DHS-4362-ENG

School Readiness in Child Care Settings:

A Developmental Assessment of Children in 22 Accredited Child Care Centers

Minnesota Department of **Human Services**
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Table of Contents

List of Charts and Tables

Executive Summary

School readiness has become an important issue in every community in our state. Parents and other close family members have the strongest influence on children's success. Communities also play important roles. And for most young children in Minnesota, early childhood care and education settings are a constant and influential factor in their lives. With decades of research that documents the linkages between high quality early childhood care and education and better developmental outcomes for children, many have asked about the role of high quality, community-based child care.

Most of our state's children regularly spend time in early childhood care and education settings, with 41 percent of 3-5 year-olds in center-based child care settings (Chase and Shelton, 2001). The Minnesota Department of Human Services (DHS) piloted *School Readiness in Child Care Settings: A Developmental Assessment of Children in 22 Accredited Child Care Centers* to assess and better understand school readiness in these settings. The initiative focused on two specific questions:

- **How does readiness look for children attending these programs?** The school readiness of 226 children approaching kindergarten age in 22 accredited child care centers was assessed by specially trained teachers who had on-site supports.

- **Can child care program staff effectively use a tool to assess the school readiness of children approaching kindergarten entry?** Child care staff in accredited child care centers were trained in the use of a school readiness assessment tool to understand whether these programs could effectively use the same tool used in the previous Minnesota School Readiness Assessment studies. Of equal importance was investigating staff perceptions of the benefits and challenges of using the tool.

In addition, by using the same assessment tool, the Work Sampling System© (WSS) checklist, employed in previous statewide studies of the school readiness of children entering kindergarten, this study generates intriguing, timely and relevant information related to the readiness results of the children in this study compared with a broader population of young children in Minnesota.

The WSS checklist used in this study includes 32 indicators representing what children should know and be able to do at the end of the year before they enter kindergarten across five developmental domains – personal and social development, language and literacy, mathematical thinking, the arts and physical development and health. The 226 children in this study were observed by child care center teachers in May and June prior to the start of Kindergarten in the fall and given a rating for each indicator:

Not Yet – indicating that the child cannot perform the indicator.

In Process – the skills, knowledge, behaviors, or accomplishments are intermittent or emergent, but are not demonstrated reliably or consistently.

Proficient – the child can reliably demonstrate the skills, knowledge, behaviors, or accomplishments.

The study found:

- Almost twice as many children in the accredited child care center sample were rated as "Proficient" or school ready as compared to the statewide 2003 Minnesota School Readiness Study. Very few children in the accredited child care center sample were performing in the "Not Yet" range on any indicators within each domain.

- In general, research has found that children from higher income families typically perform better than children from lower income families. In this study of accredited centers, children from lower income families performed the same as their higher income counterparts. Children of color also performed at the same level as White/Caucasian children.

- Children from lower income families in these child care settings had much higher school readiness (proficiency) scores than lower income families in the statewide 2003 Minnesota School Readiness Study.

- In general, research has found that children with more educated parents typically perform better on achievement measures than children with less educated parents. In this study, children in the accredited child care center study did better than children in the statewide 2003 Minnesota School Readiness Study, regardless of the education level of their parents.

Based on the findings of this study, the department recommends that the following be considered:

1. Support child assessment in child care programs to support program improvement and build child care quality. Make training and technical assistance widely available on the use of Minnesota's Early Childhood Indicators of Progress for what children should know and be able to do and on child assessment and other core competencies for practitioners.

2. Pilot child assessments in other types of child care settings to explore the feasibility of expanded use of WSS and other methods to other types of child care settings.

3. Strengthen the design of future child assessment initiatives in child care settings by randomly sampling child care settings, collecting data on program quality, and strengthening and enriching knowledge of the linkages between quality programming and child readiness outcomes.

Introduction

In homes and child care settings across Minnesota, families and others who care for young children are asking "Are our children prepared for school?" School readiness has become an important issue in every community. It emerges from our desire that each child reach their full potential and our concern that some children are not arriving at the school door with all they need to thrive and succeed. Readiness has relevance to any discussion of achievement gaps and overall school performance.

Almost 69 percent of Minnesota children ages 0-5 have parents in the workforce (Child Care Action Campaign, 1999).

77 percent of Minnesota kindergarteners regularly spent time in a child care or early childhood education setting in the year before kindergarten (Minnesota Department of Education, 2004).

Parents and other close family members have the strongest influence on a young child's success when they start kindergarten. Communities too – from neighbors to houses of worship to libraries – play important roles. And for most young children in Minnesota today, their early childhood care and education setting is a constant and influential factor in their lives.

Decades of research have documented the linkages between high quality early childhood care and education and children's developmental outcomes. The results of these highly specialized and intensive programs have consistently demonstrated positive and long-term benefits for young children, especially those at-risk for poor outcomes. The majority of young children in Minnesota spend time in community-based child care settings such as child care centers, family child care homes or in the care of a grandparent or other relative. Historically, child care has been viewed as a safe place for children to stay while parents work. Today, many settings intentionally offer developmentally stimulating and enriching educational environments. Parents, policy makers and other community members understandably want to have a clearer picture of the relationships between types of care and child outcomes related to school readiness.

To gain a better understanding of early childhood care and education options and child outcomes, the Minnesota Department of Human Services (DHS) piloted the first in a series of studies to assess the school readiness of children in child care settings. Specifically, this report describes the school readiness of 226 children in 22 accredited child care centers in Minnesota. While not representative of all children in accredited child care centers, the results are descriptive and informative. The study also tested the use of an assessment tool in child care settings by offering intensive training and on-site supports to the child care teachers collecting the assessment data. Finally, by using the same assessment tool employed in a recent statewide study of the school readiness of children entering kindergarten, this new study generates intriguing, timely and relevant information related to the readiness results of the children in this study compared with a broader population of young children in Minnesota.

Parents, child care staff and providers, public school administrators, teachers and policymakers can use this study and resulting initiatives to address the developmental needs of young children and their families, particularly those at-risk for poor school performance, by improving the

quality of child care settings. Improvements can include use of assessment information to guide the decisions that child care practitioners make about curriculum and instruction and enhance the supports that parents and practitioners provide to young children. In addition, study findings and initiatives can generate new partnerships between child care programs and providers and their elementary school counterparts for the overall improvement of outcomes for young children.

Defining School Readiness

In this study, school readiness is defined as "…the skills, knowledge, behaviors and accomplishments that children know and can do as they enter kindergarten in the following areas of child development:

- Physical well-being and motor development
- Social and emotional development
- Approaches to learning
- Language development
- Cognition and general knowledge
- Creativity and the arts (Minnesota Department of Education, 2004)."

The National Education Goals Panel recognized three components of school readiness: (1) readiness in the child; (2) schools' readiness for children and (3) family and community supports and services (Child Trends, 2001; National Education Goals Panel, 1998).

This definition aligns with the early learning standards for 3 to 5-year-olds developed by the Minnesota Department of Education and Minnesota Department of Human Services in *Early Childhood Indicators of Progress: Minnesota's Early Learning Standards (2005),* new early learning standards under development for 0 to 3-year-olds and the definition developed by the National Education Goals Panel in 1998.

Study Description

Study Goals

With decades of research that document the linkages between high quality early childhood care and education and better developmental outcomes for children, many have asked about the role of high quality, community-based child care in the lives of Minnesota's youngest children. Most Minnesota children regularly spend time in early childhood care and education settings, with 41 percent of 3-5 year-olds in center-based child care settings (Chase and Shelton, 2001). The Minnesota Department of Human Services (DHS) piloted this effort to assess and better understand school readiness in these settings. The initiative focused on two specific questions:

- **How does readiness look for children attending these programs?** The school readiness of children approaching kindergarten age in these programs was assessed by teachers who had received training and on-site supports.

- **Can child care program staff effectively use a tool to assess the school readiness of children approaching kindergarten entry?** Child care staff in accredited child care centers were trained in the use of a school readiness assessment tool to understand whether these programs could effectively *use* the same tool used in the previous Minnesota School Readiness Assessment studies. Of equal importance was investigating staff perceptions of the benefits and challenges of using the tool.

Assessment using the Work Sampling System Checklist

To assess a child's readiness for school across the six developmental domains previously mentioned, DHS chose to use a customized Minnesota Work Sampling System® (WSS) Kindergarten Entry Developmental Checklist. This assessment tool is based on a set of research-based standards about what children should know and be able to do as they enter school. It was used in the 2002 and 2003 Minnesota School Readiness Assessment studies that have painted consistent pictures of the school readiness of Minnesota's children at kindergarten entry (Minnesota Department of Education, 2003 and 2004). The 2003 study is used for comparison to this study's findings. (See Appendix A for results from the 2003 study.)

The WSS checklist has been used in these studies because it is structured to avoid inappropriate "ready/not ready" conclusions about young children and acknowledges the importance of emerging skills. This is critical because the normal development of young children is so varied across domains. For example, a 5-year-old may be quite proficient in the early literacy task of using shapes, symbols and letters to convey meaning, but may have difficulty following simple classroom rules and routines, a skill included in the social and emotional development domain. In addition, WSS is an *authentic* assessment rather than an *on-demand* test that requires a child to perform a specific task at a specific time, sometimes for an unfamiliar adult (Epstein et. al., 2004). Authentic assessments are particularly valuable when assessing young children because children are, developmentally, poor test-takers in the early years. For this reason, WSS is *not* a test.

Authentic assessments meet the following criteria:

- Fair to all children regardless of culture, language background, developmental level, family background, learning style, etc.
- Uses familiar tasks and everyday classroom activities.
- Conducted in familiar settings with familiar people.
- Based on multiple sources of information.
- Continuous and on-going to show progress and growth over time. (Dichtelmiller & Jablon, 1993; Hills, 1992; Scott-Little & Niemeyer, 2001)

The WSS checklist includes 32 indicators representing what children should know and be able to do at the end of the year before they enter kindergarten across the five developmental domains (see Appendix B). Teachers -- in this case, teachers in the pilot study's preschool classrooms -- observed and documented, over a six-week period, the knowledge, skills and behaviors of children scheduled to enter kindergarten the following fall. Each indicator in the Work Sampling System is research-based and includes detailed rationales and examples to guide observation and ensure the reliability and consistency of observations (Dictelmiller, Jablon, Marsden & Meisels, 2001). Teachers used these guidelines to rate each child's performance as (Minnesota Department of Education, 2004):

Not Yet – indicating that the child cannot perform the indicator, i.e. that the performance indicator represents a skill, an area of knowledge, or a specific set of behaviors or accomplishments that the child has not acquired.

In Process – implying that the skills, knowledge, behaviors, or accomplishments represented by this indicator are intermittent or emergent, and are not demonstrated reliably or consistently.

Proficient – meaning that the child can reliably demonstrate the skills, knowledge, behaviors or accomplishments represented by this performance indicator.

High Quality Child Care: The 22 Participating Child Care Centers

Many Minnesota child care centers use formal curricula to intentionally provide education and instruction to the children in their care. This practice follows research-based recommendations put forth by experts and professional organizations such as the National Association for the Education of Young Children (NAEYC) (National Association for the Education of Young Children, 2003). Use of a formal curriculum in programs has been linked to classroom quality and is key to supporting children's readiness for school (ACF, 2003). These programs may also assess children to better plan and target instructional strategies to meet the unique needs of each child. However, the assessment tools used vary widely, prohibiting meaningful comparisons between programs. Aggregating child assessment results across child care settings to create a profile of the children in these settings is a new and important next step in studying school readiness in Minnesota. It requires the use of the *same* assessment tool so that comparable data is collected along with staff *well-trained* in the use of the tool. It also requires collection of child and family data associated with school readiness.

To successfully carry out study goals, DHS chose to solicit participants from a group of child care centers assumed to provide high quality child care as indicated by their accreditation by NAEYC (Whitebook, Sakai & Howes, 1997; Whitebook, Sakai, Gerber & Howes, 2001; Wisconsin Child Care Research Partnership, 2002). While many non-accredited child care centers also offer similarly high quality early childhood experiences, resources were not available to identify them. Accredited program selection afforded a quick and relatively straightforward way to identify study participants.

For several reasons, piloting the use of WSS in accredited programs seemed a logical first step towards studying quality child care and readiness. First, Minnesota is home to a relatively high percentage of accredited child care centers providing a large pool of programs to invite into the study; 130 or 15 percent of the 867 child care centers in the state held NAEYC accreditation at the start of the study in October, 2003. Second, accredited child care settings in Minnesota generally display many of the markers that research shows are present in high quality child care settings including well-trained staff, low staff to child ratios, nurturing interactions between adults and children and safe and stimulating environments. (See Appendix C for more information about the NAEYC accreditation system and process.) A recent study of quality in Minnesota's child care center preschool classrooms supports this assertion, documenting higher levels of overall quality for accredited programs than for those previously accredited, in the process of pursuing accreditation or not accredited (Tout and Sherman, in press).

Self-selection was allowed in identifying the sample for this pilot study because of limited resources for training and uncertainty about how the accredited child care centers would view the time commitment for assessment training and implementation. All 130 accredited child care centers in the state were invited to participate. Those that agreed to the time commitment were included in the study sample. The study results, therefore, cannot be generalized to all accredited child care centers or all child care centers.

The pilot study's focus on accredited child care centers assumed higher levels of overall quality and greater likelihood that staff had high levels of education in child development. Of the 32 teachers who assessed children in this study, three-quarters held a Bachelor's degree or higher, many in child development or early childhood education.

Table 1. Education level of teachers conducting WSS Assessment

	Frequency	*Percent*
High school or less	0	0 %
Some college	3	9 %
Child Development Associate credential	1	3 %
Associates degree	2	6 %
Bachelor's degree	18	56%
Master's degree	6	19%
No response	2	6%
Total	**32**	**100%**

Training on WSS assessment for this project was intensive. Between January and April 2004, preschool classroom teachers from the study sample centers participated in 16 hours of training on child assessment and the WSS checklist, compared to 12 hours typically offered to WSS users in early childhood settings. Teachers were asked to familiarize themselves with WSS materials between trainings. In addition, an expert consultant trained in WSS provided two site visits in April to each program to reinforce training objectives, answer questions and troubleshoot. This additional training and support was offered because the level of teacher education was not known prior to the start of the study, and also to ensure that teachers thoroughly understood what they were to observe, document and rate.

Between mid-April and May, teachers were asked to begin a six-week period of observation and documentation for all eligible preschool children in the study. Children were eligible for observation if they were scheduled to begin kindergarten by fall 2004 and parents granted permission for their participation in the study. Checklists and the parent surveys (described below) were returned to DHS by June 1, 2004, for data analysis.

Teachers play a critical role in WSS assessment because data is collected through their observations. This is both a strength of WSS (as the assessment builds on their knowledge of the children in their care) and a potential weakness. Teachers may be biased in how they rate children (see Limitations of the Study below). However, careful training in appropriate assessment strategies and an emphasis on the low-stakes nature of the assessment can address this issue. Research has demonstrated the validity and reliability of WSS in kindergarten – 3rd grade classrooms (Meisels, Liaw, Dorfman, & Fails Nelson, 1995; Meisels, Bickel, Nicholson, Xue & Atkins-Burnett, 1998), although there is no research to date on validity and reliability within child care settings (Meisels, 2004).[1] In-depth training and technical assistance is recognized as essential in public school settings where WSS, or any assessment method, has been used. This knowledge shaped the content of these supports in this pilot study and allows for future exploration.

Characteristics of the Child Care Centers in the Study

The study sample centers were characterized by percentages of low-income children and children from communities of color that were higher than accredited programs not participating in the study (see tables 2 and 3).

[1] A study by Sam Meisels is underway with the St. Paul Public Schools is exploring this issue in greater depth.

Table 2. Income level of children enrolled in study sample and non-study sample accredited programs in Minnesota: children eligible for Child and Adult Care Food Program

	Study Sample Programs (N = 19)	*Non-Study Sample Accredited Programs (N = 62)*
Children eligible for free meals	25%	19%
Children eligible for reduced price meals	11%	9%
Children not eligible for free or reduced price meals	64%	72%
Total	**100%**	**100%**

Note: Income eligibility for free meals is 130 percent of poverty and 185 percent of poverty for reduced price meals.

Enrollment of low-income children was measured by eligibility for free or reduced price meals in the Child and Adult Care Food Program, with 36 percent of study programs serving children qualifying for this benefit, compared to 28 percent of accredited programs not participating in the study sample.

Table 3. Race and ethnicity of all children enrolled in study sample and non-study sample accredited programs in Minnesota

	Study Sample Programs (N = 19)	*Non-Study Sample Accredited Programs (N = 62)*
Non-White (single and multi race)	34%	24%
White/Caucasian (single race)	66%	76%
Total	**100%**	**100%**

Over one-third of children enrolled in study sample programs were from communities of color, compared to one-quarter of children in accredited programs not participating in the study.

Centers were located in a wide array of communities, although programs were located primarily in the Twin Cities metropolitan area. One reason for the concentration of center participation in urban areas is because there are relatively few accredited centers in greater Minnesota.

Understanding the Children and Families in the Study

Information on the children and families participating in this study was collected through a parent survey on the reverse of each developmental checklist. Parents were asked a variety of questions related to family income, parental education and early care experiences. These questions were intended to provide more descriptive information about the children who were assessed in the sample.

The range of children assessed per program was as few as 2 and as many as 19. The average number of children assessed per program was 11 and their average age was 5.1 years. The

children assessed in this pilot study came from families with a wide range of incomes, with a significant percentage from lower income households (table 4). Most parents had education levels above high school (table 5). The majority of the children spoke English in the home, but not all, and there was significant representation of children of color (table 6). Most parents had not participated in parent education classes (table 7). The majority of the children assessed had been in their current programs for more than two years (table 8), and most had been in another early care setting before that (table 9).

Table 4. Household income of children in the sample compared to all Minnesota 5-year-olds

	Frequency	*Percent*	*Statewide Percent*
$0-$35,000	47	26%	28%
$35,001-$55,000	19	10%	23%
$55,001 or more	117	64%	49%
Total	**183**	**100%**	**100%**

While 36 percent of children in the sample came from families earning less than $55,000 annually before taxes, more than half came from families earning more than $55,000. The income levels of children in the sample were representative of all children enrolled in the sample child care centers as shown in table 2. As noted earlier, this sample of child care centers is more likely to serve children from low-income families than the total population of accredited child care centers in Minnesota. Compared to the statewide population of 5-year-olds, a larger percentage of children in this sample came from families earning more than $55,000 per year (64 percent compared to 49 percent) (Minnesota Department of Education, 2004). However, the percentage of children from very low-income families was roughly equivalent (26 percent in sample compared to 28 percent statewide).

Table 5. Parent education level of children in the sample compared to all Minnesota 5-year-olds

	Frequency	*Percent*	*Statewide Percent*
Some high school	1	.5%	4%
High school diploma/GED	15	8%	19%
Trade school or some college	43	23%	34%
Associate degree	12	6%	11%
Bachelor's degree	61	32%	22%
Graduate or professional degree	57	30%	9%
Total	**189**	**100%**	**100%**

A majority of the children in the sample came from families in which the respondent parent had a bachelor's degree or graduate degree. Fewer than 10 percent of parents had a high school diploma or less, compared to the statewide population of 5-year-olds in which 23 percent of parents had education levels of a high school diploma or less (Minnesota Department of Education, 2004).

Table 6. Race and ethnicity: white and non-white compared to all Minnesota 5-year-olds

	Frequency	*Percent*	*Statewide Percent*
Non-White (single and multi race)*	59	31%	18.5%
White/Caucasian (single race)	129	69%	81.5%
Total	**188**	**100%**	**100%**

*Parent respondents could indicate more than one race for their child.

Just over 30 percent of children in the sample were of a race or ethnicity other than White/Caucasian. The race or ethnicity of children in the sample were nearly representative of all children enrolled in the sample child care centers (31 percent children of color compared to 34 percent as shown in table 2). As noted earlier, this sample of child care centers is more likely to serve children of color than the total population of accredited child care centers in Minnesota. Compared to the statewide population of 5-year-olds, the children in this sample are more likely to be from diverse communities.

Table 7. Parent education class participation

	Frequency	*Percent*
Yes	78	42%
No	109	58%
Total	**187**	**100%**

More than half of parent respondents had not taken a parent education class. (On the parent survey, examples of parent education were opportunities such as Early Childhood Family Education. This may have prompted parents who received parent education as a component of their child's participation in the accredited center program to check "No" on the survey, thus underestimating actual parent education class participation.)

Table 8. Program enrollment duration

	Frequency	*Percent*
Less than six months	9	5%
6 months to one year	25	13%
1-2 years	29	15%
2-3 years	50	26%
4 years or more	77	41%
Total	**190**	**100%**

Just over two-thirds of children assessed had been enrolled in their program for more than two years. Only about five percent had been in their programs for less than six months.

Table 9. Early care arrangements prior to current program

	Frequency	*Percent*
Other child care center	61	49%
Family child care home	41	33%
Relative, neighbor, nanny	27	22%
Preschool	10	8%
Head Start	7	5%
Total	**146**	**116%**

Parents, the majority of whom were mothers (80 percent), were asked to indicate what other early care arrangements their child had been in prior to the current arrangement. The most frequent prior arrangement was another child care center, followed by family child care homes as the next most frequent response. Percentages add up to more than 100 percent because of duplicate responses.

In addition, slightly more females than males were observed and assessed in the study (55 to 45 percent). Approximately six percent of children spoke a language other than English in the home and three percent of the children in the sample received special education through an Individual Education Plan (IEP) or an Individual Interagency Intervention Plan (IIIP).

School Readiness Results

School Readiness Ratings by Developmental Domain

The WSS checklist is structured by domain. Within each domain are indicators that pertain to that developmental area. Average domain scores provide a quick summary of how the 226 children in this study performed overall, along each indicator within groups.

Key Finding #1: **Very few children were performing in the Not Yet range on any indicators within each domain, on average.** The domain with the highest proficiency rate is Physical Development at 87 percent. Personal and Social Development lags other domains on average, but has very few children in the Not Yet range and the highest proportion of children making progress in the In Process category at 25 percent.

Table 10. Readiness levels by domain

Average numbers and percents of children rated not yet, in process or proficient, on indicators by domain

	Not Yet		***In Process***		***Proficient***	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*
Physical Development	0	0%	21	9%	204	91%
Personal and Social Development	1	0%	56	25%	169	75%
The Arts	1	0%	40	18%	185	82%
Language and Literacy	1	1%	36	16%	189	84%
Mathematical Thinking	2	1%	45	20%	179	79%

The full picture of indicator ratings and rankings is contained in table 11 as follows:

Table 11. Readiness Levels by Domain Indicators

Table 11. Readiness Levels by Domain Indicators	Readiness Levels Percent, N=226					
Ranked by Proficient Rate - DHS Center Care Study	*Not Yet*		*In Process*		*Proficient*	
Physical Development	Percent	N	Percent	N	Percent	N
Physical Development Domain Total	***0%***	***0***	***9%***	***21***	***91%***	***204***
Performs some self-care tasks independently.	0%	0	5%	11	95%	213
Coordinates movements to perform simple tasks.	0%	0	10%	23	90%	203
Uses eye-hand coordination to perform tasks.	0%	0	13%	29	87%	197
Personal and Social Development						
Personal and Social Development Domain Total	***0%***	***1***	***25%***	***56***	***75%***	***169***
Shows eagerness and curiosity as a learner.	0%	0	17%	38	83%	188
Interacts easily with familiar adults.	0%	0	19%	42	81%	184
Shows some self-direction.	0%	0	19%	42	81%	183
Follows simple classroom rules and routines.	0%	0	23%	52	77%	174
Interacts easily with one or more children.	1%	2	24%	55	75%	168
Shows empathy and caring for others.	0%	1	25%	57	74%	166
Seeks adult help when needed to resolve conflicts.	0%	1	28%	64	71%	161
Attends to tasks and seeks help when encountering a problem.	0%	1	28%	64	71%	161
Approaches tasks with flexibility and inventiveness.	0%	0	33%	74	67%	152
Manages transitions.	2%	4	31%	70	67%	150
The Arts						
The Arts Domain Total	***0%***	***1***	***18%***	***40***	***82%***	***185***
Participates in group music experiences.	0%	0	15%	34	85%	191
Participates in creative movement, dance, and drama.	1%	2	16%	36	83%	188
Uses a variety of art materials for tactile experience and exploration.	0%	0	19%	44	81%	182
Responds to artistic creations or events.	0%	0	21%	47	79%	177
Language and Literacy						
Language and Literacy Domain Total	***1%***	***1***	***16%***	***36***	***84%***	***189***
Comprehends and responds to stories read aloud.	0%	0	9%	20	91%	206
Speaks clearly enough to be understood without contextual clues.	1%	2	9%	20	90%	204
Shows appreciation for books and reading.	0%	0	10%	22	90%	204
Gains meaning by listening.	0%	0	15%	34	85%	192
Uses expanded vocabulary and language for a variety of purposes.	0%	1	16%	36	84%	188
Shows beginning understanding of concepts about print.	0%	1	17%	39	82%	186
Begins to develop knowledge about letters.	1%	2	17%	39	82%	185
Represents ideas and stories through pictures, dictation, and play.	1%	2	18%	41	81%	183
Follows two- or three-step directions.	0%	1	20%	45	80%	180
Uses letter-like shapes, symbols, and letters to convey meaning.	1%	2	22%	49	77%	175
Demonstrates phonological awareness.	1%	2	23%	51	77%	173
Mathematical Thinking						
Mathematical Thinking Domain Total	***1%***	***2***	***20%***	***45***	***79%***	***179***
Shows understanding of and uses of several positional words.	1%	2	13%	29	86%	194
Begins to recognize and describe the attributes of shapes.	0%	1	14%	31	86%	193
Shows beginning understanding of number and quantity.	1%	2	20%	46	79%	178
Begins to recognize simple strategies to solve mathematical problems.	2%	4	32%	73	66%	149

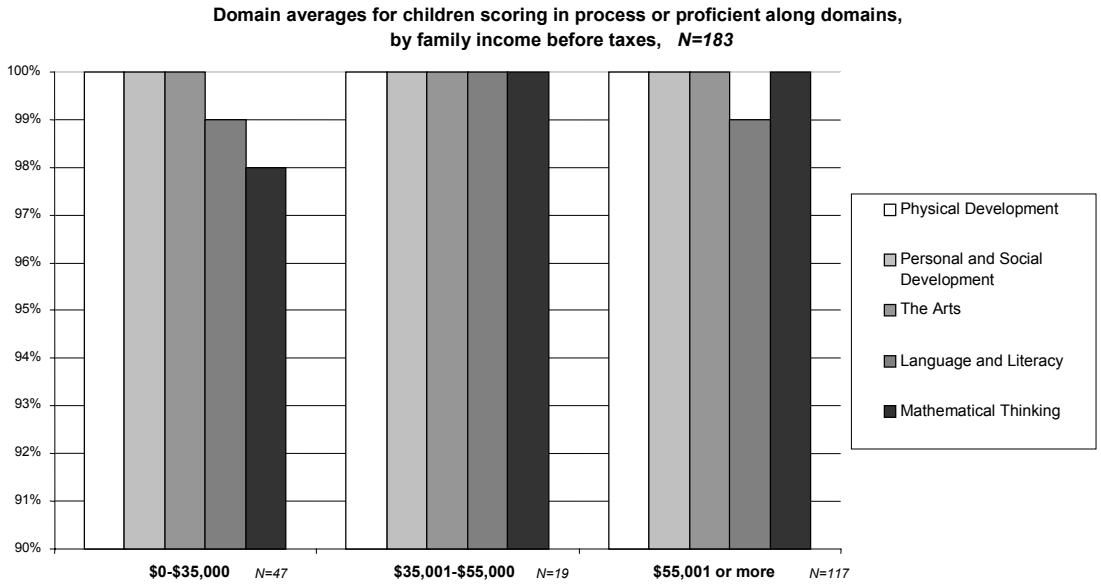
Relationship of Assessment Results to Family Information

Assessment results for children rated as "in process" or "proficient" in each of the developmental domains are presented below in relation to family characteristics that research has shown to influence school readiness. (Coley, 2002; Gershoff, 2003; Hart & Risley, 1995; Lee & Burkam, 2002; National Research Council & Institute of Medicine, 2000; Wertheimer & Croan, 2003; Zill & West, 2000). In general, the results showed very few differences across domains for children in the sample from different income levels, levels of parental education, racial and ethnic groupings.

Readiness Levels by Household Income

Key Finding #2: **Children from households earning $0-$35,000 per year perform at essentially the same level as children from households with incomes of $55,001 or more per year regardless of domain.** Very little variation is apparent across domains and by household income category in the combined "in process" and "proficient" ratings (see Chart 1).

Chart 1. Readiness levels by household income



When examining "in process" and "proficient" ratings separately across domains and income groups, some variation by income level occurs (see table 12). For example, slightly higher percentages of children from households with incomes $0 -- $35,000 are rated "in process" in the domains of language and literacy and mathematical thinking then in the higher income levels. However, similar percentages of children are rated "in process" in the personal and social development domain.

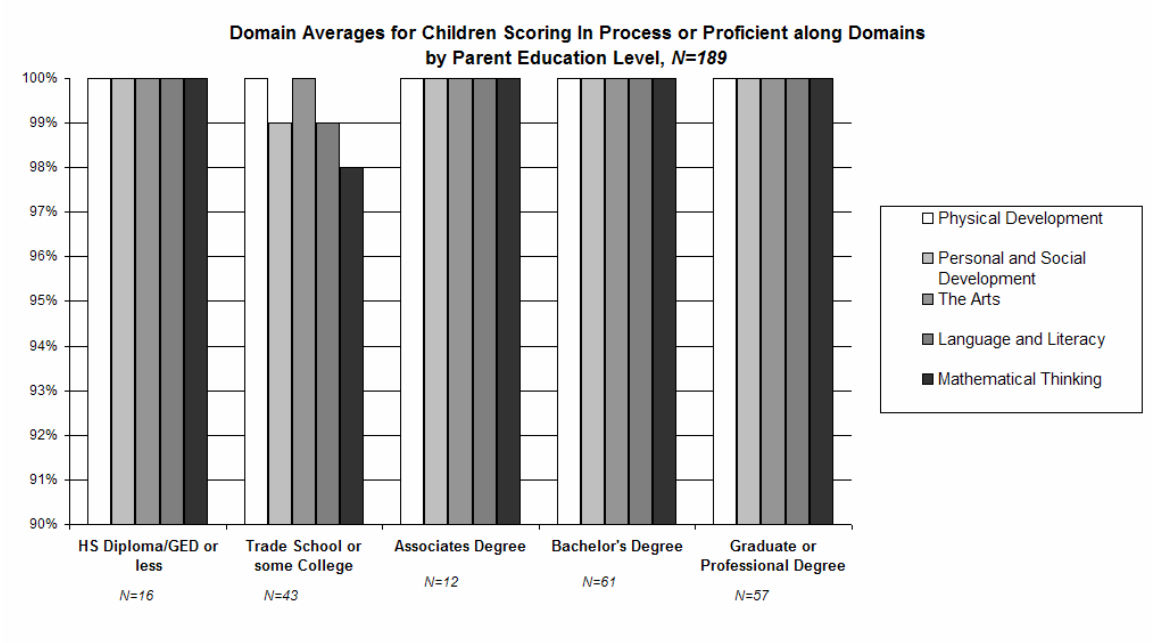
Table 12. Readiness levels by household income: domain averages for children scoring in process and proficient along domains,
by family income before taxes, N = 183

	$0 -- $35,000		*$35,001 -- $55,000*		*$55,001 or more*	
	In Process	*Proficient*	*In Process*	*Proficient*	*In Process*	*Proficient*
Physical Development	9%	91%	0%	100%	7%	93%
Personal and Social Development	24%	76%	25%	75%	20%	80%
The Arts	17%	83%	26%	74%	12%	88%
Language and Literacy	18%	81%	11%	89%	12%	87%
Mathematical Thinking	22%	76%	18%	82%	13%	87%

Readiness Levels by Parent Education

Key Finding #3: **The results showed few differences in proficiency across domains and across parent education levels with virtually all children rated as "in process" or "proficient."** (See chart 2). Research has generally shown that children with parents who have completed some schooling above high school are more likely to have improved readiness outcomes.

Chart 2. Readiness levels by parent education



As with income level, some variation is seen when examining "in process" and "proficient" ratings separately across domains and parent education levels (see table 13). In the domains of language and literacy and mathematical thinking, somewhat higher percentages of children with parents who had a high school diploma or less are rated "in process" than children with parents who had higher education levels. However, similar percentages of children are rated "in process" in the personal and social development domain across parent education levels.

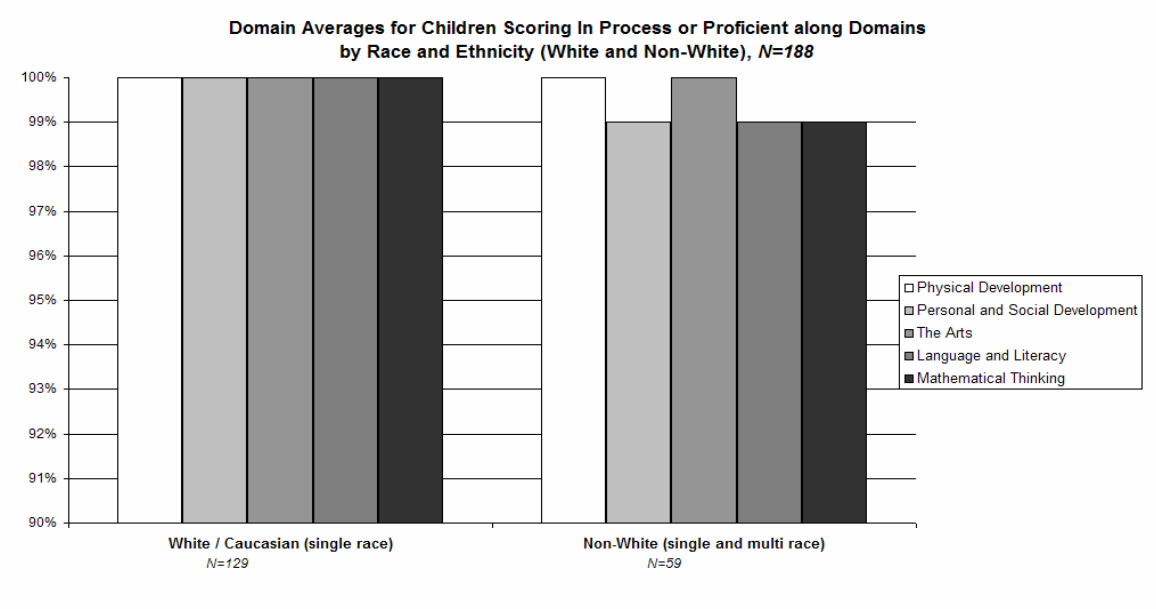
Table 13. Readiness levels by parent education: Domain averages for children scoring in process and proficient along domains, N = 189

	HS Diploma/ GED or less		*Trade School or some College*		*Associates Degree*		*Bachelor's Degree*		*Graduate or Professional Degree*	
	In Process	*Proficient*	*In Process*	*Proficient*	*In Process*	*Proficient*	*In Process*	*Proficient*	*In Process*	*Proficient*
Physical Development	4%	96%	11%	89%	0%	100%	3%	97%	9%	91%
Personal and Social Development	24%	76%	29%	70%	22%	78%	20%	80%	17%	83%
The Arts	17%	83%	23%	77%	23%	77%	8%	92%	13%	87%
Language and Literacy	21%	79%	16%	83%	11%	89%	12%	88%	11%	88%
Mathematical Thinking	28%	72%	23%	75%	13%	88%	16%	84%	8%	92%

Readiness Levels by Race/Ethnicity

Key Finding #4: **When examined by race and ethnicity, there is again little variation in readiness levels.** (See chart 3).

Chart 3. Readiness levels by race and ethnicity



Even when analyzing "in process" and "proficient" ratings separately across developmental domains and race and ethnicity, no clear pattern emerges of school readiness between categories of White/Caucasian and Non-White children (see table 14).

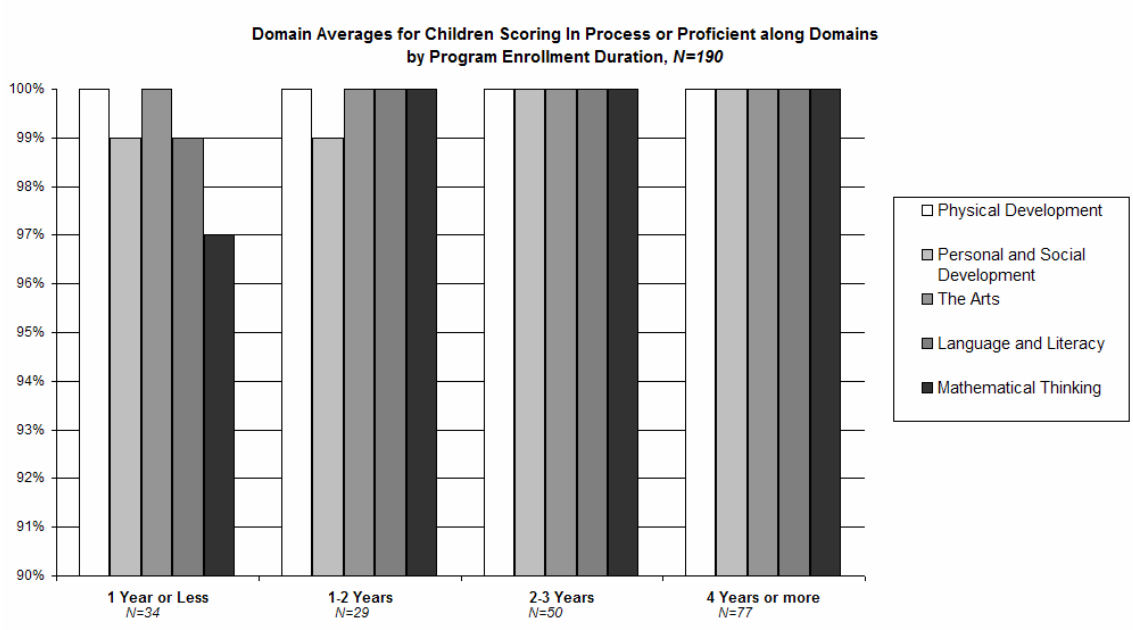
Table 14. Readiness levels by race and ethnicity: domain averages for children scoring in process and proficient along domains, N = 188

	White/Caucasian (Single-Race)		***Non-White*** (single and multi-race)	
	In Process	*Proficient*	*In Process*	*Proficient*
Physical Development	5%	95%	10%	90%
Personal and Social Development	21%	79%	21%	78%
The Arts	12%	88%	19%	81%
Language and Literacy	13%	87%	14%	85%
Mathematical Thinking	15%	85%	18%	81%

Readiness Levels by Length of Program Enrollment

Key Finding #5: **Readiness domain averages are highest among children who have been in the program the longest.** Lower relative averages for combined "in process" and "proficient" ratings are observed in children who have been enrolled for one year or less (see chart 4).

Chart 4. Readiness levels by length of program enrollment



When analyzing "in process" and "proficient" ratings separately across domains and years of program enrollment, domain averages tend to reflect higher ratings for children enrolled for longer periods of time at both the "in process" and "proficient" levels. (See table 15.)

Table 15. Readiness levels by program enrollment duration: domain averages for children scoring in process and proficient along domains, N = 190

	One Year or Less		*1 – 2 Years*		*2 – 3 Years*		*4 Years or More*	
	In Process	*Proficient*	*In Process*	*Proficient*	*In Process*	*Proficient*	*In Process*	*Proficient*
Physical Development	14%	86%	1%	99%	9%	91%	4%	96%
Personal and Social Development	20%	80%	21%	78%	29%	71%	18%	82%
The Arts	18%	82%	16%	84%	15%	85%	12%	88%
Language and Literacy	16%	82%	16%	84%	14%	86%	11%	89%
Mathematical Thinking	18%	79%	20%	80%	20%	80%	11%	89%

Readiness of Accredited Child Care Center Study Children in Relation to Previous Studies

This pilot study using WSS in child care centers has produced encouraging readiness data for children enrolled in these particular programs. Very few children fell into the "not yet" category in any of the developmental domains. In contrast, two to 18 percent of children in the statewide school readiness studies (Years One and Two) fell into the "not yet" category in any given domain. Questions about how children in these 22 accredited child care centers rated so highly are inevitable and will prompt further discussion on what contributes to school readiness.

Of the two previous statewide readiness studies, the accredited center study is most similar to year two study in that the same developmental checklist and parent survey were used. However, comparisons need to be approached very cautiously. An attempt has been made in this report to address the understandable tendency to contrast the results of these studies by carefully designing a comparison. In addition to the overall limitations of this study (pg. 26), two important considerations must be taken into account in making comparisons:

- Ideally, program effectiveness is determined by comparing data from a control group to data from a treatment group (theoretically, in this case, the accredited center sample). The experimental model also controls for an array of other variables that can influence the results in an attempt to understand only the program's influence. In the absence of a rigorous quasi-experimental research design (often not possible due to budgetary and ethical reasons), it is possible to discuss data comparisons in other ways, as long as limitations are acknowledged.

- Using the statewide year two school readiness data for comparison provides an opportunity to create "non-equivalent control" groups. The groups are non-equivalent because the selection criteria for each are different: in the statewide year two study, schools participated in the study through random selection, invitation, and acceptance. For the accredited center study, *all* centers were invited to participate and only volunteers entered the sample (a non-random assignment). In comparing the accredited center study data to the statewide year two data, it is important to only use year two data that match this study's sample based on similar

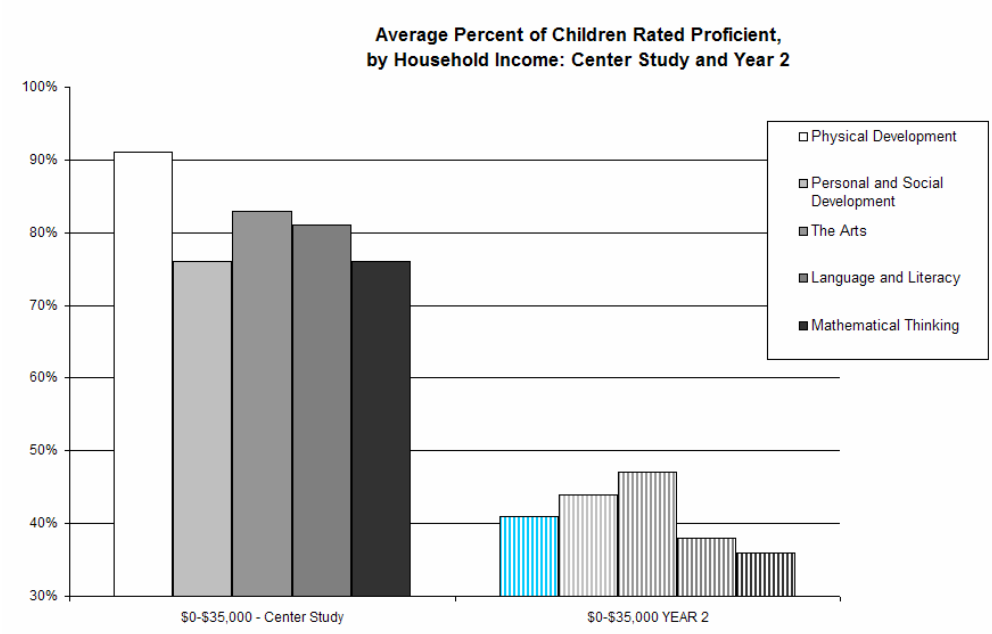
characteristics (Bamberger et. al., 2004). In the two examples that follow, household income (particularly low income) and parental education are the similar characteristics used to create comparison groups.

Children from Lower Income Families: Accredited Child Care Center Study and Statewide Year Two Study

Finding #6: **Proficiency rates are, on average, much higher for the children from the accredited center group for children from families with incomes $0-$35,000, compared to children from the statewide year two study group with the same family income range.**

Research consistently shows that there is a relationship between household income and school performance of children. While not true for every child from a low-income family, children in this income category have been found to be more at-risk for school failure than children from higher income families. To examine how children from similar income groups look from the accredited center study and the statewide year two study, average proficiency rates were examined, from both studies, for the $0-$35,000 annual household income groups (see chart 5). On average, a significantly higher percentage of low-income children in the accredited center study sample (solid bars) were rated as "proficient" than in the statewide year two study across all developmental domains. Multiple factors, including enrollment in the accredited child care center setting, may be associated with this difference.

Chart 5. Children from families with incomes $0-$35,000: Accredited child care center study and statewide year two study



Children of Parents Having Similar Education: Accredited Child Care Center Study and Statewide Year Two Study

Key Finding #7: **Proficiency rates are, on average, much higher for children in the accredited center group across all domains and parent education levels than for children from the statewide year two study group.**

Parental education level, perhaps more so than income, is recognized as being a significant factor in school performance and school readiness. Children with more highly educated parents – particularly mothers – tend to be more ready for school than children whose parents have lower education levels. To examine how children from both studies look in relation to parent education levels, it was necessary to randomly select from the year two study, children whose parent education levels were similar to the parent education levels from the center study sample. For example, in the accredited center study, the parents of 43 children had an education level of trade school or some college. Children were randomly selected from the statewide year two sample whose parents also had this level of education. This method was used to construct the statewide year two study comparison group for each parent education level.

Randomly selecting a sample of children from the statewide year two study in which the distribution of parent education levels are the same as the accredited center study results in the domain proficiency averages seen below in chart 7. Chart 6 shows that the average domain proficiency scores from the accredited center study are higher for all domains, across all parent education levels. Multiple factors, including enrollment in the accredited child care center setting, may be associated with this difference.

Chart 6. Children of parents having similar education: Accredited child care center study

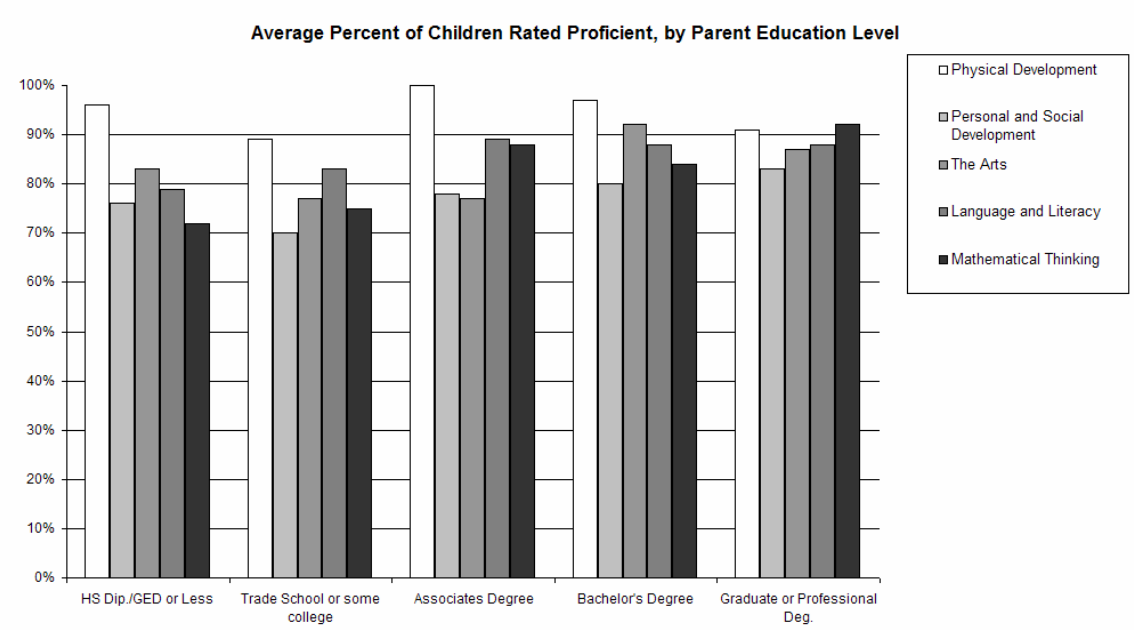
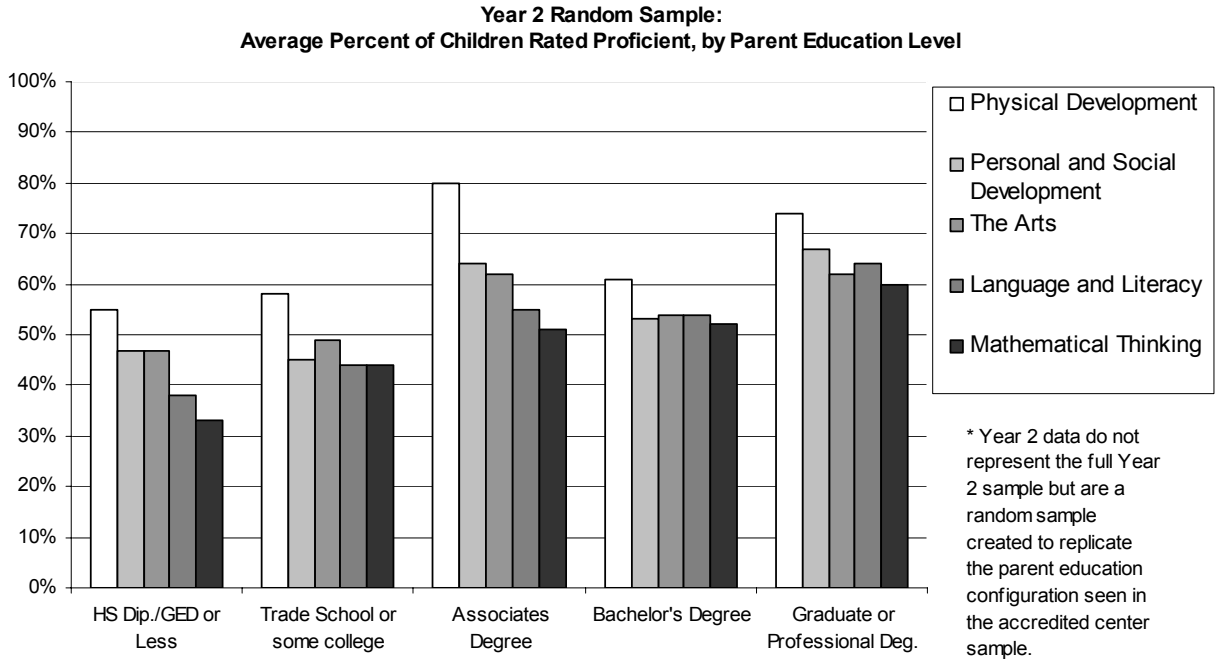


Chart 7. Children of parents having similar education: Random sample from Statewide Year 2 Study



Study Limitations

- Because this study sample was not randomly selected, the results of the readiness of children in these accredited centers cannot be generalized to the broader population of all children enrolled in accredited centers. Budgetary constraints and the exploratory nature of this study prohibited a more rigorous research design.

- While comparisons to the statewide year two study data could imply that the impact of an intervention (i.e. accredited child care center programming) is being evaluated, this is not the case. However, in these comparisons, every effort was made to create equivalent comparison groups from statewide year two study data that were as similar along certain important characteristics – in this case family income and parental education – as possible. These comparisons are meant to be descriptive and prompt consideration of future assessment efforts.

- While intensive training was provided to teachers to ensure that they understood how to observe and objectively rate the children in their care, teachers may have rated children more highly out of concern that their own performance or program would be judged. This possibility has existed, however, in other studies using WSS where reliability has been demonstrated in kindergarten – 3rd grade classrooms (Meisels, S., F-R Liaw, A. Dorfman, & R. Nelson., 1995).

Piloting the Use of Child Assessment in Child Care Centers

One of the primary goals of this study was to understand whether, and to what degree, the Work Sampling System could be used as a developmental tool in the child care setting. To ascertain this, it is critical to find out from center staff how using the method affected their teaching, workload, and whether or not it was helpful to them overall. Surveys were administered to center teachers and directors after the completion of the assessment period. (See Appendix D for survey instruments.)

Director Perspective

Of the 23 program directors participating in the study, 17 (74 percent) responded to the survey. Program directors often made a unilateral decision to participate in the study when invited, but more than half (60 percent) reported that they consulted with their teaching staff when making the decision to participate. Directors reported that current teacher workload was a potential barrier for participation for many (65 percent).

When asked how they overcame these barriers, directors noted a variety of ways programs dealt with the additional workload, including management assisting as substitutes for teachers who were doing study-related paperwork, adjusting some teacher and director workloads, or enlisting the help of part-time staff. More than half (69 percent) said that they felt the workload associated with participating was either outweighed by the benefits (19 percent) or that the workload and benefits were about equal (50 percent). When asked if they intended to use the Work Sampling System in their program in the future, 18 percent said they would not, while the balance either were not sure (35 percent), didn't answer (23 percent), or said they would (24 percent). The average experience for directors was 12 years, with an average of 19 years total in the field of early care and education.

> *"The WSS checklist will better our staff conferences with parents and move accountability of tracking children's needs and goals."*
> – Study program director

Teacher Perspective

A somewhat lower percentage of teachers (65 percent), or 20 out of 31, responded to the post-assessment survey. Teachers were asked to rank the use of the tool and the process using scales of 1 to 5, with "1" being the least amount of work and "5" being the most. Forty percent of teachers ranked the project as either a "4" or "5" in terms of workload, 15 percent ranked it as a "1" or "2" and slightly less than half (45 percent) ranked it a "3." When asked in what ways the WSS checklist helped them, nearly all teachers stated that it had helped them "target instruction and activities for the class" (90 percent). Other common ways noted were "Helped me identify children's needs earlier than I would normally" (70 percent) and "Provided helpful supplemental information for parent-teacher conferences" (80 percent). (Teachers could select more than one response so percentages add up to over 100 percent).

It is important to understand what specific aspects of study participation may have presented the greatest difficulty for teachers. Teachers were asked to rank the difficulty of completion for key

tasks related to the project, again using the 1-5 scale. The task that was most difficult for teachers was "Obtaining completed parent survey from each parent in the study" with 40 percent of teachers rating this as a "4" or "5." The least difficult was "Attending trainings," at five percent.

> *"We learned so much more about our children and could plan goals better for each child."* – Study teacher

When asked about the workload-to-benefit balance, not quite half (47 percent) said they felt the workload and benefits were either about equal (21 percent) or that the benefits outweighed the workload (26 percent). Not surprisingly, teachers felt the workload more keenly than directors, an expected difference in their ratings. Well over half (65 percent) of teachers said that the WSS information was helpful to their program. While directors seemed less sure about the future use of WSS in their programs, 40 percent of teachers said they "would use it," with 30 percent stating "No" and 30 percent stating that they "weren't sure." Teachers had been in their positions for an average of 10 years and in the field of early care and education an average of 11 years.

Conclusions and Recommendations

Children in Sample Programs Performed Well Along All Domains

Children in this sample had high rates of proficiency along all domains. Because a child's readiness is a result of many factors, each needs to be considered in turn as contributing to the results. Research on child learning consistently shows that parental education is correlated with a child's school success. Overall, parents of children in this sample had relatively high levels of education. When comparing these children to a random sample of children whose parents had similar education levels, children in these child care programs performed better. Children of families with higher incomes also tend to have better school outcomes. Children in this sample overall came from families with higher incomes. However, few differences in children's assessment scores are found across household income categories. When comparing strictly low income children from the center study against children of similar income from the statewide year two study, accredited center children performed better.

High quality child care programs are likewise strongly associated with school readiness and school success. Accredited programs, as stated earlier, meet criteria for programming and staffing that other programs have not and are judged to be of higher quality relative to other care settings. This study cannot offer definitive evidence that children attending accredited child care center programs are more ready for school. However, the findings of this study seem consistent with more rigorous research in this area. The fact that more than two-thirds of children in this sample had been enrolled in the study sample programs for two or more years increases the likelihood that observed readiness can be, at least in some part, attributed to the programs. Further study could provide an opportunity to explore to what degree the programs contribute to readiness, and what other important factors are also at play, individually, or together. Finally, the nature of child learning requires that the interplay of these factors be considered and should be the basis for future research.

WSS Can be Used by Child Care Programs

The release of the statewide School Readiness studies prompted many questions from researchers and members of the early care community, namely, could early care and education professionals successfully use a relatively complex assessment system, based on extensive observation? Concerns about successful use revolved around staff time, ability and resources. The WSS is a developmental assessment system that takes into account multiple aspects of child learning and requires extensive training for consistent use. Given the wide array of early care and education settings in which young children spend time prior to kindergarten, careful consideration needs to be given to the issue of how, and to what degree, all early child care providers can use a tool like WSS. Some programs or providers might need even more extensive supports to use WSS or another similar assessment tool. Some providers may not be able to successfully use any complex assessment tool.

The early childhood care and education system is comprised of practitioners with varying levels of education and training. Accredited child care center staff represent one end of this continuum and are a logical place to start when attempting to answer questions about the use of complex

assessment methods. First, this study shows that WSS *can* be used successfully in a high quality early childhood care and education setting. Second, as anticipated, use of the WSS represented extra work for staff and certain supports are needed for them to use this tool.

To Use WSS, Child Care Program Staff Require Supports

Teacher and director feedback indicated that training was appreciated and that ongoing supports were necessary. In addition, programs made other allowances for teachers to be able to complete the checklists and paperwork needed to participate fully. Sometimes these allowances included substitute teachers or program directors helping in the classroom. The majority of both teachers and directors felt that the WSS was helpful to their programs. It is critical to be aware of what programs need to use WSS, or any authentic assessment method, and successfully incorporate strategies to address these needs into the classroom.

Recommendations

The findings of this study set the stage for future use of child assessment in early childhood care and education for the purposes of program improvement and program evaluation. DHS recommends that the following recommendations be considered to build supports for school readiness within community-based child care settings:

1. **Support child assessment in child care programs to support program improvement and build child care quality.** All child care programs and providers should be encouraged to select and use assessment methods that provide continuous feedback about a child's progress. Given the highly variable nature of child learning, ongoing and intentional adjustments to teaching to best meet the needs of each child are recognized as highly successful. Supports for child assessment should be aligned with Minnesota's core competencies for early childhood practitioners and the state's early learning standards for young children. Pre-service and in-service training in child assessment should be widely available.

2. **Pilot child assessment in other types of child care settings.** Explore the feasibility of expanded use of WSS, and similar authentic methods, to other types of early childhood care and education settings. Expansion should pay particular attention to the unique training and supports that are required at each level of provider experience and skill level to conduct reliable and useful assessments. Assessment methods need to be meaningful to providers and children, not mandates without clear goals. Random monitoring by supervisors or outside staff to review ratings and documentation of observations used to assess children can improve reliability and reduce rater bias (Meisels, 2004).

3. **Strengthen the design of future child assessment initiatives in child care settings in the following ways:**

    - **Randomly sample child care settings.** Strive for a representative and statistically valid sample of providers to use WSS in their settings, with appropriate supports. These samples could be representative of particular geographic regions or communities.

- **While using random assignment (above), simultaneously collect data on program quality**. Gathering detailed quality information about programs while assessing children's readiness provides a two-pronged approach and potentially connects particular program attributes with child outcomes.

- **Strengthen and enrich knowledge of the linkages between quality programming and child readiness outcomes** by fortifying study designs with other methods, including the success case study method to more deeply explore what children rated "not yet" in different domains need to succeed.[2] If random control trials are not possible, other rigorous methods are available to explore, quantify and assess the roles that various factors in a child's life play in readiness.

[2] The Success Case Method by Robert Brinkerhous is one such method of intensive, qualitative review of both "success" cases (in this case, children rating highly proficient along domains) and "failures" (children whose ratings are more weighted towards Not Yet in multiple domains). Although data collected is qualitative, it can be quantified and is recognized as a rigorous and scientific method of determining causality when pure random control trials are not possible.

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Appendix A: Readiness Levels by Domain Indicators for Minnesota School Readiness Year Two Study

Table 3. Readiness Levels by Domain Indicators	Readiness Levels, N=3,002					
Ranked by Proficiency Rating	*Not Yet*		*In Process*		*Proficient*	
Physical Development	Percent	N	Percent	N	Percent	N
Physical Development Domain Total	***2%***	***76***	***41%***	***1207***	***57%***	***1702***
Performs some self-care tasks independently.	2%	55	36%	1077	62%	1841
Coordinates movements to perform simple tasks.	2%	70	42%	1243	56%	1677
Uses eye-hand coordination to perform tasks.	3%	103	44%	1301	53%	1589
Personal and Social Development						
Personal and Social Development Domain Total	***9%***	***266***	***44%***	***1317***	***47%***	***1407***
Interacts easily with one or more children.	7%	208	39%	1161	54%	1625
Interacts easily with familiar adults.	7%	204	39%	1179	54%	1612
Shows eagerness and curiosity as a learner.	6%	170	41%	1239	53%	1587
Follows simple classroom rules and routines.	8%	252	44%	1315	48%	1427
Shows empathy and caring for others.	8%	231	44%	1315	48%	1445
Manages transitions.	9%	277	44%	1319	47%	1393
Shows some self-direction.	9%	260	46%	1364	46%	1370
Attends to tasks and seeks help when encountering a problem.	11%	341	47%	1397	42%	1258
Seeks adult help when needed to resolve conflicts.	10%	299	48%	1412	42%	1253
Approaches tasks with flexibility and inventiveness.	14%	420	49%	1471	37%	1096
The Arts						
The Arts Domain Total	***6%***	***170***	***48%***	***1413***	***47%***	***1391***
Paricipates in group music experiences.	4%	111	45%	1336	52%	1546
Participates in creative movement, dance, and drama.	6%	188	46%	1390	47%	1416
Uses a variety of art materials for tactile experience and exploration.	6%	171	49%	1456	46%	1361
Responds to artistic creations or events.	7%	208	50%	1468	43%	1239
Language and Literacy						
Language and Literacy Domain Total	***12%***	***345***	***46%***	***1363***	***43%***	***1283***
Speaks clearly enough to be understood without contextual clues.	8%	250	33%	986	59%	1758
Shows appreciation for books and reading.	5%	149	40%	1180	56%	1661
Gains meaning by listening.	7%	198	45%	1351	48%	1442
Comprehends and responds to stories read aloud.	7%	200	45%	1344	48%	1442
Follows two- or three-step directions.	13%	382	43%	1290	44%	1319
Uses expanded vocabulary and language for a variety of purposes.	14%	404	44%	1308	43%	1279
Shows beginning understanding of concepts about print.	12%	356	50%	1483	39%	1154
Represents ideas and stories through pictures, dictation, and play.	11%	323	51%	1509	39%	1157
Beings to develop knowledge about letters.	13%	378	49%	1474	38%	1140
Demonstrates phonological awareness.	20%	600	51%	1509	30%	881
Uses letter-like shapes, symbols, and letters to convey meaning.	19%	554	52%	1561	29%	877
Mathematical Thinking						
Mathematical Thinking Domain Total	***11%***	***318***	***50%***	***1489***	***40%***	***1186***
Begins to recognize and describe the attributes of shapes.	8%	232	49%	1456	44%	1305
Shows understanding of and uses of several positional words.	10%	283	47%	1402	44%	1303
Shows beginning understanding of number and quantity.	11%	320	50%	1500	39%	1175
Begins to recognize simple strategies to solve mathematical problems.	15%	437	53%	1596	32%	959

Parent Survey
Minnesota School Readiness Initiative

Dear Parent,
Please help us learn about your child and your family as part of a school readiness study. Neither you nor your child will be identified in the published study report.

If you choose not to answer the questions, it does not affect you or your child in any way. If you choose to answer the questions, summary information only will be used by the Minnesota Department of Human Services for this study. A copy may be kept in your child's school file along with other forms and information gathered by your child care center.

USE A NO. 2 PENCIL ONLY

Early Childhood Care and Education Experience

1 How long has your child attended this child care center?

- ◯ Less than 6 months
- ◯ 6 months-one year
- ◯ 1-2 years
- ◯ 2-3 years
- ◯ 4 years or more

2 Was your child in any of these types of care and/or education prior to this child care program? If yes, please check all that apply.

- ◯ Other child care center
- ◯ Family child care home
- ◯ Head Start
- ◯ Public or private preschool
- ◯ Relative, neighbor or nanny

3 Have you ever participated in a parent education class either Early Childhood Family Education or another program?

- ◯ Yes ◯ No

Family Information

4 Please indicate whether you are:

- ◯ Mother ◯ Father ◯ Other

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

- ◯ 8th grade or less
- ◯ Some high school
- ◯ High school diploma/GED
- ◯ Trade school or some college beyond high school
- ◯ Associate degree
- ◯ Bachelor's degree
- ◯ Graduate or professional school degree

6 Your household's total yearly income before taxes? Mark only one.

- ◯ $0 - $35,000
- ◯ $35,001 to $55,000
- ◯ $55,001 or more

7 Race/ethnicity of your 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

8 What language does your family speak most at home? Mark only one.

- ◯ English
- ◯ Spanish
- ◯ Hmong
- ◯ Somali
- ◯ Russian
- ◯ Other

9 Does your child receive special education through an Individual Education Plan (IEP) or Individual Interagency Intervention Plan (IIIP)?

- ◯ Yes
- ◯ No

Pearson Early Learning

Stop here. Thank you. Teacher completes other side.

FOR TEACHER COMPLETION ONLY

The Minnesota Work Sampling System®
Kindergarten Entry
Developmental Checklist

INSTRUCTIONS

CORRECT: ●
INCORRECT: ⊘ ✗ ◒ ◒

○ FEMALE
○ MALE

USE A NO. 2 PENCIL ONLY

CHILD CARE CENTER		DATE OF BIRTH				
		MONTH	DAY		YEAR	
		○ Jan		19		
⓪	⓪	○ Feb				
①	①	○ Mar	⓪	⓪	⓪	⓪
②	②	○ Apr	①	①	①	①
③	③	○ May	②	②	②	②
④	④	○ Jun	③	③	③	③
⑤	⑤	○ Jul		④	④	④
⑥	⑥	○ Aug		⑤	⑤	⑤
⑦	⑦	○ Sep		⑥	⑥	⑥
⑧	⑧	○ Oct		⑦	⑦	⑦
⑨	⑨	○ Nov		⑧	⑧	⑧
		○ Dec		⑨	⑨	⑨

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 C: National Association for the Education of Young Children (NAEYC) Accreditation

The NAEYC accreditation system rigorously evaluates the quality of center-based child care settings. Accreditation criteria are based on research that identifies key characteristics of quality early childhood care and education in ten areas:

(1) Interactions among staff and children
(2) Curriculum
(3) Staff-parent interaction
(4) Staff qualifications
(5) Administration
(6) Staffing
(7) Physical environment
(8) Health and safety
(9) Nutrition and food service
(10) Evaluation.

Early childhood programs voluntarily choose to participate by performing a self-study, including classroom observation, an administrator's report, a staff questionnaire and a parent questionnaire. Programs that complete the self-study report to the Academy for Early Childhood Programs, a division of NAEYC, after improvements have been implemented. The center then receives a validation visit with the decision to accredit made by a commission based on the program's report and the validator's report.

ID#_____

Appendix D: Post Pilot Director and Teacher Surveys

Building Quality Child Care Initiative Post Pilot Director Survey, August 2004

THANK YOU once again for participating in the Building Quality Child Care Initiative. One of the main objectives of this project was to test a new process. Your perspectives on the workload, costs and benefits associated with this project will be critical to any discussions around replication or expansion of this effort. Please take a few minutes to answer the following questions about the Building Quality Child Care Initiative process as it affected you and your staff. Your responses will be kept confidential. Please **complete the survey by August 18** and return by FAX at (651) 215-5714 or mail in the enclosed envelope to:

Deb Swenson-Klatt
Minnesota Department of Human Services
444 Lafayette Road N., 3rd Floor S
St. Paul, MN 55155-3860
Call with questions: (651) 215-0579

1. Decision to Participate

a. How was the decision made to participate in the Building Quality Child Care Initiative?
____ Consulted with teachers
____ Unilateral decision (yours or another administrative staff person)
____ Something else (please describe) _____

b. What were some of the potential barriers or concerns for you or your staff about participating in the Initiative?
____ No barriers or concerns
____ Current teacher workloads
____ Similar initiatives were already in place
____ Uncertainty about staffing (teachers or director)
____ Others (please describe) _____
_____

c. How did you overcome the potential barriers or concerns related to participating?
_____
_____

d. From your perspective, to what degree do you feel the workload associated with this process was or was not balanced by the immediate benefit(s)?
____ Workload outweighed benefits
____ Workload and benefits were about equal
____ Benefits outweighed workload
____ Don't know

(OVER)

e. How do you plan to use your program-level data from this project?

_____

_____

f. Do you plan to continue the use of the Work Sampling System in your program?
____ Yes ____ No ____ Don't know

g. What would you tell another child care center director about the project if s/he were considering participation?

_____

_____

2. About you

a. How long have you been a child care program director? _____ years _____ months

b. How long have you been in the field of early childhood education?
_____ years _____ months

c. Have you had experience with other school readiness or child assessment tools? (Please tell us which ones.)

_____

_____

d. How can we improve this process?

_____

_____

e. Do you have any recommendations for future phases of this project?

_____

_____

3. Comments or Questions

_____

_____

_____

_____

Thank you again for your time!

ID# _____

Building Quality Child Care Initiative Post Pilot Teacher Survey, August 2004

THANK YOU once again for participating in the Building Quality Child Care Initiative. One of the main objectives of this project was to test a new process. Your perspectives on the workload, costs and benefits associated with this project will be critical to any discussions around replication or expansion of this effort. Please take a few minutes to answer the following questions about the Building Quality Child Care Initiative process as it affected you. Your responses will be kept confidential. Please **complete the survey by August 18** and return by FAX at (651) 215-5714 or mail in the enclosed envelope to:

Deb Swenson-Klatt
Minnesota Department of Human Services
444 Lafayette Road N., 3rd Floor S
St. Paul, MN 55155-3860
Call with questions: (651) 215-0579

1. Workload and Benefits

a. Please let us know the amount of additional work this project represented for you (5 being a great deal of additional work, 1 being none):

b. ____ 1 ____ 2 ____ 3 ____ 4 ____ 5
none *a great deal*

c. In what ways was the WSS checklist information helpful to you? (Please check all that apply.)
____ Helped me to identify children's needs earlier than I would normally.
____ Helped me target instruction and activities for my class.
____ Provided helpful supplemental information for parent-teacher conferences or meetings.
____ Other (please describe)_____
____ Other (please describe)_____

d. On a scale of 1 to 5 (5 being the most difficult), how difficult was it to complete each of these tasks?

	1 *very easy*	2	3	4	5 *very difficult*
Attending trainings	____	____	____	____	____
Obtaining completed parent consent forms	____	____	____	____	____
Completing WSS checklist for each child in the study	____	____	____	____	____
Obtaining completed parent survey from parents of each child in the study	____	____	____	____	____

e. What issues arose for you or for parents in completing the parent survey?

_____

f. From your perspective, to what degree do you feel the workload associated with this process was or was not balanced by the immediate benefit(s)?
____ Workload outweighed benefits
____ Workload and benefits were about equal
____ Benefits outweighed workload
____ Don't know

g. Do you feel the WSS checklist information will be helpful to your program?
____ Yes: How so?_____
____ No
____ Don't know

h. How do you plan to use your program-level data from this project?
_____
_____

i. Do you plan to continue to use the Work Sampling System in your classroom?
____ Yes ____ No ____ Don't know

2. Use of Technology

a. Pearson, the publisher of the Work Sampling System, has launched a new on-line checklist that can be used in place of the paper form. Would you be willing to use a web-based checklist system in future years? ____ Yes ____ No

If you would like to tour the new web-based checklist, please visit: http://www.worksamplingonline.com/School/Home/Tour/

3. About you

a. How long have you been a child care program teacher?
_____ years_____ months

b. How long have you been in the field of early childhood care and education?
_____ years_____ months

c. Have you had experience with other school readiness or child assessment tools? (Please tell us which
ones.)_____

d. How can we improve this process?
_____

e. Do you have any recommendations for future phases of this project?
_____

4. **Comments or Questions**
_____
_____
_____

Thank you again for your time!

Acknowledgements

Many people helped to make this report possible. Very special thanks go to Anita Larson who provided data analysis services and consultation. Thank you to Barbara O'Sullivan, Minnesota Department of Education, whose early vision guided the project. Betty Cooke, also at the Minnesota Department of Education, and Kathryn Tout with Child Trends provided invaluable input. Thank you to the 22 child care centers, listed below, that participated in the study. The directors and teachers in these programs made a commitment of many hours to training and observation of the children in the study. The parents of the 226 children observed also deserve our gratitude for their permission and participation in the project.

Participating Child Care Centers

All Nations Child Care Center, Minneapolis
Campus Playhouse, St. Cloud
Cherish the Children Learning Center, Minneapolis
Children's World Learning Center, Roseville
Kinderberry Hill Development Center, Roseville
Kindercare Learning Center, Rosemount
Kindercare Learning Center, Eagan
La Petite Academy, Farmington
Lasting Impressions Child Care Learning Center, St. Paul
Lindgren Child Care Center, St. Cloud
Loring Nicollet Bethlehem Early Learning Center, Minneapolis
New Horizon Child Care (Building Block), Richfield
Northeast Child Development Center, Minneapolis
Playhouse Child Care Center, Sartell
TLC Early Learning Center, Bloomington
Turnquist Child Enrichment Center, Minneapolis
University of Minnesota Child Care Center, Minneapolis
VA Neighborhood Child Care Center, Minneapolis
Westwood Early Childhood Center, St. Louis Park
Wilder Child Development Center, St. Paul
YWCA Children's Center – Downtown, Minneapolis
YWCA Children's Center – Midtown, Minneapolis
YWCA Children's Center – Phillips, Minneapolis

For inquiries or comments contact:

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Minnesota Department of Human Services
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(651) 282-3804
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Minnesota Department of **Human Services**
Children and Family Services
444 Lafayette Road, St. Paul, MN 55155-3846

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