all children, including children with IEPs and English language learners.

Table 1: Assessment summary for Spring GOLD® ECEAP 4-year-olds 2012-13 enrolled ≥120 days

Universe: 6,098 who had Spring 2013 GOLD® assessments in at least one developmental area and who were enrolled in ECEAP for at least 120 days in 2012-13

Developmental Area	Spring GOLD® Assessments	Spring GOLD® Assessment Outcomes (percent of all assessments in developmental area)			
		Above Age Level	At Age Level	Below Age Level	Total
Social Economic	5,799	33%	61%	6%	100%
Physical	6,083	15%	81%	4%	100%
Language	6,067	17%	72%	10%	100%
Cognitive	6,044	22%	73%	5%	100%
Literacy	5,935	13%	82%	5%	100%
Mathematics	5,984	13%	68%	19%	100%

Percentages may not add to 100% due to rounding.

Washington Kindergarten Inventory of Developing Skills (WaKIDS)

OSPI uses GOLD® as the tool for assessing students’ developmental levels at kindergarten entry as part of the Washington Kindergarten Inventory of Developing Skills (WaKIDS).⁷ Before October 31, kindergarten teachers complete an assessment of each student using GOLD®.

OSPI provided 38,443 WaKIDS assessment records for Fall 2013 – representing 100% of the kindergartners participating.⁸

⁷ "WaKIDS - Washington Kindergarten Inventory of Developing Skills." Washington State Department of Early Learning. <www.k12.wa.us/WaKIDS/pubdocs/WhatIsWaKIDS.pdf>.

⁸ "WaKIDS Data." State of Washington Office of Superintendent of Public Instruction. <www.k12.wa.us/WaKIDS/Data/>.

OSPI's implementation of GOLD® measures 19 specific objectives and 36 specific dimensions across the six areas of development and learning – a subset of the objectives measured in the ECEAP implementation. In each of the six areas, the attainment of each child is classified in one of the following categories depending on the degree to which the objectives associated with the area have been met:

- Skills characteristic of 5- to 6-year-old kindergartners;
- Skills characteristic of entering kindergartners;
- Skills characteristic of 3- to 5-year-old preschool children;
- Skills characteristic of 2- to 3-year-old children; or
- Skills characteristic of birth to 2-year-old children.

WaKIDS assessments are administered to students enrolled in state-funded full-day kindergarten and in schools that volunteer to participate. OSPI's Washington State Report Card website⁹ displays WaKIDS results for all students assessed and for several subgroups.

ECEAP Participants

DEL has provided child-level data for ECEAP participants in the 2012-13 program year. Included in the data are demographic characteristics (gender, race/ethnicity), location, and dates of entry into and exit from the program. The Early Learning Management System (ELMS) is the source of information for ECEAP participants beginning with the 2012-13 program year.

DEL cites a count of 9,328 unique children served in 2012-13, representing turnover in the 8,391 available slots.¹⁰ For this analysis, 9,250 ECEAP participants (99.2% of all participants) were included, corresponding to those for whom complete enrollment data, including program entry and exit dates, were available from ELMS.

Cross-Sector Linking

Performing within-sector and cross-sector linking for young children is one of the most challenging aspects of working with P-20W data. In the work discussed here, there are three data sets that must be linked: ELMS (ECEAP child) data, GOLD® (ECEAP assessment) data, and WaKIDS (OSPI assessment) data. In 2012-13 there was no common ID shared by any two data sets.¹¹

For linking ELMS and ECEAP GOLD® data, names, birthdates, and ECEAP site information were used. A total of 7,234 (78%) of the ELMS records were linked with Spring GOLD® records.

⁹ OSPI *Washington State Report Card: Washington Kindergarten Inventory of Developing Skills (WaKIDS)*. State of Washington Office of Superintendent of Public Instruction. <reportcard.ospi.k12.wa.us/WaKidsDetailPage.asp>

¹⁰ ECEAP Outcomes 2012-13 (previously cited)

¹¹ Processes are in place to assign a State Student ID (SSID) to all ECEAP participants. The SSID would be used for ECEAP enrollment captured by ELMS, and with GOLD® assessment data from both DEL and OSPI. It would also carry over into public K-12 enrollment records.

ELMS records were also linked with WaKIDS data. For this, names and birthdates were used. Location of ECEAP site in spring 2013 and location of school in fall 2013 were useful in identifying matches, although a number of students changed location within the state between spring and fall. A total of 4,971 ELMS records were associated with Fall 2013 WaKIDS data. Note that some 2012-13 ECEAP children were not yet eligible to enroll in kindergarten.

By convention, analysis of ECEAP outcomes is limited to those children who participate in ECEAP for at least 120 days. Table 2 summarizes the results of the cross-sector linking for all ECEAP participants and for those who participated for at least 120 days during 2012-13.

Table 2: Cross-sector linking results – ECEAP children with Spring GOLD® and Fall WaKIDS assessments

	Children	With Spring TS GOLD®	With WaKIDS	With both Spring TS GOLD® and WaKIDS	With neither
All children	9,250	7,216 (78%)	4,971 (54%)	3,971 (43%)	1,035 (11%)
Enrolled>=120 days	8,244	6,917 (84%)	4,566 (55%)	3,858 (47%)	619 (8%)
4-year-olds	7,211	6,098 (85%)	4,566 (63%)	3,858 (54%)	405 (6%)

WaKIDS Results for ECEAP Children, Fall 2013

The following tables and charts show WaKIDS assessment results for ECEAP participants who were in ECEAP programs for at least 120 calendar days during 2012-13. Figure 1 shows the percent of 2012-13 ECEAP participants demonstrating characteristics of entering kindergartners based on WaKIDS assessment results.

Figure 1: Percent of 2012-13 ECEAP participants who demonstrate characteristics of entering kindergartners based on WaKIDS assessments

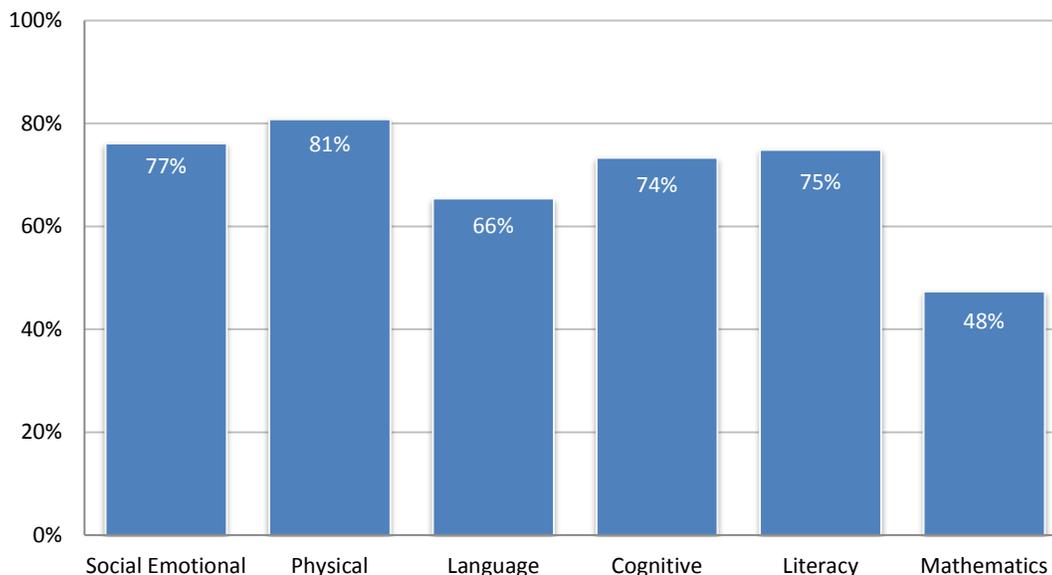
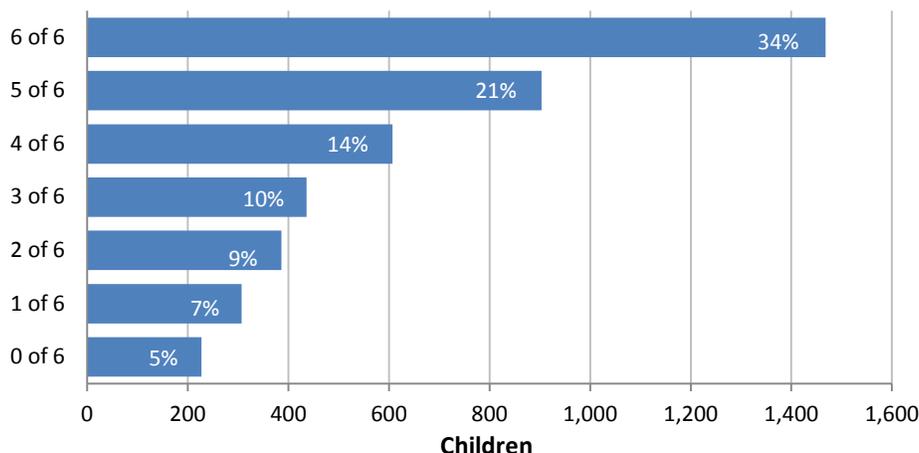


Figure 2 shows the percentage of 2012-13 ECEAP participants by the number of domains in which they demonstrated characteristics of entering kindergartners, based on WaKIDS assessments. Results are shown for the approximately 4,300 children who had WaKIDS assessments in all six domains.

Figure 2: Number of domains in which 2012-13 ECEAP participants demonstrated characteristics of entering kindergartners based on WaKIDS assessments



Cross-Tabulation: ECEAP and WaKIDS Achievement Levels

There is not a one-to-one correspondence between the ECEAP attainment levels and the WaKIDS levels. WaKIDS objectives and dimensions are a subset of those assessed in the ECEAP GOLD[®] implementation.¹² There is general correspondence between spring 2013 ECEAP GOLD[®] outcomes and fall 2013 WaKIDS outcomes for those children who were assessed at both points in time. The following series of tables and charts depict the relationship between spring 2013 ECEAP GOLD[®] outcomes and Fall 2013 WaKIDS outcomes for each of the six developmental areas assessed. ECEAP GOLD[®] outcomes are consolidated into two categories:

- Children at or above age level, and
- Children below age level.

WaKIDS outcomes are consolidated into three categories:

- Children who have attained or exceeded skills characteristic of entering kindergartners;
- Children who have attained skills characteristic of 3- to 5-year-old preschool children; and
- Children who have attained skills characteristic of 2- to 3-year-old children or birth to 2-year-old children.

In the six tables that follow, percentages shown are those relative to the total number of children assessed – the six cells in each table add to 100 percent.

¹² "ECEAP/WaKIDS Crosswalk." Washington State Department of Early Learning. <www.del.wa.gov/publications/eceap/docs/ECEAP_WaKIDS_Crosswalk.pdf>.

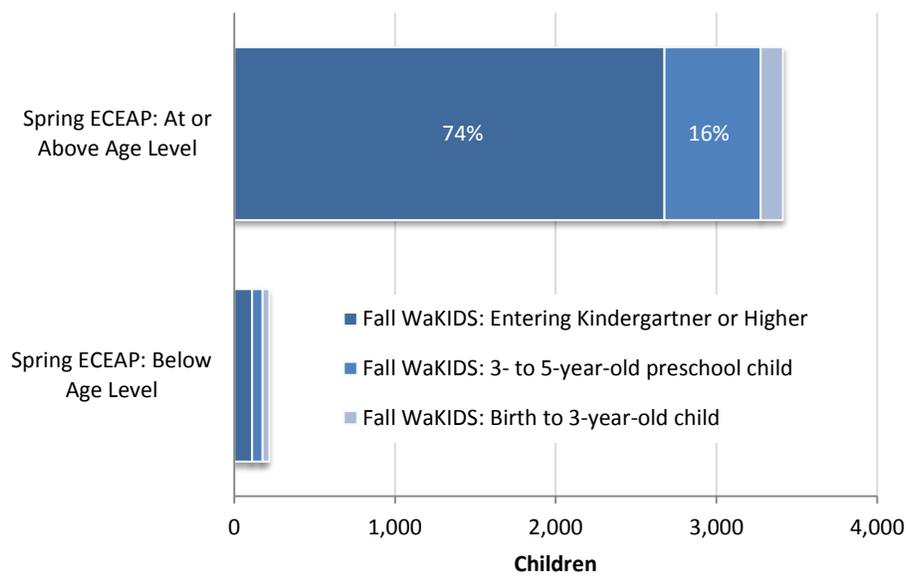
DEVELOPMENTAL AREA: SOCIAL EMOTIONAL

Table 3: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Social Emotional

GOLD® Level Social Emotional	Fall 2013 WaKIDS		
	Entering Kindergarten or Higher	3- to 5-year-old preschool child	Birth to 3-year-old child
Spring 2013 ECEAP: At or Above Age Level	74%	16%	4%
Spring 2013 ECEAP: Below Age Level	3%	2%	1%

Figure 3: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Social Emotional

Percentages displayed are percentages of all children.



Social Emotional: Objectives and Dimensions	
ECEAP	WaKIDS
1. Regulates own emotions and behaviors a. Manages feelings b. Follows limits and expectations c. Takes care of own needs appropriately	1. Regulates own emotions and behaviors b. Follows limits and expectations c. Takes care of own needs appropriately
2. Establishes and sustains positive relationships a. Forms relationships with adults b. Responds to emotional cues c. Interacts with peers d. Makes friends	2. Establishes and sustains positive relationships c. Interacts with peers d. Makes friends
3. Participates cooperatively and constructively in group situations a. Balances needs and rights of self and others b. Solves social problems	

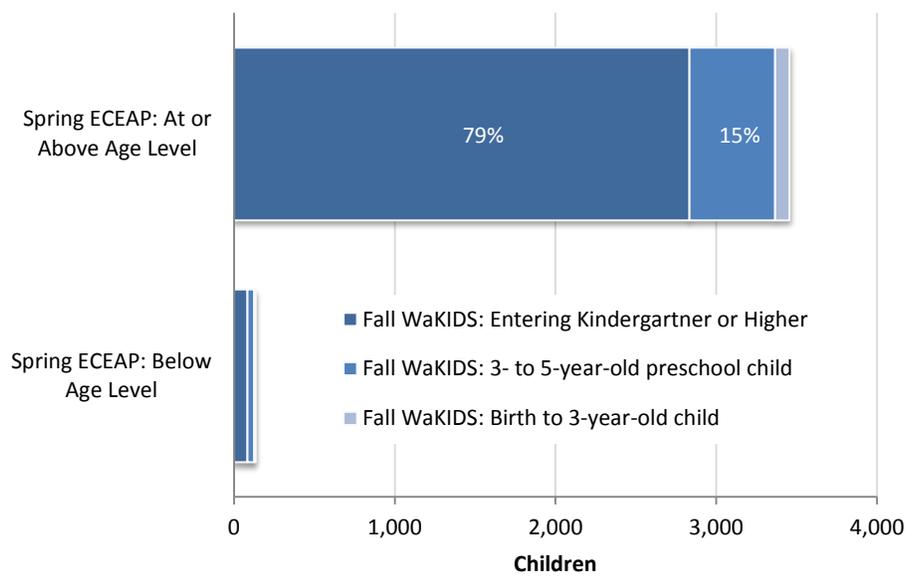
DEVELOPMENTAL AREA: PHYSICAL

Table 4: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Physical

GOLD® Level Physical	Fall 2013 WaKIDS		
	Entering Kindergarten or Higher	3- to 5-year-old preschool child	Birth to 3-year-old child
Spring 2013 ECEAP: At or Above Age Level	79%	15%	2%
Spring 2013 ECEAP: Below Age Level	2%	1%	0-1%

Figure 4: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Physical

Percentages displayed are percentages of all children.



Physical: Objectives and Dimensions	
ECEAP	WaKIDS
4. Demonstrates traveling skills	4. Demonstrates traveling skills
5. Demonstrates balancing skills	5. Demonstrates balancing skills
6. Demonstrates gross-motor manipulative skills	6. Demonstrates gross-motor manipulative skills
7. Demonstrates fine-motor strength and coordination	7. Demonstrates fine-motor strength and coordination
a. Uses fingers and hands	a. Uses fingers and hands
b. Uses writing and drawing tools	b. Uses writing and drawing tools

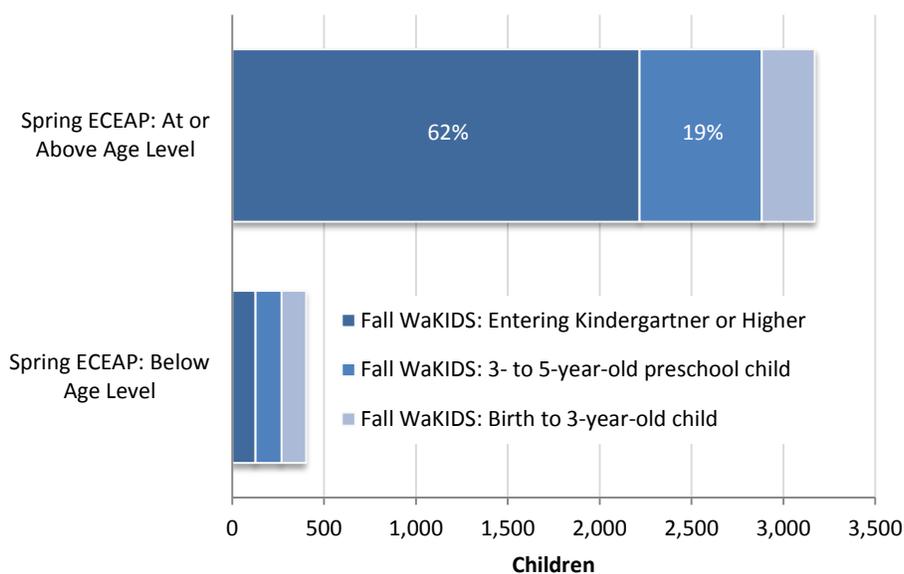
DEVELOPMENTAL AREA: LANGUAGE

Table 5: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Language

GOLD® Level Language	Fall 2013 WaKIDS		
	Entering Kindergarten or Higher	3- to 5-year-old preschool child	Birth to 3-year-old child
Spring 2013 ECEAP: At or Above Age Level	62%	19%	8%
Spring 2013 ECEAP: Below Age Level	4%	4%	4%

Figure 5: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Language

Percentages displayed are percentages of all children.



Language: Objectives and Dimensions	
ECEAP	WaKIDS
8. Listens to and understands increasingly complex language a. Comprehends language b. Follows directions	
9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly c. Uses conventional grammar d. Tells about another time or place	9. Uses language to express thoughts and needs a. Uses an expanding expressive vocabulary b. Speaks clearly c. Uses conventional grammar d. Tells about another time or place
10. Uses appropriate conversational and other communication skills a. Engages in conversations b. Uses social rules of language	10. Uses appropriate conversational and other communication skills a. Engages in conversations b. Uses social rules of language

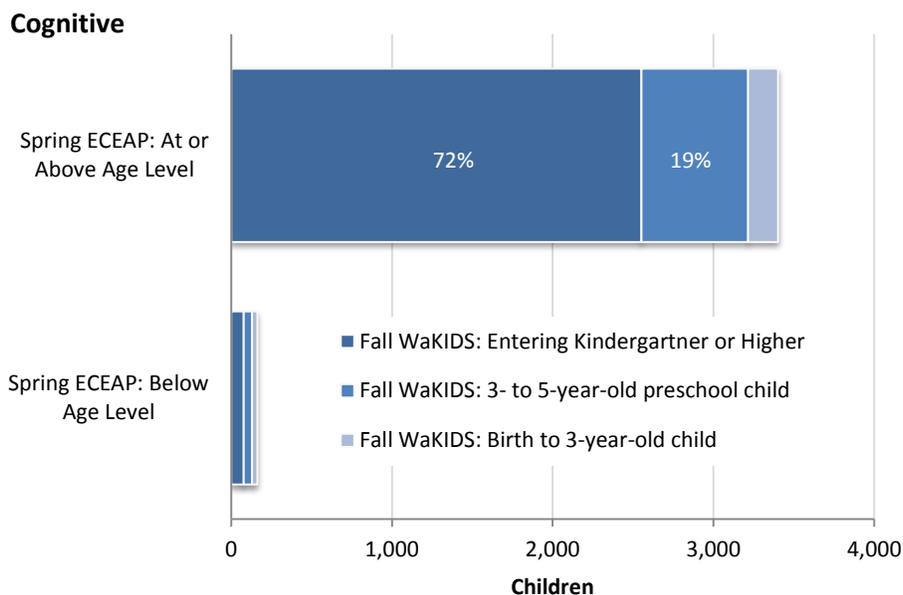
DEVELOPMENTAL AREA: COGNITIVE

Table 6: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Cognitive

GOLD® Level Cognitive	Fall 2013 WaKIDS		
	Entering Kindergarten or Higher	3- to 5-year-old preschool child	Birth to 3-year-old child
Spring 2013 ECEAP: At or Above Age Level	72%	19%	5%
Spring 2013 ECEAP: Below Age Level	2%	1%	1%

Figure 6: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Cognitive

Percentages displayed are percentages of all children.



Cognitive: Objectives and Dimensions	
ECEAP	WaKIDS
11. Demonstrates positive approaches to learning a. Attends and engages b. Persists c. Solves problems d. Shows curiosity and motivation e. Shows flexibility and inventiveness in thinking	11. Demonstrates positive approaches to learning c. Solves problems d. Shows curiosity and motivation e. Shows flexibility and inventiveness in thinking
12. Remembers and connects experiences a. Recognizes and recalls b. Makes connections	12. Remembers and connects experiences a. Recognizes and recalls
13. Uses classification skills	13. Uses classification skills
14. Uses symbols and images to represent something not present a. Thinks symbolically b. Engages in socio-dramatic play	

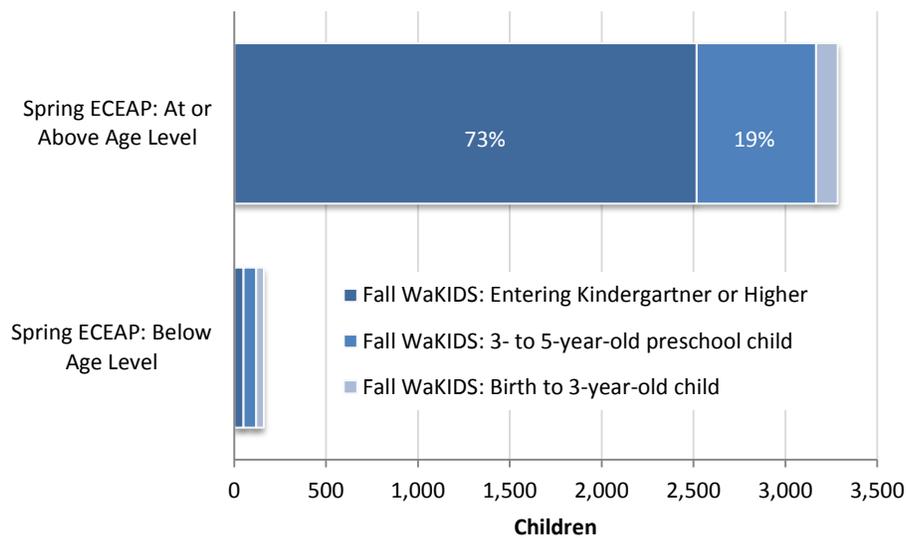
DEVELOPMENTAL AREA: LITERACY

Table 7: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Literacy

GOLD® Level Literacy	Fall 2013 WaKIDS		
	Entering Kindergarten or Higher	3- to 5-year-old preschool child	Birth to 3-year-old child
Spring 2013 ECEAP: At or Above Age Level	73%	19%	3%
Spring 2013 ECEAP: Below Age Level	1%	2%	1%

Figure 7: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Literacy

Percentages displayed are percentages of all children.



Literacy: Objectives and Dimensions	
ECEAP	WaKIDS
15. Demonstrates phonological awareness a. Notices and discriminates rhyme b. Notices and discriminates alliteration c. Notices and discriminates smaller and smaller units of sound	15. Demonstrates phonological awareness a. Notices and discriminates rhyme b. Notices and discriminates alliteration c. Notices and discriminates smaller and smaller units of sound
16. Demonstrates knowledge of the alphabet a. Identifies and names letters b. Uses letter–sound knowledge	16. Demonstrates knowledge of the alphabet a. Identifies and names letters b. Uses letter–sound knowledge
17. Demonstrates knowledge of print and its uses a. Uses and appreciates books b. Uses print concepts	17. Demonstrates knowledge of print and its uses b. Uses print concepts
18. Comprehends and responds to books and other texts a. Interacts during read-alouds and book conversations b. Uses emergent reading skills c. Retells stories	18. Comprehends and responds to books and other texts a. Interacts during read-alouds and book conversations b. Uses emergent reading skills c. Retells stories
19. Demonstrates emergent writing skills a. Writes name b. Writes to convey meaning	19. Demonstrates emergent writing skills a. Writes name b. Writes to convey meaning

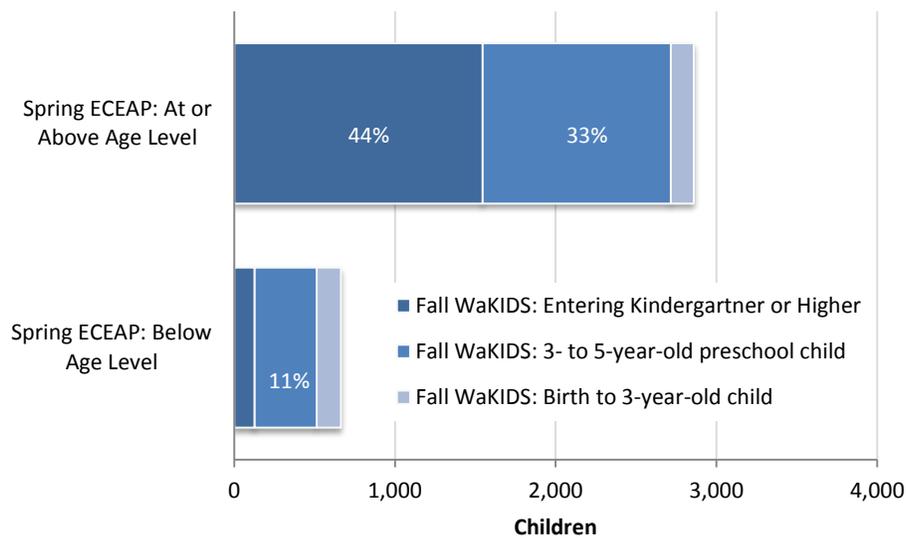
DEVELOPMENTAL AREA: MATHEMATICS

Table 8: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Mathematics

GOLD® Level Mathematics	Fall 2013 WaKIDS		
	Entering Kindergarten or Higher	3- to 5-year-old preschool child	Birth to 3-year-old child
Spring 2013 ECEAP: At or Above Age Level	44%	33%	4%
Spring 2013 ECEAP: Below Age Level	4%	11%	4%

Figure 8: Spring 2013 ECEAP GOLD® level and Fall 2013 WaKIDS level: Mathematics

Percentages displayed are percentages of all children.



Mathematics: Objectives and Dimensions	
ECEAP	WaKIDS
20. Uses number concepts and operations a. Counts b. Quantifies c. Connects numerals with their quantities	20. Uses number concepts and operations a. Counts b. Quantifies c. Connects numerals with their quantities
21. Explores and describes spatial relationships and shapes a. Understands spatial relationships b. Understands shapes	21. Explores and describes spatial relationships and shapes b. Understands shapes
22. Compares and measures	22. Compares and measures
23. Demonstrates knowledge of patterns	

Next Steps

ERDC will work with DEL, OSPI, and early learning providers to develop the structure and content of P20W reports for early learning providers. The process and resulting products will be similar to the previously-developed *P20 Reports on Washington Public High School Graduates*.¹³ Incorporation of the linked ECEAP and WaKIDS assessment data will be one element of these feedback reports.

For program evaluation, ECEAP children would need to be compared to children with similar family income and demographic characteristics who did not participate in a similar program. At this time, ERDC does not have program participation data for other programs serving low-income children, making the establishment of comparison groups for the evaluation of ECEAP challenging. ERDC will continue to work with DEL in this area.

¹³ *P20 Reports on Washington Public High School Graduates*. Washington State Education Research and Data Center. <<http://www.erdcddata.wa.gov/>>.