Minnesota School Readiness Study:

Developmental Assessment at Kindergarten Entrance

Fall 2010

Acknowledgements

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The Minnesota School Readiness Study: Developmental Assessment at Kindergarten Entrance Fall 2010 was planned, implemented, and the report prepared by the Minnesota Department of Education (MDE).

Special thanks to the 108 elementary schools involved in the study, their principals, kindergarten teachers, support staff and superintendents. The observation and collection of developmental information by teachers on kindergarten children in the classroom was essential to the study and is much appreciated.

All analyses in this report were conducted by the Human Capital Research Collaborative (HCRC), a partnership between the University of Minnesota and the Federal Reserve Bank of Minneapolis.

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Background

Minnesota School Readiness Study: Developmental Assessment at Kindergarten Entrance - Fall 2010

Research has shown, and continues to show, that there is a critical relationship between early childhood experiences, school success, and positive life-long outcomes. This research has been a focal point for many states as they strive to reduce the growing achievement gap between less advantaged students and their same-aged peers in the educational system.

With no systematic process in place to assess children's school readiness, the Minnesota Department of Education (MDE) in 2002 initiated a series of three yearly studies focused on obtaining a picture of the school readiness of a representative sample of Minnesota entering kindergartners. Also, the series of studies was to evaluate changes in the percentage of children fully prepared for school at kindergarten entrance. The studies were well-received by the public, and during the 2006 Minnesota state legislative session, funding was appropriated for the study to be continued on an annual basis.

This report describes findings from the assessment of school readiness using a representative sample of children entering kindergarten in Minnesota in Fall 2010. The data provide a picture of the ratings of entering kindergartners across five domains of child development. The study provides information on school readiness for parents; school teachers and administrators; early childhood education and care teachers, providers and administrators; policymakers; and the public.

Definition of School Readiness

For purposes of the study, "school readiness" is defined as the skills, knowledge, behaviors and accomplishments that children should know and be able to do as they enter kindergarten in the following areas of child development: physical development; the arts; personal and social development; language and literacy; and mathematical thinking.

Assessing School Readiness

The study is designed to capture a picture of the readiness of Minnesota children as they enter kindergarten and track readiness trends over time. To ensure that results are reliable and can be generalized to the entire population of Minnesota kindergartners, the study uses a 10 percent sample of schools with entering kindergartners. This sample size generates data from approximately 6,000 kindergartners annually.

The study uses the Work Sampling System (WSS®), a developmentally appropriate, standards-based observational assessment that allows children to demonstrate their knowledge and skills in various ways and across developmental domains.

WSS® is aligned with the state's early learning standards, Minnesota Early Childhood Indicators of Progress, and the K-12 Academic Standards. See Appendix A.

Each domain and developmental indicator within the WSS® Developmental Checklist includes expected behaviors for children at that age or grade level. For each indicator, teachers used the following guidelines to rate the child's performance:

Proficient — indicating that the child can reliably and consistently demonstrate the skill, knowledge, behavior or accomplishment represented by the performance indicator.

In Process — indicating that the skill, knowledge, behavior or accomplishment represented by the indicator are intermittent or emergent, and are not demonstrated reliably or consistently.

Not Yet — indicating that the child cannot perform the indicator (i.e., the performance indicator represents a skill, knowledge, behavior or accomplishment not yet acquired).

Because children's rate of development is variable, the study assesses children's proficiency within and across the developmental domains.

Rubrics for each rating level were distributed to teachers at the start of the study. The rubrics, provided by the publisher and revised in 2009, provide additional detail for each indicator for a *Not Yet, In Process* or *Proficient* rating.

Partnership with the Human Capital Research Collaborative

Throughout 2010, MDE worked in partnership with the Human Capital Research Collaborative (HCRC) to better understand the relationship between kindergarten entry results and future academic achievement. HCRC is a partnership of the University of Minnesota and the Federal Reserve Bank of Minneapolis. It was important to assess the predictive validity of Minnesota's school readiness indicators and determine the degree to which the School Readiness Study checklist added additional weight beyond demographics towards the likelihood of passing Grade 3 MCAs. Work was conducted to determine which type of measure from the checklist best predicted Grade 3 MCA results. Findings centered on children who reach 75 percent of the total possible points on the checklist having a greater likelihood in passing Grade 3 MCAs. While national research

over decades has pointed to the relationship between early experiences and academic success, it is instructive to have a reference standard within the existing checklist.

Based on data from Kindergarten cohorts in 2003, 2004, and 2006 who had available achievement test scores in third grade or information on remedial education, HCRC found that the School Readiness Study checklist, including the 75 percent standard, significantly and consistently predicted third-grade MCA reading and math test scores and the need for school remedial services (special education or grade retention) above and beyond the influence of child and family background characteristics. The strength of prediction was consistent across a range of child and family characteristics (e.g., family income, gender, and race/ethnicity). For more information on this report, go to: http://www.humancapitalrc.org/mn_school_readiness_indicators.pdf

2010 Recruitment

MDE contacted superintendents, principals and teachers beginning mid-winter to build the sample for the coming fall. A list of all public schools with kindergartners as of October 1 the previous year was compiled. The list was divided into eight strata which accounts for proximity to population centers and population density and separated charter and magnet schools. A representative sample of schools within each strata was invited to participate via a mailed invitation to the superintendent and principal of each site. Follow-up calls were made to each site to answer questions. In 2010, 55 percent (495/900) of all schools were invited to participate. Approximately 24 percent (120/495) of those invited responded positively to the initial invitation. In late spring, schools are selected to be released from the cohort when student counts exceed the sample amount. In 2010, no schools were released. By November, 12 percent of all elementary schools (108/900) submitted child-level data.

The following table shows the total kindergarten population compared to the sample population. The sample seeks to be representative of all public schools including charters and magnets across federally mandated demographic categories. (See Table 1.)

Table 1 - Kindergarten Population Compared to the Sample

	State Kindergarten Enrollment	Study Sample
American Indian	2.3%	5.4%
Asian	7.1%	5.6%
Hispanic	8.5%	7.0%
Black	10.9%	8.8%
White	71.1%	71.7%
Limited English Proficiency	11.7%	6%
Special Education	10.4%	7%

2010 Results

A total of 5,838 kindergartners from 108 selected elementary schools across the state were included in the Fall 2010 cohort. This reflects 9.2 percent of the entering kindergartners for the 2010-2011 school year. Of these children, 5,654 students had all WSS indicators completed for analysis. For the Fall of 2010, 60 percent of Minnesota's kindergartners reached the 75 percent standard. For selected categories, see Chart 1. The selected categories in Chart 1 are based on the statistically significant categories from the regression. The regression is discussed in more detail on page 9.

The domain rankings by proficiency for the 2010 cohort are reordered with previous years of the study. (See Table 2 and Chart 2.) Physical Development had the highest percentage of children assessed *Proficient* on average, followed in order by Language & Literacy; The Arts; Personal and Social Development and Mathematical Thinking. Indicator order within each domain changed only slightly from 2009 in Mathematical Thinking; Personal and Social Development and Language and Literacy. (See Table 3.) Proficiency by domain is defined as the average percent proficient across indicators within each domain.

It is important to note that while there are trends towards increases in estimates of *Proficient* results, the trends are not outside the margin of error. Also, the existing data set does not allow for examination of potential reasons for shifts.

Table 2 - Results By Domain

Domain/Result	Proficient	Margin of Error
Physical Development	70%	2.7%
Language & Literacy	59%	2.9%
The Arts	56%	2.9%
Personal & Social Development	56%	2.9%
Mathematical Thinking	52%	2.9%

Note categories are adjusted for stratified cluster sampling.

The 75 percent standard is defined as the percent reaching at least 75 percent of the possible points on the checklist, a predictor of grade 3 MCAs.

75 Percent Standard	60%	2.9%

Chart 1 – Percent of Students Reaching 75 Percent Standard by Selected Sub-Categories

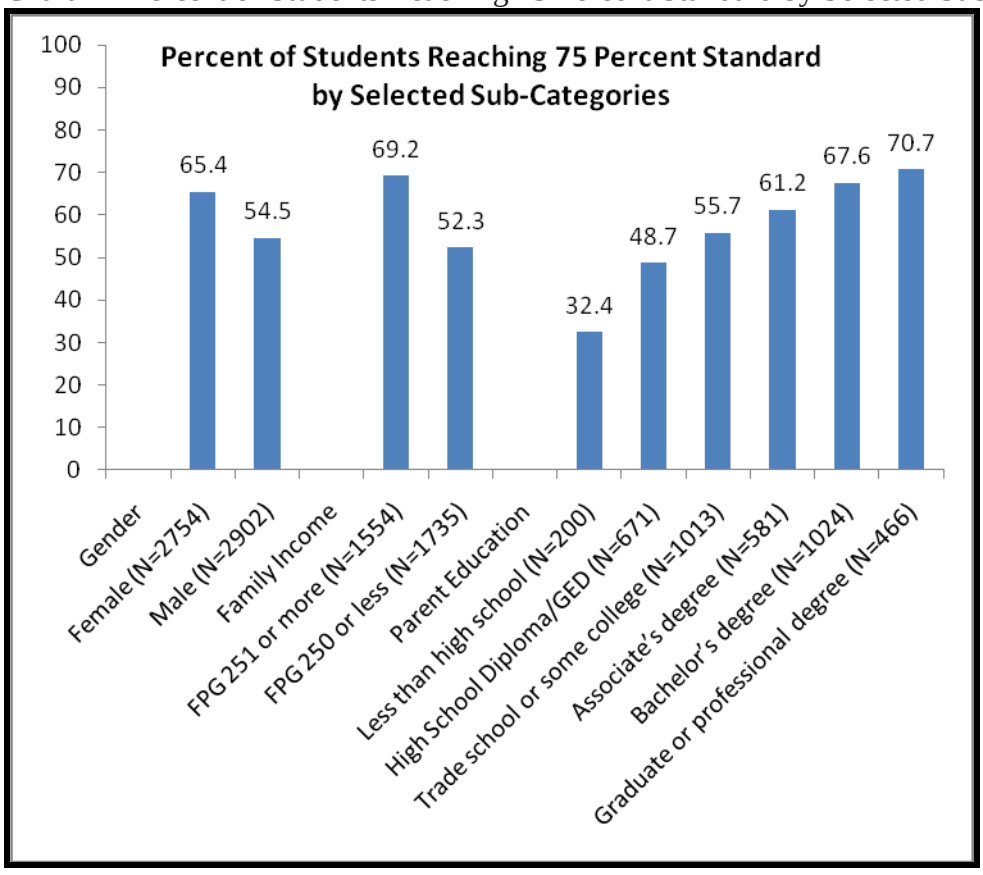
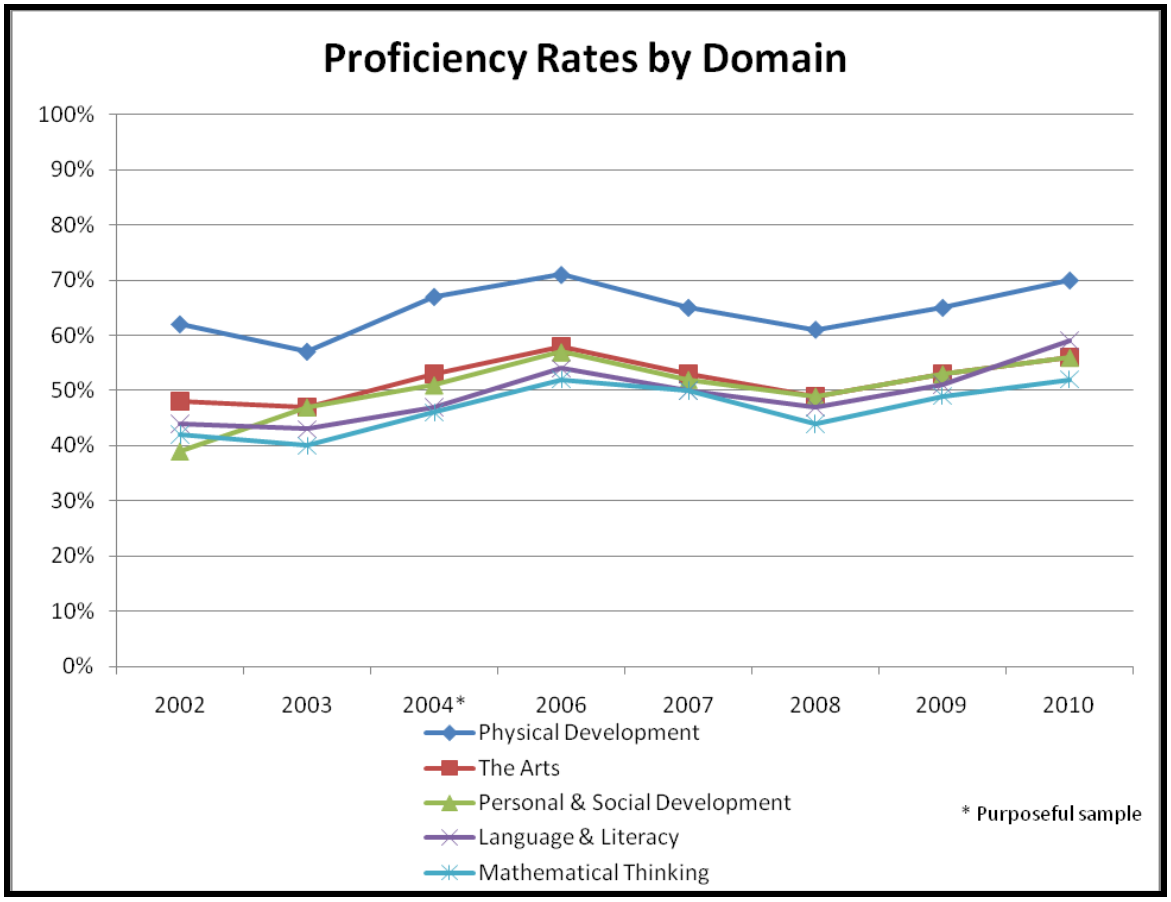


Table 3 Domain & Indicator Results -
Ranked by Proficiency

Physical Development	Percent Proficient
Physical Development Average Score Summary	70%
Performs some self-care tasks independently.	73%
Coordinates movements to perform simple tasks.	71%
Uses eye-hand coordination to perform tasks.	67%
The Arts	
The Arts Domain Average Score Summary	56%
Participates in group music experiences.	63%
Participates in creative movement, dance and drama.	60%
Uses a variety of art materials for tactile experience and exploration.	59%
Responds to artistic creations or events.	56%
Personal and Social Development	
Personal and Social Development Domain Average Score Summary	56%
Interacts easily with familiar adults.	63%
Shows eagerness and curiosity as a learner.	62%
Interacts easily with one or more children.	62%
Shows empathy and caring for others.	60%
Follows simple classroom rules and routines.	58%
Manages transitions.	57%
Shows some self-direction.	56%
Seeks adult help when needed to resolve conflicts.	53%
Attends to tasks and seeks help when encountering a problem.	52%
Approaches tasks with flexibility and inventiveness.	50%

Language and Literacy	
Language and Literacy Domain Average Score Summary	59%
Shows appreciation for books and reading.	66%
Speaks clearly enough to be understood without contextual clues.	65%
Shows beginning understanding of concepts about print.	61%
Comprehends and responds to stories read aloud.	60%
Begins to develop knowledge about letters.	60%
Gains meaning by listening.	59%
Represents ideas and stories through pictures, dictation and play.	57%
Follows two- or three-step directions.	55%
Uses expanded vocabulary and language arts for a variety of purposes.	52%
Uses letter-like shapes, symbols and letters to convey meaning.	52%
Demonstrates phonological awareness.	21%
Mathematical Thinking	
Mathematical Thinking Domain Average Score Summary	52%
Begins to recognize and describe the attributes of shapes.	60%
Shows beginning understanding of number and quantity.	58%
Shows understanding of and uses several positional words.	57%
Begins to use simple strategies to solve mathematical problems.	50%

Chart 2 – Proficiency Rates by Domain



Descriptive Results

The 2010 cohort was also analyzed for descriptive results based on single demographic categories. For example, to report under the income charts, all parents are included in the under 100 percent Federal Poverty Guidelines grouping without controlling for education status, home language or race/ethnicity. The family survey asks parents to select all race/ethnicity categories that are relevant for their child. If multiple categories are selected, the child will be represented in the appropriate categories. A similar process was followed for primary home languages. The percent within each demographic category reaching the 75 percent standard are reported in Appendix B.

Family Survey Results

As part of the study process, families are asked to complete a voluntary survey. This information is

combined with the Work Sampling System® checklist results (see Appendix C). In total, 4,932 parents (84 percent) completed the survey. Of this group, 4,695 responses (95 percent) were usable for analysis. (A parent survey may not be usable for analysis because it was incomplete, the student information strip was incomplete or the survey lacked coordinating information in Work Sampling Online (WSO).) After matching the family survey data with Work Sampling Online results, 4,168 records remained for regression analysis. This is 85 percent of all submitted parent surveys and 89 percent of those available to match.

Logistic Regression Results

The analysis of the data included examining how a particular child or family characteristic may affect that child's ratings while controlling for the effects of other demographic variables with which it may be confounded (e.g., a child from a family with a lower household income is more likely to have a parent with a lower education level). The result of reaching the 75 percent proficiency standard across all domains was analyzed with respect to the demographic characteristics of gender, parent education level, household income, primary home language and race and ethnicity collected from parent surveys. (See Table 4 and Appendix D.) For comparison to previous years, see Appendix E.

All 2010 analyses reported involved statistical estimation procedures that reflect the stratified cluster sampling design used (with school as the primary sampling unit), and include correction for finite population sampling. Observations within each stratum were weighted to reflect the statewide proportion of students in the stratum.

Table 4 - Statistically Significant Factors in Reaching the 75 Percent Standard

Household Income
Parent Education Level
Gender

Note: predictors significant at $p < .05$

Household Income

The odds of reaching the 75 percent standard for a student whose household income was at or above 400 percent of the Federal Poverty Guidelines (FPG) were more than one and a half times as great as compared to a student whose household income was less than 250 percent FPG when holding all other variables constant. The odds of reaching the 75 percent standard for a student whose household income was 250-400 percent FPG are nearly one and half times as great as compared to a student whose household income is up to 250

percent FPG. This result is statistically significant.

Parent Education Level

Parent education level was found to be statistically significant in reaching the 75 percent standard. Students whose parents have a high school degree are twice as likely to reach the 75 percent standard as compared to students whose parents have less than a high school degree. Students with parents who have a an Associate degree, Bachelor or graduate degree are approximately one and a half times as likely to reach the 75 percent standard as compared to students whose parents who have a high school diploma or GED.

Primary Home Language

Primary home language was not found to be statistically significant in reaching the 75 percent standard when holding all other variables constant.

Race and Ethnicity

Parent-report of race and ethnicity was not a statistically significant factor in reaching the 75 percent standard when holding all other variables constant. Minority status as an overall category was marginally significant.

Gender

Gender continues to be a statistically significant factor. The odds of reaching the 75 percent standard for females were up to one and a third times greater, as compared to males.

Principal and Teacher Surveys

As in previous years, the success of the study rested with the willingness of school principals and kindergarten teachers to participate. Participating school principals and kindergarten teachers were again given surveys to complete regarding their decision to participate, barriers to participation, and the associated workload and benefits. The following information is based upon the response of 35 principals (108 possible responses or 32 percent) and 165 kindergarten teachers (288 potential responses or 57 percent).

Principal Perspectives

Principals reported two primary benefits of participating in the study: helping influence statewide policy (100 percent) and gaining information about where students are at the beginning of the school year (69 percent). Reported barriers for participation included

adding to existing teacher workloads (63 percent). Principals balanced the need of the project with competing needs by having more experienced teachers mentor newer teachers, paying teachers for their extra time and shifting staff development resources. Principals will use the information gained from the study to identify children's needs earlier in the year (50 percent). Principals using Work Sampling Online (WSO) reported that the online training was easy to access. A majority of principals (84 percent) reported receiving the appropriate amount of information prior to and during their participation.

Teacher Perspectives

A vast majority of teachers (86 percent) responded that contributing to a study that will influence statewide early childhood policy was of benefit to them. The same percent reported receiving a $200 stipend as a benefit. Others reported the benefit of gaining information about where students are at the beginning of the school year (68 percent). A little over one-third of the teachers reported that collecting the parent surveys was a challenge for them (37 percent). On a follow-up question, 80 percent responded that they were able to implement the parent survey with great to moderate ease. Thirty-one percent had no challenges implementing the study. Teachers reported that the study took a minimal (12 percent) to average (72 percent) amount of work for a special project.

Teachers report planning to use the information to identify children's needs earlier in the year (46 percent) and helping them target instruction (47 percent). Regarding the use of technology, 96 percent report great to moderate ease in accessing WSO and the Web-based orientation.

Teachers report receiving adequate levels of information prior to (95 percent) and during the study (98 percent). They also report receiving adequate support from MDE (92 percent) throughout the study period. Currently, 28 percent of teachers use Work Sampling in their schools, 35 percent report planning to continue using WSO after the study period. Approximately one-third of all teachers report using locally designed assessment tools in additional to the Work Sampling System®.

Limitations

Because children develop and grow along a continuum but at varied rates, the goal of the study is to assess children's proficiency within and across these developmental domains over time and not establish whether or not children, individually or in small groups, are ready for school with the use of a "ready" or "not ready" score. Nor is the study's goal to provide information on the history or the future of an individual student.

Recent national reports have discussed the complexities in the development of state-level accountability systems. Taking Stock: Assessing and Improving Early Childhood

Learning and Program Quality (2007) and The National Academy of Science report *Early Childhood Assessment: Why, What and How?* (2008) details the necessary steps to use authentic assessment results, also referred to as instructional assessments, in accountability initiatives. The National Academy of Science reports that even in upper grades, extreme caution is needed in relying exclusively on child assessment and that for children birth to five "even more extreme caution is needed."

Discussion

In line with national research, family household income and parent education was found to be predictive in reaching the 75 percent standard. Race/Ethnicity as an overall category was marginally significant but not significant for individual groups and Gender is predictive in reaching the 75 percent standard.

Recommendations

1. Continue to work toward improving the quality of early childhood education and care programs in Minnesota by emphasizing the importance of teacher-child interactions and content-driven, intentional curriculum and instruction. Build on the 10 Essential Elements of Effective Early Childhood Programs and Governor Dayton's 7-Point Plan for Achieving Excellence.

2. Target intervention strategies to children assessed as Not Proficient, especially in the areas of literacy and mathematics. Implement compensatory strategies as soon as a child's need is identified. Work with the Governor's Early Learning Council to identify staged implementation strategies to maximize resources.

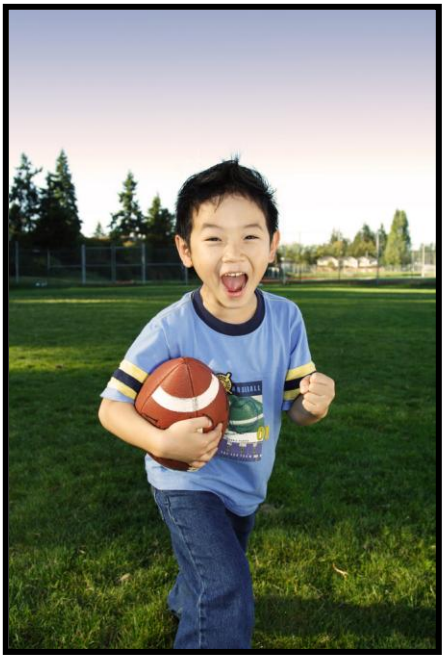
3. Support more children in their efforts to read well by third grade by focusing state policies on young children's language and literacy development.

4. Strengthen teacher-child interactions to improve learning by implementing professional development that includes teacher observation and development.

5. Individualize instruction by using assessment information to design classroom experiences.

6. Use child progress assessment information when teachers talk with parents about setting goals for children.

7. Increase collaborations from early childhood through Grade 3 at the teacher, director, principal and superintendent levels. Identify district and state policy opportunities to promote this work.



8. Consider collecting information on prior early care and education experiences and incorporating that information into the early childhood longitudinal data system. Results from the 2010 prior experience data pilot need to be considered when planning for the future.

Early Learning Council

The Early Childhood Advisory Council (ECAC), seated from December 2008 to January 2011, looked to the annual School Readiness study as one measure of state progress on early learning. The Council was reauthorized and renamed the Early Learning Council by Governor Dayton's Executive Order 11-05. Read the Executive Order on the Governor's website. The newly formed Early Learning Council (ELC) may continue to look to the results of the study to guide school readiness policy.

For further reading

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Appendices

A. **Sample Work Sampling System® Developmental Checklist (Minnesota P4)**

B. **Work Sampling System Subgroup Analysis with Sampling Weight (2010)**

C. **Family Survey (English)**

D. **Logistic Regression Predicting Proficiency at the 75 Percent Standard (Weighted)**

E. **Statistically Significant Factors from Logistic Regression**

FOR TEACHER COMPLETION ONLY

The Work Sampling System.

The Minnesota Work Sampling System® Kindergarten Entry Developmental Checklist

INSTRUCTIONS

CORRECT: ●
INCORRECT: ✓ ✗ ◒ ⊙

USE A NO. 2 PENCIL ONLY

Choose One
○ FEMALE ○ MALE

Does this student have an IEP or IIIP? ○ yes ○ no

BLDG CODE	MARSS CODE	DATE OF BIRTH Month	DATE OF BIRTH Year
			19

LEGEND

Ⓝ **Not Yet**—child cannot demonstrate indicator

Ⓘ **In Process**—child demonstrates indicator intermittently

Ⓟ **Proficient**—child can reliably demonstrate indicator

The Work Sampling System ***Preschool–4 Developmental Guidelines*** (4th edition) contains full descriptions of each performance indicator. (Number in parentheses indicates the page in the Guidelines where the indicator is described.)

I Personal and Social Development

A Self concept — Fall

1 Shows some self-direction. (p. 1) Ⓝ Ⓘ Ⓟ

B Self control — Fall

1 Follows simple classroom rules and routines. (p. 1) Ⓝ Ⓘ Ⓟ
2 Manages transitions. (p. 2) Ⓝ Ⓘ Ⓟ

C Approaches to learning — Fall

1 Shows eagerness and curiosity as a learner. (p. 2) Ⓝ Ⓘ Ⓟ
2 Attends to tasks and seeks help when encountering a problem. (p. 2) Ⓝ Ⓘ Ⓟ
3 Approaches tasks with flexibility and inventiveness. (p. 3) Ⓝ Ⓘ Ⓟ

D Interaction with others — Fall

1 Interacts easily with one or more children. (p. 3) Ⓝ Ⓘ Ⓟ
2 Interacts easily with familiar adults. (p. 3) Ⓝ Ⓘ Ⓟ
3 Shows empathy and caring for others. (p. 4) Ⓝ Ⓘ Ⓟ

E Social problem-solving — Fall

1 Seeks adult help when needed to resolve conflicts. (p. 4) Ⓝ Ⓘ Ⓟ

II Language and Literacy

A Listening — Fall

1 Gains meaning by listening. (p. 5) Ⓝ Ⓘ Ⓟ
2 Follows two- or three-step directions. (p. 5) Ⓝ Ⓘ Ⓟ
3 Demonstrates phonological awareness. (p. 5) Ⓝ Ⓘ Ⓟ

B Speaking — Fall

1 Speaks clearly enough to be understood without contextual clues. (p. 6) Ⓝ Ⓘ Ⓟ
2 Uses expanded vocabulary and language for a variety of purposes. (p. 6) Ⓝ Ⓘ Ⓟ

C Reading — Fall

1 Shows appreciation for books and reading. (p. 6) Ⓝ Ⓘ Ⓟ
2 Shows beginning understanding of concepts about print. (p. 7) Ⓝ Ⓘ Ⓟ
3 Begins to develop knowledge about letters. (p. 7) Ⓝ Ⓘ Ⓟ
4 Comprehends and responds to stories read aloud. (p. 7) Ⓝ Ⓘ Ⓟ

D Writing — Fall

1 Represents ideas and stories through pictures, dictation, and play. (p. 8) Ⓝ Ⓘ Ⓟ
2 Uses letter-like shapes, symbols, and letters to convey meaning. (p. 8) Ⓝ Ⓘ Ⓟ

III Mathematical Thinking

A Mathematical processes — Fall

1 Begins to use simple strategies to solve mathematical problems. (p. 11) Ⓝ Ⓘ Ⓟ

B Number and operations — Fall

1 Shows beginning understanding of number and quantity. (p. 11) Ⓝ Ⓘ Ⓟ

C Geometry and spatial relations — Fall

1 Begins to recognize and describe the attributes of shapes. (p. 12) Ⓝ Ⓘ Ⓟ
2 Shows understanding of and uses several positional words. (p. 12) Ⓝ Ⓘ Ⓟ

IV The Arts

A Expression and representation — Fall

1 Participates in group music experiences. (p. 21) Ⓝ Ⓘ Ⓟ
2 Participates in creative movement, dance, and drama. (p. 21) Ⓝ Ⓘ Ⓟ
3 Uses a variety of art materials for tactile experience and exploration. (p. 21) Ⓝ Ⓘ Ⓟ

B Understanding and appreciation — Fall

1 Responds to artistic creations or events. (p. 22) Ⓝ Ⓘ Ⓟ

V Physical Development and Health

A Gross motor development — Fall

1 Coordinates movements to perform simple tasks. (p. 23) Ⓝ Ⓘ Ⓟ

B Fine motor development — Fall

1 Uses eye-hand coordination to perform tasks. (p. 24) Ⓝ Ⓘ Ⓟ

C Personal health and safety — Fall

1 Performs some self-care tasks independently. (p. 24) Ⓝ Ⓘ Ⓟ

For teacher use only

K
Minnesota Edition

Appendix B

Work Sampling System Subgroup Analysis with Sampling Weight (2010)

	75% Overall Proficiency (weighted)
All children	59.9
Race/ethnicity	
White (N=2841)	62.7
Asian/ Native Hawaiian/Pacific Islander (N=221)	62.0
Black/African/African American (N=349)	57.0
Other (N=64)	53.8
American Indian/Alaskan Native (N=203)	44.4
Hispanic/Latino (N=278)	43.6
Gender	
Female (N=2754)	65.4
Male (N=2902)	54.5
IEP Status (Special education)	
No (N=5258)	61.9
Yes (N=398)	29.9
Family Income	
Over 250% Federal Poverty Guideline (N=1554)	69.2
250% Federal Poverty Guideline and under (N=1735)	52.3
Parent Education	
Less than high school (N=200)	32.4
High School Diploma/GED (N=671)	48.7
Trade school or some college (N=1013)	55.7
Associate's degree (N=581)	61.2
Bachelor's degree (N=1024)	67.6
Graduate or professional degree (N=466)	70.7
Strata	
1 – Minneapolis and St. Paul (N=655)	57.4
2 – 7 country metro excluding MSP[1] (N=1551)	69.3
3 – Outstate enrollment 2,000+ (N=1306)	51.5
4 – Outstate enrollment 1,000-1,999 (N=1092)	45.9
5 - Outstate enrollment 500-999 (N=605)	52.4
6 - Outstate enrollment <500 (N=445)	63.6

* Note, 250% FPG for a family of four for this time period is $55,125.

[1] The seven county metro area includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties.

Appendix C

Parent Survey - Minnesota School Readiness Study

1. Please indicate whether you are this child's:

   ___ Mother ___ Father ___ Other

2. Your highest level of school completed? Mark only one.

   ___ Less than high school
   ___ High school diploma/GED
   ___Trade school or some college beyond high school
   ___ Associate degree
   ___ Bachelor's degree
   ___ Graduate or professional school degree

3. Your household's total yearly income before taxes from January-December last year? Round to the nearest thousand.

   $_____

4. How many people are currently in your household?

   1 2 3 4 5 6 7 8 Indicate:_____

5. Race/ethnicity of your kindergarten child? Mark all that apply.

   ___ Black/African/African American
   ___ American Indian/Alaskan Native
   ___ Asian
   ___ Native Hawaiian or other Pacific Islander
   ___ Hispanic or Latino
   ___ White/Caucasian
   ___ Other

6. What language does your family speak most at home?

   ___ English __ Vietnamese
   ___ Spanish __ Russian
   ___ Hmong __ Other
   ___ Somali

Thank you for your time in working with us on this study.

For school use only:

Dist #_____ School #_____ Gender: M F DoB: ____/____/____ MARSS: _____
(include all 13 digits, including leading zeros)

Appendix D

Logistic Regression Predicting Proficiency at the 75 Percent Standard (Weighted)

VARIABLES	b	se(b)	Wald	df	p	Odds Ratio
Less than High School	-0.67***	0.23	8.09	1	0.004	0.51
High School or GED	#					
Some Post High School	0.14	0.13	1.28	1	0.258	1.16
Associate Degree	0.37**	0.15	6.47	1	0.011	1.45
Bachelor Degree	0.54***	0.14	15.12	1	0.000	1.71
Grad/Prof Degree	0.60***	0.17	12.54	1	0.000	1.82
0-250	#					
>250-400	0.37***	0.11	11.49	1	0.001	1.44
>400	0.49***	0.12	16.95	1	0.000	1.63
Non-English	#					
English Only	0.21	0.19	1.24	1	0.266	1.24
Minority Only	-0.18	0.12	2.22	1	0.136	0.84
White and Minority	0.21	0.15	1.98	1	0.160	1.24
White Only	#					
Male	#					
Female	0.32***	0.08	15.15	1	0.000	1.37
Number of observations: 3246 # indicates reference category *** p<0.01, ** p<0.05, * p<0.1						

Appendix E

Statistically Significant Factors from Logistic Regression

Domain/Year					
	Parent Education	Percent of FPG*	Primary Home Language	Race and Ethnicity	Gender
Physical Development and Health					
2006	---		---	---	
2007	---		---	---	
2008	---			---	
2009			---	---	---
The Arts					
2006		---	---	---	
2007	---		---	---	
2008	---		---	---	
2009	---		---		---
Personal and Social Development					
2006			---	---	
2007	----		---	---	
2008	---		---		
2009	---		---	---	
Mathematical Thinking					
2006			---	---	---
2007	---			---	
2008	---			---	
2009	---		---	---	---
Language and Literacy					
2006			---	---	
2007				---	
2008	---			---	
2009	---		---	---	
75 Percent Standard					
2010			---	---	

Noted demographic is significant for specified domain and year.
* Federal Poverty Guideline is used from 2007 forward. 2006 income asked categorically.
Note – Analysis 2010 forward focused on 75 percent standard.