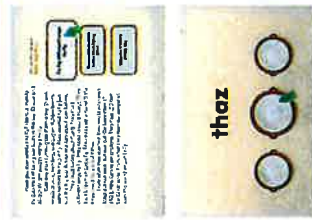


# UPSTART

**UPSTART** United Preparing Students Today  
for A Rewarding Tomorrow

 Waterford Institute





# About UPSTART: The Program

- ◆ UPSTART is an in-home school-readiness program that uses Waterford Institute's award-winning software.
- ◆ Preschool-age children receive an individualized reading, math and science curriculum with an emphasis on reading.
- ◆ UPSTART forms a partnership with parents and caregivers to ensure all children obtain the education necessary for success in school.
- ◆ Computers and internet are provided if the home does not have them.
- ◆ To date, about 30,000 Utah children have participated in UPSTART. More than 60% have been from low-income and Spanish speaking homes.



# When & Where UPSTART Works

- ★ Rural areas where there are no services or distance is too great to reach them and other transportation-challenged communities.
- ★ Children wait-listed for site-based programs, including Head Start.
- ★ Families intending not to send children to center-based preschool but unsure how to prepare their children for school.
- ★ Children who need additional cognitive skill development
- ★ Non-native speaking children who need English language practice

# Educational Software Package



**Waterford Assessments of Core Skills™  
(WACS) adaptive computer-administered test**



**Waterford™ adaptive and sequenced core curriculum**



**Camp Consonant™ multisensory tutoring software**



# Waterford Early Learning Correlations

Head Start Child Outcomes:  
Correlated 100%

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NAEYC Guidelines for Curriculum Content:  
100% Correlated

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Council of Administrators of Special  
Education: Three-  
Year Endorsement received 7/1/2016

# UPSTART's Unique User Support

- ★ Dual-language support
- ★ Frequent proactive contact:
  - *Written materials*
  - *In-person and online training*
  - *Emails with offline activities for parents*
  - *Motivational phone calls*

This support system forms a partnership with parents to ensure children get the most from the program's learning opportunities.



# What about Social Emotional?

UPSTART trains parents and guardians (English and Spanish) to manage this key instruction.

In addition to social/emotional growth, UPSTART stresses social studies, creative arts, and physical/health and safety by:

- Providing weekly emails (English and Spanish) that give parents/guardians information to work with their children to achieve these outcomes
- Providing offline resources and activities available on the UPSTART website (English and Spanish)
- Describing developmentally appropriate modeling as well as strategies and activities for parents to use with their children.





# Measuring Results

**Software usage** is tracked for each child and reported on a weekly basis.

**Parent feedback** on the program and how to improve it is extremely important for planning.

**WACS** gives a pre-program baseline and a past-program evaluation.

An **external evaluation** of the Utah program uses a treatment and control model to evaluate the program.

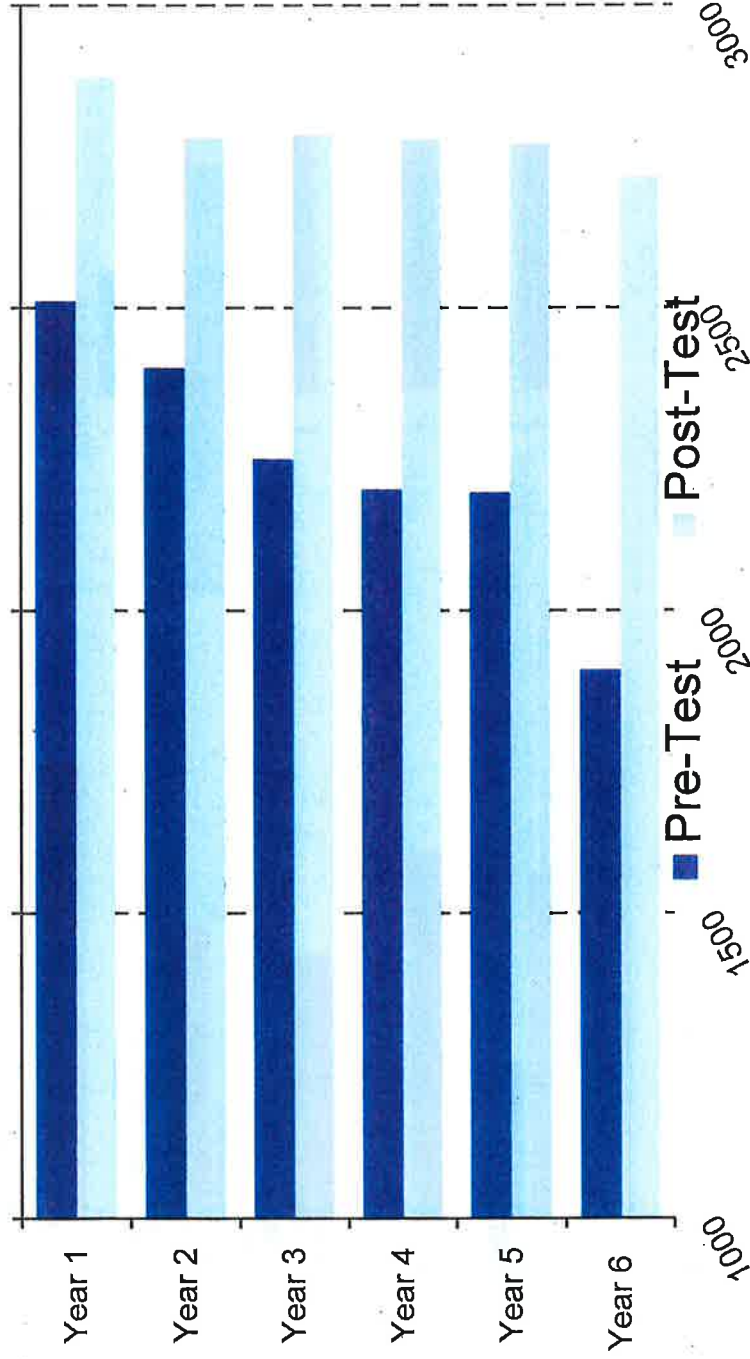
A **Randomized Control Trial** was conducted for Waterford's i3 Validation Grant.

**Pilot Programs in Other States.**





# WACS Reading Score Gains, Years 1-6



The fade-out effect is a key concern in supporting early learning.

Last Spring the Utah State Board of Education completed a longitudinal study of UPSTART participants that showed:

UPSTART children maintain their learning lead over children who did not participate in UPSTART through the fourth grade (the highest grade level achieved by UPSTART children). That held true for:

**Overall**

**ELL**

**Special Education**

**Minority Children**

**Low-Income Children**

The study results are in your packets.



**MEMORANDUM**

**TO:** Members, Utah State Board of Education

**FROM:** Diana Suddreth  
Director, Teaching and Learning

**DATE:** April 14-15, 2016

**INFORMATION:** Report - *Utah Preparing Students Today for a Rewarding Tomorrow*  
(UPSTART)

---

**Background:**

The UPSTART Program, outlined in 53A-1a-1000, is a home-based preschool program, developed and provided by Waterford, to prepare preschool children for school and future academic success. An independent evaluation is conducted to represent the effectiveness of UPSTART. This report addresses the number of families participating in the program, the frequency of use of the instructional software, and student performance on assessments.

**Board Strategic Plan:**

This item supports the following imperatives and strategies in the Board's Strategic Plan:

- Educational equity

**Anticipated Action:**

The Standards and Assessment Committee will review the Cohort 6 report on the UPSTART Program prior to its presentation to the Education Interim Committee.

**Contact:** Sara Wiebke, 801-538-7935  
Jennifer Throndsen, 801-538-7893  
Diana Suddreth, 801-538-7739  
Rich Nye, 801-538-7550

# UPSTART Program

Report of FY 2016



Prepared by the  
Utah State Office of Education

April 14- 15, 2016

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# UPSTART

*In Compliance with Intent Language of 53A-1a-1001*

## Introduction: UPSTART Cohort 6

Utah Preparing Students Today for a Rewarding Tomorrow (UPSTART) is a pilot project established by the Utah State Legislature that uses a home-based education technology approach to develop the school readiness skills of preschool children. In its sixth year of operation, the project's implementation contractor – the Waterford Institute – enrolled 5,091 preschool children and provided them with an adaptive program of computer-based early literacy instruction to prepare them academically for kindergarten. Children enrolled in the sixth year cohort, hereafter referred to as Cohort 6 (C6), participated in UPSTART from September 2014 through June 2015.

The UPSTART software uses adaptive lessons, digital books, songs, and activities to deliver early literacy content. The reading skills taught by the Waterford Early Learning Program at Level 1 of the curriculum<sup>1</sup> include:

- Phonological Awareness: phonemic segmenting and blending
- Phonics: letter name knowledge, letter sound knowledge, and word reading
- Comprehension and Vocabulary: vocabulary knowledge and oral comprehension
- Language Concepts: concepts of written language from letters and pictures to basic grammar

Children are encouraged to use the UPSTART program for 15 minutes a day, 5 days a week. Families are provided with parental resources and technical support from Waterford customer service representatives.

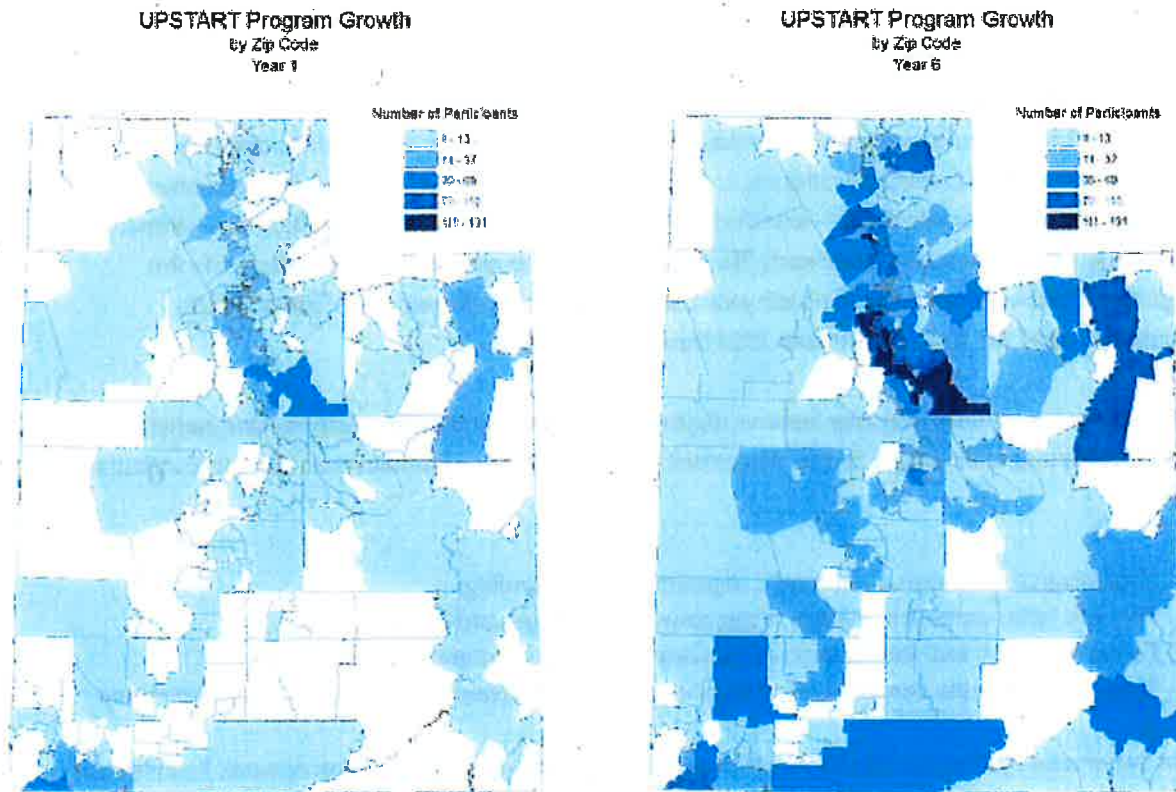
## Program Implementation: Demographics

The 2014-15 program year marked a breakout year for UPSTART enrollment, rising from 1,577 preschool students in year five to 5,091 in year six, an increase of over 300 percent. This significant increase was due to an additional one million dollar allocation, less students requiring hardware and internet, and lower equipment cost. The maps depicted in **Figure 1** showcase UPSTART program participation by student zip code from the inception of the program (Year 1, N=1,248) to the most recent program year (Year 6, N=5,091). As seen below in **Figure 1**, the UPSTART program has furthered its reach over the past six years and augmented enrollment in both urban and rural areas of the state:

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<sup>1</sup> Level One is the beginning point of the curriculum where the preschool child begins as a nonreader and is introduced to skills designed to teach the child to read.

**Figure 1. Map of UPSTART program participation in Year 1 and Year 6**



Demographic characteristics of the C6 population are presented below in **Table 1**, along with characteristics of UPSTART children comprising the matched treatment sample.

**Table 1**  
**Demographic Characteristics of C6 Population**

Demographic Categories		All C6 UPSTART (N=5,091)	Matched Treatment (N=138)
Child's Gender	Male	48%	48%
	Female	52%	52%
Child's Ethnicity	White	83%	94%
	Hispanic	12%	2%
	Asian/Pacific Islander	3%	3%
	African American	1%	0%
	Native American	<1%	1%
	Other	2%	1%
Child's Language	English	92%	100%
	Spanish	7%	0%



	Other	1%	0%
Parent Educational Attainment	Some High School	3%	1%
	High School Graduate	10%	15%
	Some College	36%	83%
	College Graduate	42%	1%
	Advanced Degree	9%	0%
Parent Marital Status	Married	94%	95%
	Otherwise	6%	5%
Household Poverty Level	Under 100%	16%	12%
	Under 185%	45%	49%
	Under 200%	50%	53%

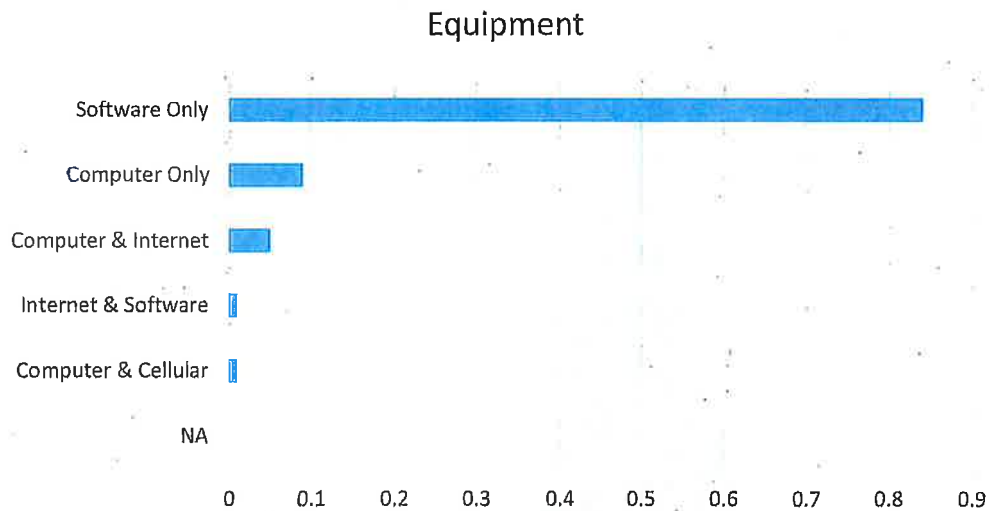
Note: Percentages may not add to 100% due to rounding.

## Program Implementation: Equipment

The type of education technology provided to UPSTART children in Year 6 of the program is shown in **Figure 2**. The vast majority of UPSTART children (84%) used the Waterford website to retrieve the UPSTART program, allowing families to access the UPSTART curriculum from their home computers.

For the remaining students, UPSTART provided personal computers to 9% of the C6 children while they participated in the program. Another 5% of the C6 program participants were provided with internet subscriptions and personal computers. The remaining 7% of the C6 enrollment received various combinations of computer technology to enable them to access the UPSTART curriculum (see **Figure 2** for details).

**Figure 2. Equipment provided to C6 Participants by Waterford**



\*Note: Percentages may not add to 100% due to rounding.

## Program Implementation: Usage

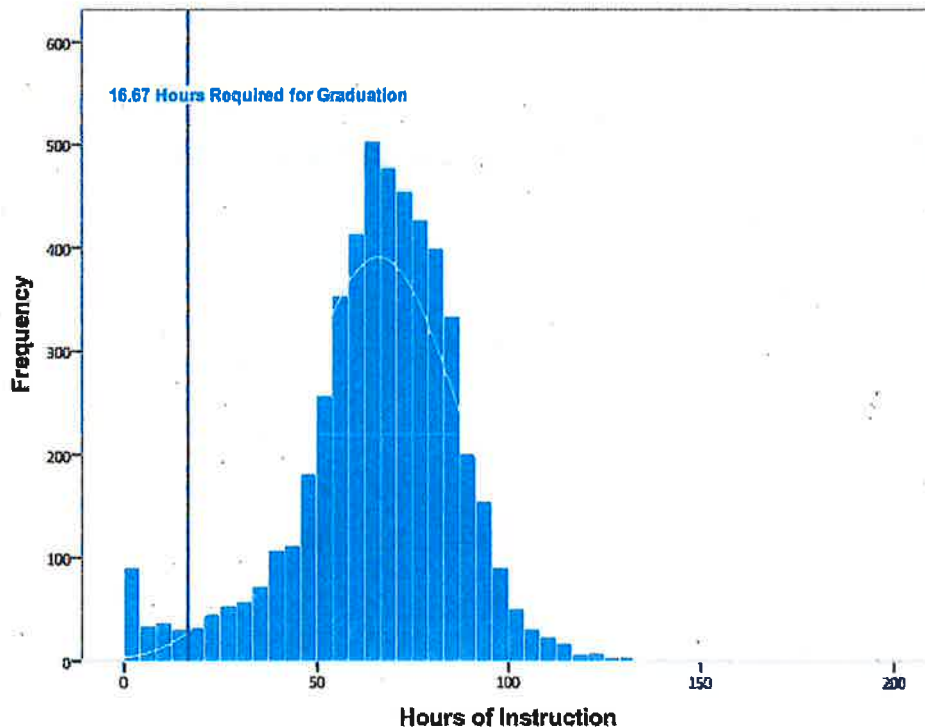
Program usage was reviewed for all UPSTART participants. The hours of instruction observed for all children enrolled in C6 are summarized in **Table 2**. The average level of usage was approximately 67 hours of instruction; this is slightly less than the average level of usage as documented in the fifth year of the program (71 hours). The C6 academic year covered 44 weeks of instruction, beginning the week of September 1, 2014 and ending June 29, 2015.

**Table 2**  
**C6 Hours of UPSTART Instruction**

Group	N	Mean	SD	Range
All UPSTART	5,091	66.75	21.64	00.00 - 183.56

The histogram in **Figure 3** shows the distribution of hours of instruction for the total C6 population (N=5,091). Forty-five of the enrolled families who were provided instructional equipment (e.g., computers, an Internet subscription, and a computer drive) did not log any instructional time in the UPSTART curriculum and dropped out of the program within eight weeks of enrollment. At the other end of the spectrum, six children logged over 150 hours of instruction. For enrolled families whose children did use the curriculum, the average duration in the program was approximately 41 weeks. This usage pattern is similar to that observed in the fifth year of the program. Similar to previous years, the sixth year evaluation of UPSTART found curriculum usage to be significantly and positively related to literacy outcomes.

**Figure 3. Hours of Instruction for C6 Families**



## Research Methods

The evaluation of UPSTART’s sixth cohort moved from using a nonequivalent control group, seen in previous years, to a pre-test/post-test design with a statistically balanced one-to-one match of treatment and control students to assess the program’s impact on developing children’s early literacy skills in preschool. The independent evaluator, ETI (Evaluation and Training Institute), enhanced the established evaluation design to meet a higher level of accountability for the Cohort 6 students and to ensure that the program resources were having a positive impact on school readiness. While requiring a larger sample size, the matching process enhanced their ability to detect treatment effects and, in general, improved the accuracy of the evaluation results. The research findings cover two areas: how the program was implemented and what types of impact it had on children’s literacy. Simply put, using a matching process to develop the treatment and control groups is a stronger method for ruling out the influence of preexisting differences between groups on program outcomes.

The matching process resulted in a data file with comparable (matched) students in each group so that there could be improved precision in estimating treatment effects. **Table 3** displays the demographic breakdown of the matched treatment and control groups.

**Table 3**  
**Matched Treatment-Control Comparisons on Key Demographics**

Demographic Categories		Treatment (N=138)	Control (N=138)
Child Gender	Female	49%	49%
	Male	51%	51%
Child Ethnicity	Caucasian	98%	98%
	Hispanic	1%	1%
Child Language	English	100%	100%
Parent Education Level	High School Diploma	12%	10%
	Some College	75%	75%
	Bachelor’s degree	9%	9%
	Graduate degree	3%	5%
Parent Marital Status	Married	95%	89%
Household Income	Under \$10,000	2%	2%
	\$10k-\$24,999	5%	10%
	\$25k-\$49,999	29%	29%
	\$50k-\$74,999	35%	34%
	\$75k-\$99,999	24%	17%
	\$100k or more	5%	8%

## Outcome Measures

The outcomes for the UPSTART evaluation are measures of early literacy skills that are aligned to the UPSTART curriculum and considered to be important predictors of later reading ability, such as phonological awareness, letter knowledge, and vocabulary. In order to measure these outcomes in our



treatment and control groups, ETI used appropriate subscales from two standardized measures of early literacy, the Brigance Inventory of Educational Development and the Bader Reading and Language Inventory.

The Brigance Inventory of Educational Development was selected as an early literacy measure of phonics and vocabulary knowledge and as a measure of pre-Kindergarten academic and cognitive skills. Ten scales were administered from the language development and academic/cognitive domains of the Brigance. Brigance subscales measured the literacy constructs of *vocabulary and syntax, pre-literacy discrimination, letter knowledge, and decoding*.

The Bader Reading and Language Inventory was selected as a measure of *phonological awareness*. Phonological awareness involves the child's ability to detect the sound structure of spoken words at three levels: rhyming, syllables, and phonemes. The Bader is comprised of three phonological awareness subtests: rhyme recognition, phonemic blending, phoneme segmentation.

## Impacts on Literacy

Results from effect size and growth score analyses indicated that participation in UPSTART had a strong impact on children's emerging literacy skills. Children enrolled in UPSTART produced large effects (ES = .81) compared to control children on the Brigance composite, an instrument that measures decoding skills, letter knowledge, vocabulary and syntax, and pre-literacy discrimination. Similarly, UPSTART participants experienced large effects (ES = .95) on the Bader, an instrument assessing children's phonological awareness.

## Do UPSTART students have better literacy skills at entry to kindergarten than control students?

Effect sizes<sup>2</sup> were calculated to show the magnitude of UPSTART's impact at post-test as measured by each of the 13 literacy subtests (10 Brigance subtests and 3 Bader subtests), and the Total Brigance and Bader Composites (composites include aggregated results of the subtests). An effect size (ES) is a measure that describes the magnitude of the difference between two groups, essentially standardizing a scale so the results are easy to interpret and have meaning. Cohen (1998) categorizes effect sizes as small (0.2), medium (0.5), and large (0.8). Combined post-test results showed that UPSTART participation had a large impact on students' early literacy skill development. In the matched post-test sample<sup>3</sup> (N=271), UPSTART produced large effects (.95 and .81) as measured by the total Bader and Brigance composite scores (see **Figure 4**).

---

<sup>2</sup> Effect size (Cohen's *d*) was calculated for each test as the treatment group mean minus the control group mean divided by the pooled standard deviation.

<sup>3</sup> Treatment Group (N = 138); Control Group (N = 133)

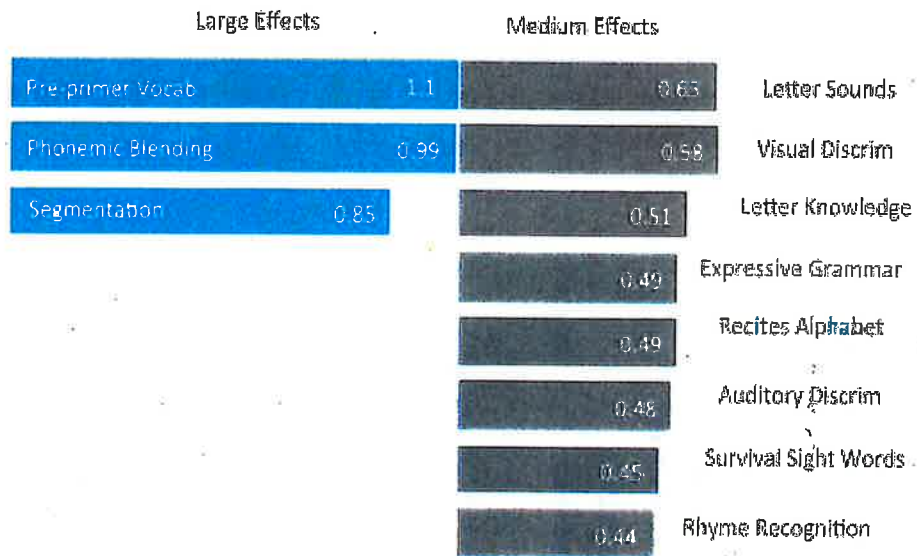
**Figure 4. Brigance and Bader Posttest Analysis of Composite Scores**



UPSTART children scored significantly higher on eleven of the thirteen Brigance and Bader subtests on the post-test, showing strong empirical evidence that UPSTART was successful helping children develop key early literacy skills. The ES estimates for individual subtests ranged from .44 (Rhyme Recognition) to 1.1 (Pre-primer Vocabulary) and would be considered medium to large effects. Expressive and Receptive Vocabulary subtests were the only subtests in which the treatment and control groups were non-significant at post-test.

**Figure 5** presents the ES of each literacy subtest based on the size of their effects (small, medium or large). UPSTART had the largest impact on pre-primer vocabulary (1.1), phonemic blending (.99), and phonemic segmentation (.85).

**Figure 5. Effect size estimates by magnitude of effect**



## Do UPSTART students show stronger literacy growth rates from preschool to kindergarten than control students?

Growth rates for the treatment and control children were compared based on the observed difference scores between the post-test and the pre-test.

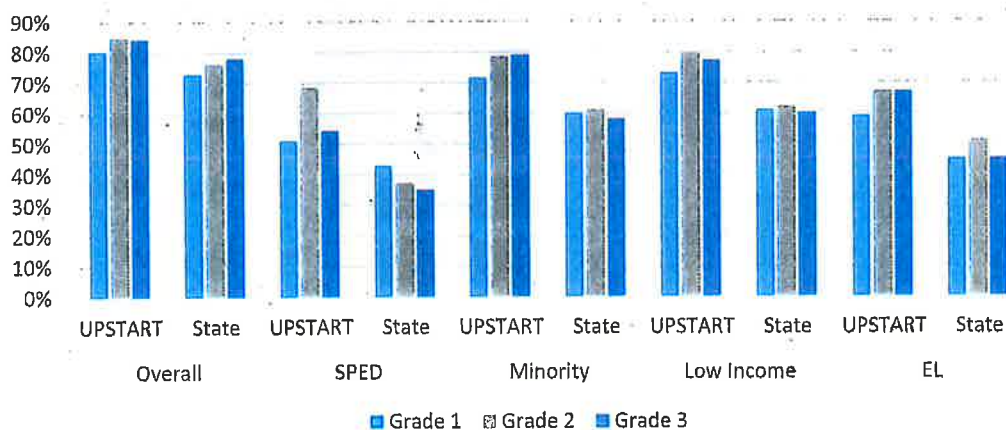
- The treatment group showed significantly ( $p < .05$ ) stronger mean literacy growth rates compared to the control group on the Total Bader and Brigance Composites, with the treatment group scoring an average of 7 points higher on the Bader and 37 points higher on the Brigance.
- The treatment group showed statistically stronger ( $p < .05$ ) literacy growth rates compared to the control group on five out of ten Brigance subtests (Letter Knowledge, Letter Sounds, Auditory Discrimination, Survival Sight Words, and Basic Vocabulary) and all three Bader subtests (Rhyme Recognition, Phonemic Blending, and Segmentation).
- There was no difference in growth rates between the treatment and control group on the following four subtests: Expressive and Receptive Vocabulary (measures vocabulary and syntax), Expressive Grammar (measures vocabulary and syntax), Visual Discrimination (measures pre-literacy discrimination), and Recites Alphabet (measures letter knowledge).
- Of the five literacy constructs in which the Brigance and Bader subtests measure, Vocabulary and Syntax was the only construct in which growth rates between the treatment and control students were not statistically significant ( $p < .05$ ).

## Longitudinal Effects

Longitudinal data was gathered and measured against state averages, to inform whether UPSTART has a lasting effect. UPSTART students continually out performed state averages in DIBELS and SAGE testing in grades first through fourth. **Figures 6-11** display overall, special education (SPED), minority, low income, and English learner (EL) data.

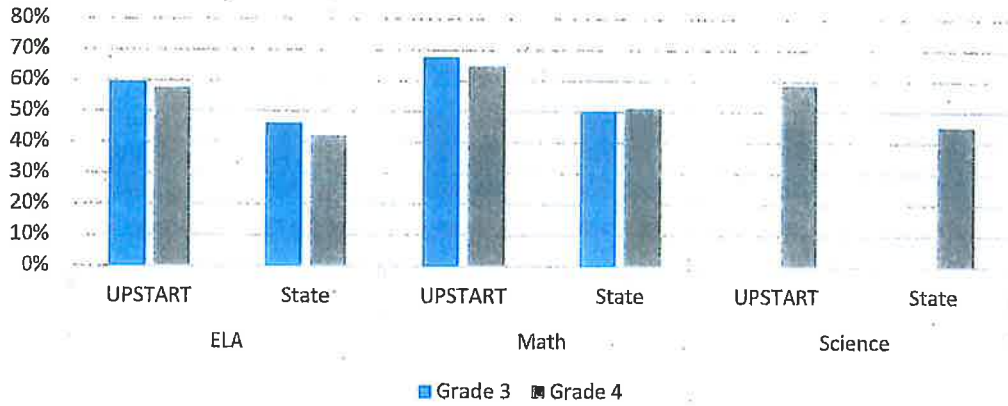
Figure 6

### DIBELS



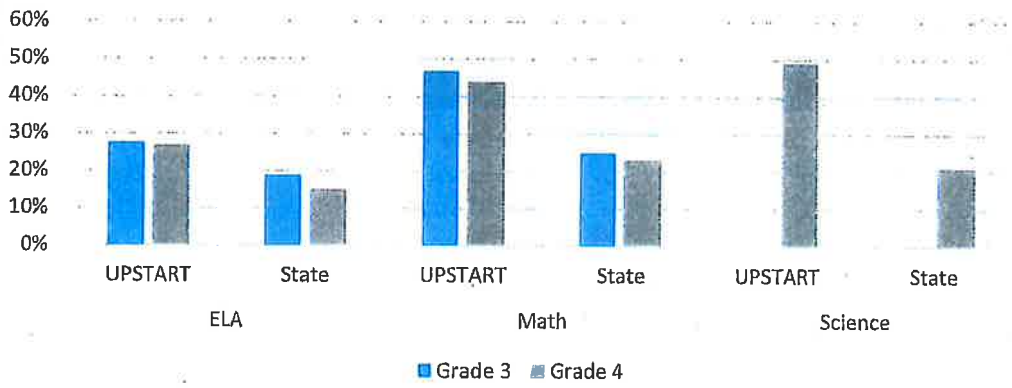


**Figure 7**  
SAGE Overall



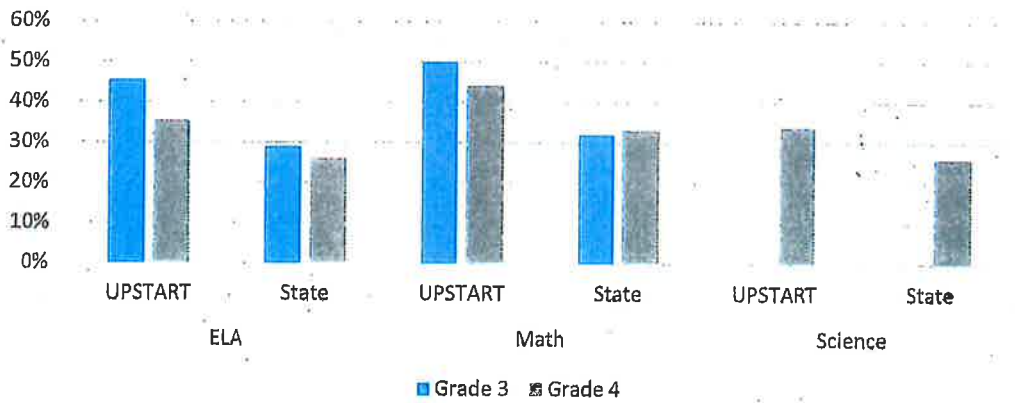
**Figure 8**

SAGE - SPED



**Figure 9**

SAGE - Minority





# Idaho UPSTART Pilot Report

Prepared September 2016





**Cover photo: Twin Falls Graduation**

## **Background**

Eight years ago, Waterford Research Institute, a nonprofit founded in 1976 with a mission to use technology to help provide educational equity and excellence for all children, developed the UPSTART program as a unique response to the need for kindergarten-readiness training. UPSTART provides preschool-age children with access in their homes to outstanding instruction in reading, math, and science. The overarching goal of the UPSTART program is to provide truly individualized instruction, serving children with the greatest needs, while, at the same time, challenging gifted children to reach their full potential.

The UPSTART program recognizes the home and parents and guardians as key educational resources. The home provides the benefit that education can take place seven days a week without the need to travel for access to instruction. Parents and guardians can provide the motivation for children to ensure that they spend the necessary time on program materials. To capitalize on these key resources, UPSTART provides a special support organization for participating children and their parents. Unlike a typical support structure, which is passive in relation to users except when there are problems and questions to be solved, the UPSTART support team maintains frequent contact through written materials, in-person and online training, emails, and phone calls. All communication and support is conducted in English and Spanish, and every effort is made to accommodate other languages as well. The strategy is to provide a steady stream of data on children's usage and performance, as well as introduce motivational strategies for maintaining their interest.

## **The Idaho UPSTART Pilot**

In Idaho, the UPSTART pilot program was comprised of two software programs:

- *Waterford Early Learning™* (WEL) delivers individualized instruction in reading, math, and science that adapts to each child's learning trajectory. The program includes: 360 digital books; 330 animated songs; thousands of activities and lessons; and hundreds of instructional hours that meet national, state, and professional standards and guidelines. In Idaho, participating children were required to use the Early Reading Program (ERP) software and could then move on to the Early Math Software. Data reflected in this report is related to ERP.
- *Waterford Assessments of Core Skills™* (WACS) is a fundamental testing breakthrough for assessing very young children who do not know how to read. It is computer adaptive and offers scoring and reports easily understood by parents.

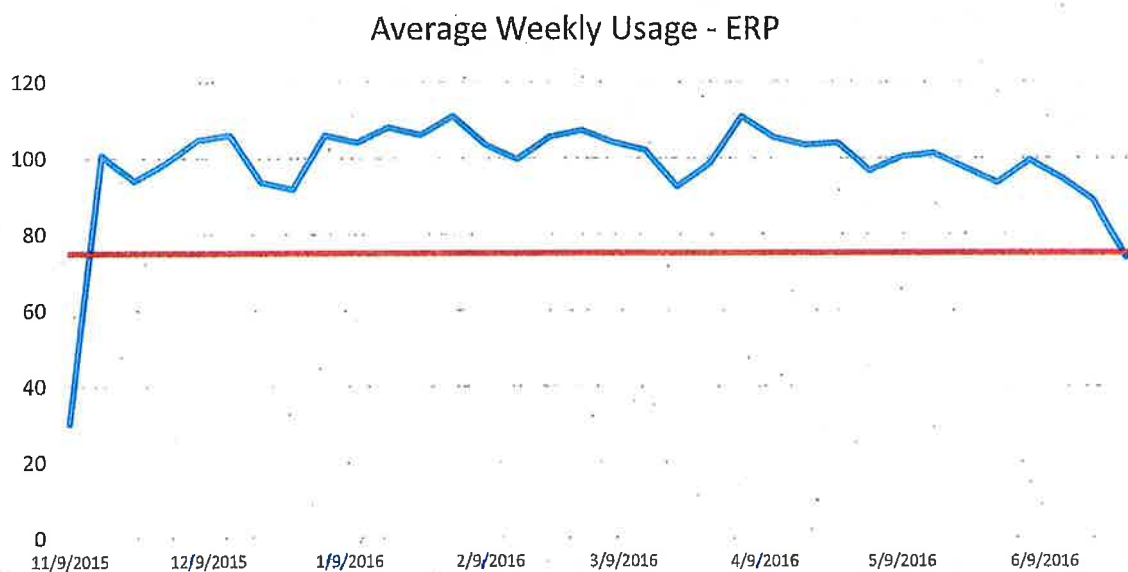
Children used the UPSTART program in their homes as part of an Idaho pilot from November 2015 until August 2016. Children were recruited in three general areas for participation: Idaho Falls, Twin Falls, and Salmon.

Waterford staff members conducted in-person parent/guardian training in November. At the same time, participating children were assessed using the Waterford Assessments of Core Skills™ to provide a

baseline for evaluating the pilot program. In August, the Waterford team returned to Idaho for "graduation," where children were assessed for a second time using WACS, and parents were asked to complete a survey related to their experience with the UPSTART pilot program.

## Usage

Program use is a key indicator of parent involvement and children's outcomes. Children in the pilot averaged a total of 3,035 total minutes on the program and had a weekly average of 100 minutes compared to the program participation requirement of 75 minutes a week (charted on the following graph).



## Waterford Assessments of Core Skills Results

*Waterford Assessments of Core Skills™ (WACS)* is a computerized adaptive test of early literacy for students in pre- kindergarten through second grade. Initial content validity for WACS was established against state and national standards for 11 subtests:

- letter recognition
- letter sound
- initial sound recognition
- blending
- segmenting (an advanced skill not included in the UPSTART WACS test)
- reading real words
- reading nonsense words
- sight words
- reading comprehension

- listening comprehension
- vocabulary



**Children taking WACS in Idaho Falls**

All items were calibrated for item response theory to determine item difficulty. To establish concurrent validity and predictive validity, student performance on WACS was compared to performance on five commonly-used standardized tests also measuring early reading skills: [DIBELS, Texas Primary Reading Indicator (TPRI), Idaho Reading Indicator (IRI); Iowa Tests of Basic Skills (ITBS), and Stanford Achievement Test Series (SAT 10)]. All correlations between tests are highly significant. Additional analyses indicate that WACS is internally coherent and has strong test-retest reliability.

WACS is an adaptive test. Pre-kindergarten students such as those in the UPSTART Program, only see the basic skills unless they perform well, in which case they also see advanced skills. When students take WACS for the first time, most of them receive basic skills only. As students use WEL and advance in their reading abilities, they perform better at the end of the program when taking WACS, and are able to successfully complete basic and advanced skills. Therefore, the number of students receiving advanced skills increases from the beginning of the program to the end of the program. Additionally, as more students complete reading comprehension successfully at the end of the program, fewer students complete listening comprehension at that time.

The following is the question difficulty ranges for WACS by grade. Note each grade is divided into thirds; for example, kindergarten beginning, kindergarten intermediate, and kindergarten advanced.

Grade	Beginning	Intermediate	Advanced
Preschool	1001 - 1333	1334 - 1666	1667 - 2000
K	2001 - 2333	2334 - 2666	2667 - 3000
1	3001 - 3333	3334 - 3666	3667 - 4000
2	4001 - 4333	4334 - 4666	4667 - 5000
3	5001 - 5333	5334 - 5666	5667 - 6000
4	6001 - 6333	6334 - 6666	6667 - 7000

In Idaho, scores for students were obtained on the following sub-strands: Overall Score, Blending, Initial Sounds, Letter Sounds, Letter Recognition, Listening Comprehension, Reading Comprehension, Vocabulary, Nonsense Words, Sight Words, and Real Words.

Using a Paired Samples *t*-Test, pretest and posttest scores were analyzed. For means, see graph below. The results are as follows:

***Overall Score***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 30) = -6.83, p < .01$ .

***Blending***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 30) = -5.15, p < .01$ .

***Initial Sounds***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 30) = -3.03, p < .01$ .

***Letter Sounds***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 30) = -2.89, p < .01$ .

***Letter Recognition***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 30) = -3.35, p < .01$ .

***Listening Comprehension***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 22) = -3.04, p < .01$ .

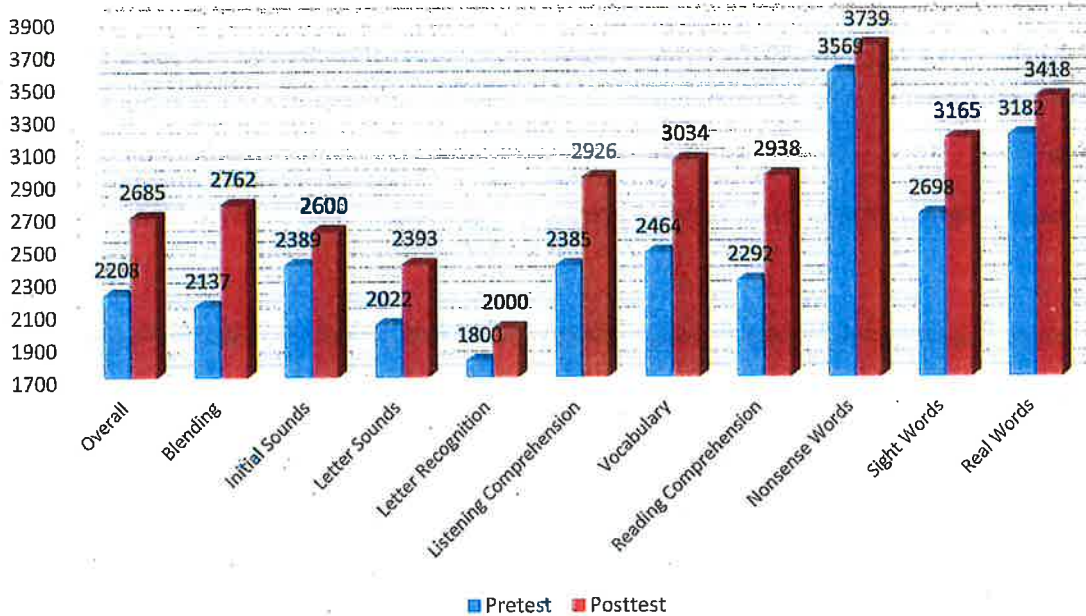
***Vocabulary***

Analysis revealed a significant difference between pretest and posttest scores,  $t(1, 30) = -2.80, p < .01$ .

Results for advanced skills are not reported as the number of students completing both tests is too small.



## Pretest vs. Posttest Mean Scores



Measured Individual Skill	Final WACS Score	Grade Equivalent
<b>Overall</b>	2685	Kindergarten Advanced
<b>Blending</b>	2762	Kindergarten Advanced
<b>Initial Sounds</b>	2600	Kindergarten Intermediate
<b>Letter Sounds</b>	2393	Kindergarten Intermediate
<b>Letter Recognition</b>	2000	Kindergarten Beginning*
<b>Listening Comprehension</b>	2926	Kindergarten Advanced
<b>Vocabulary</b>	3034	1 <sup>st</sup> Grade Beginning
<b>Reading Comprehension</b>	2938	Kindergarten Advanced
<b>Nonsense Words</b>	3739	1 <sup>st</sup> Grade Advanced
<b>Sight Words</b>	3165	1 <sup>st</sup> Grade Beginning
<b>Real Words</b>	3418	1 <sup>st</sup> Grade Intermediate

\* K beginning is the highest level possible for Letter Recognition

What does this mean? According to some researchers, the cumulative, sequential nature of reading skills accounts for much of the difficulty lower-performing students experience when trying to catch up to their peers. These observations have led to the so-called “causal” model of early reading skills which shows all learning builds upon previous learning and is highly systematic. Therefore, it is important that children master a skill before moving on to a new skill because, without the prerequisite knowledge, the child will not successfully master the new concept or skill. Based on this model, WACS tests several concepts and skills necessary to be a fluent reader, some of which build upon one another.

For example, the following is a simplified look at vocabulary-related skills children are expected to master in Kindergarten, First, and Second grade:

**Vocabulary: Kindergarten**

1. Classify words into basic categories, e.g., opposites.
2. Explain word meaning from the context in which the word is used (spoken or written).
3. Use words and concepts necessary for understanding math, science, social studies and other Kindergarten content area text.

**Vocabulary: First Grade**

1. Identify the meaning of words by using common inflectional endings, e.g. s, ed, ing.
2. Identify common antonyms, synonyms, and homonyms.
3. Use words and concepts necessary for comprehending math, science, social studies, literature and other Grade 1 content area text.
4. Use personal and picture dictionaries to confirm and determine meanings of unfamiliar words.

**Vocabulary: Second Grade**

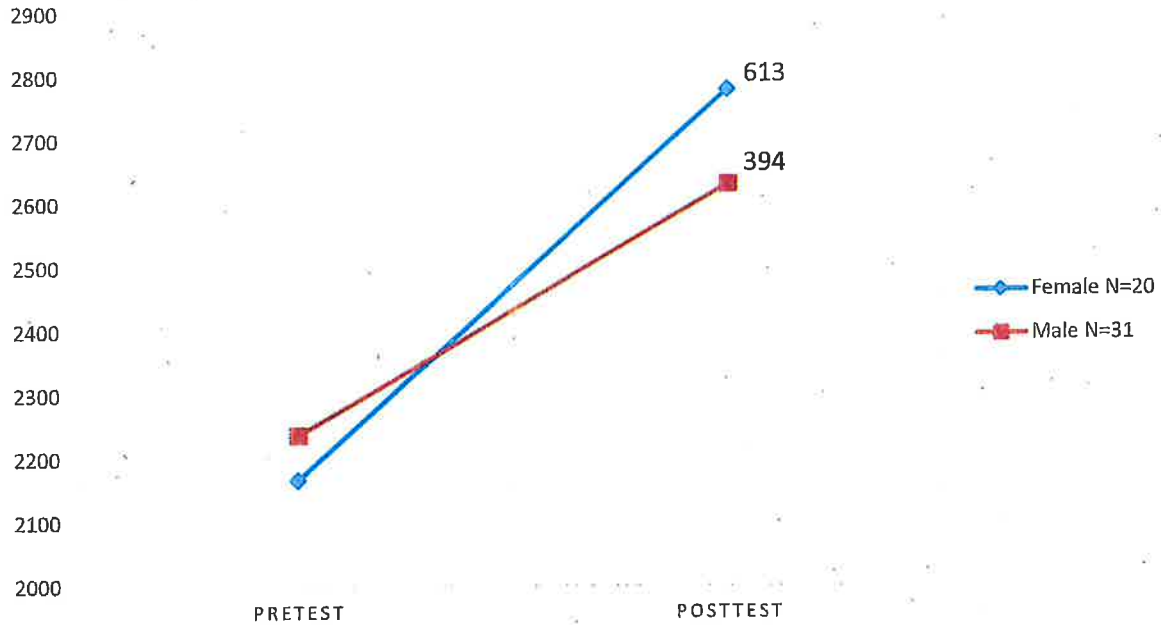
1. Identify simple prefixes, contractions, and suffixes to determine the meaning of unknown words.
2. Identify common antonyms, synonyms, and homonyms to determine meaning of words.
3. Use words and concepts necessary for comprehending math, science, social studies, literature and other Grade 2 content area text.
4. Use a grade-level appropriate dictionary and glossary to define and confirm meaning of unknown words

Looking at WACS measurement for Kindergarten, for example, a child evaluated at Kindergarten Beginning would understand how to classify words into basic categories. A child identified as Kindergarten Intermediate would know that as well as be able to explain word meanings from the context in which a word is used in a story being read to him/her. And a child evaluated at Kindergarten Advanced would have mastered those two skills as well as know words related to math, science, and social studies as they are taught in Kindergarten. First and second grade would follow a similar scenario. All of this shows how far along on the path a child is to learning to read and understand what is being read—a process with many, many undergirding skills along the way.

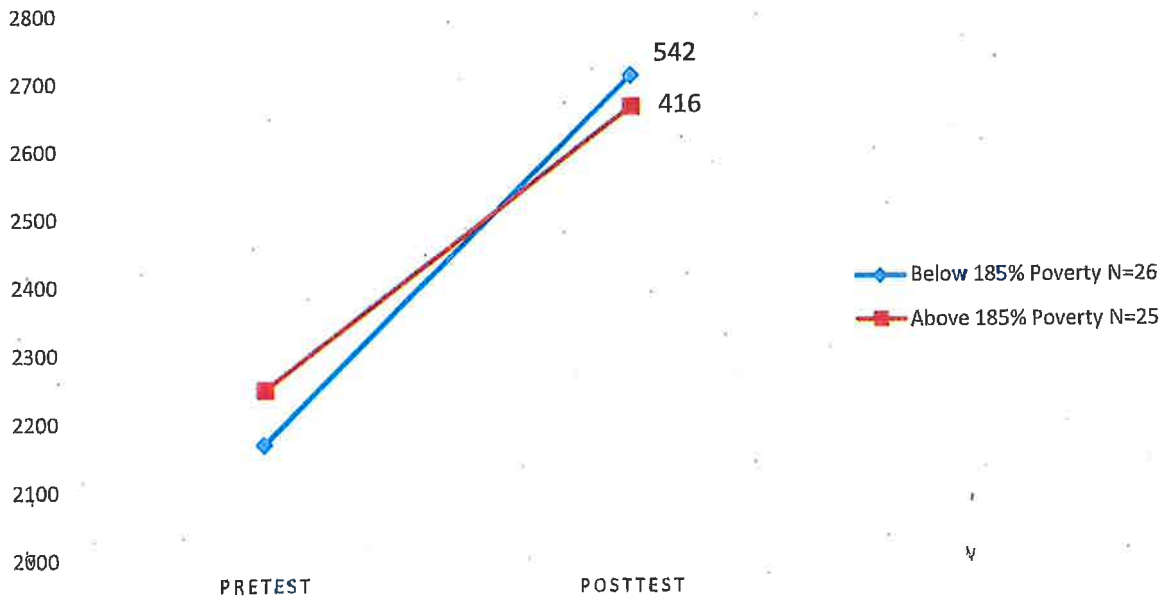
It is important to note that WACS does not test vocabulary differently in the different grades, except for including pictures for the youngest learners and words later. What does change, however, is the difficulty of the words. They become harder according to what children should know in a specific grade.

The following graphs show ERP WACS gains by gender and socioeconomic status (SES). The numbers within the graph indicate point score gains from pretest to posttest.

### WACS GAINS AND MEAN SCORES GROUPED BY GENDER



### WACS GAINS AND MEAN SCORES GROUPED BY SES



The following table shows Mean WACS Posttest Score by Parent Household Income Level.

Parent Household Income Level	Mean WACS Posttest Score	N
< \$15,730	2603	5
\$15,731 - \$19,790	2195	2
\$19,791 - \$23,850	3413	1
\$23,851 - \$36,030	2468	3
\$36,031 - \$39,580	2848	1
\$39,581 - \$40,090	3031	1
\$40,091 - \$47,700	2666	4
\$47,701 - \$48,210	3037	2
\$48,211 - \$51,634	2340	1
\$51,635 - \$55,820	2615	3
\$55,821 - \$60,390	3011	1
\$60,391 - \$64,450	2499	1
\$64,451 - \$66,656	3041	2
\$66,657 - \$72,060	2885	2
\$72,061 - \$80,180	2632	7
\$80,181 - \$88,300	2912	4
\$88,301 - \$96,420	2358	5
\$96,421 - \$104,211	2516	2
\$104,212 - \$250,000	2130	1

### Additional Outcomes Data

The final report data is related to the learning software's sequencer and children's mastery of learning concepts. Waterford's sequencer has a hierarchical structure. Activities are bundled into "objectives," each with a discreet learning goal and a target mastery score (80% on average). Objectives, in turn, are organized in order of difficulty into instructional strands. Each objective produces a mastery score based on student performance. The sequencer determines which objective within the instructional strand to present next based on the student's mastery score. The most important thing is that each student works at his/her own pace.

Each objective within the sequencer is made up of a combination of activities from the following categories:

**Pre-assessments** measure the students' background knowledge to determine the level of instruction needed for an objective or a set of objectives.

**Songs** engage students with music and memorable lyrics to teach and reteach concepts.

**Introductions** provide brief overviews of the learning objectives or provide quick hints on what will come next and how to be successful with that skill.



**Instructions** explicitly teach the target learning objective.

**Books** provide students with experience applying their developing literacy skills, particularly the target skill for the objective.

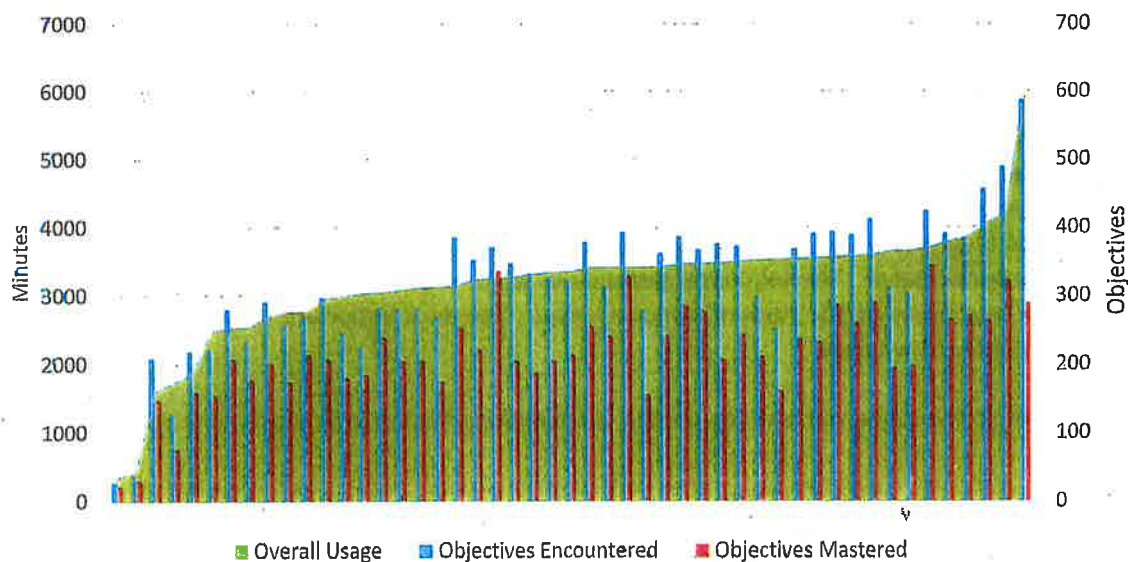
**Practice** applies instruction through repetition, usually in a game.

**Post-assessments** measure the students' mastery at the end of an objective or unit and determine whether the student needs remediation.

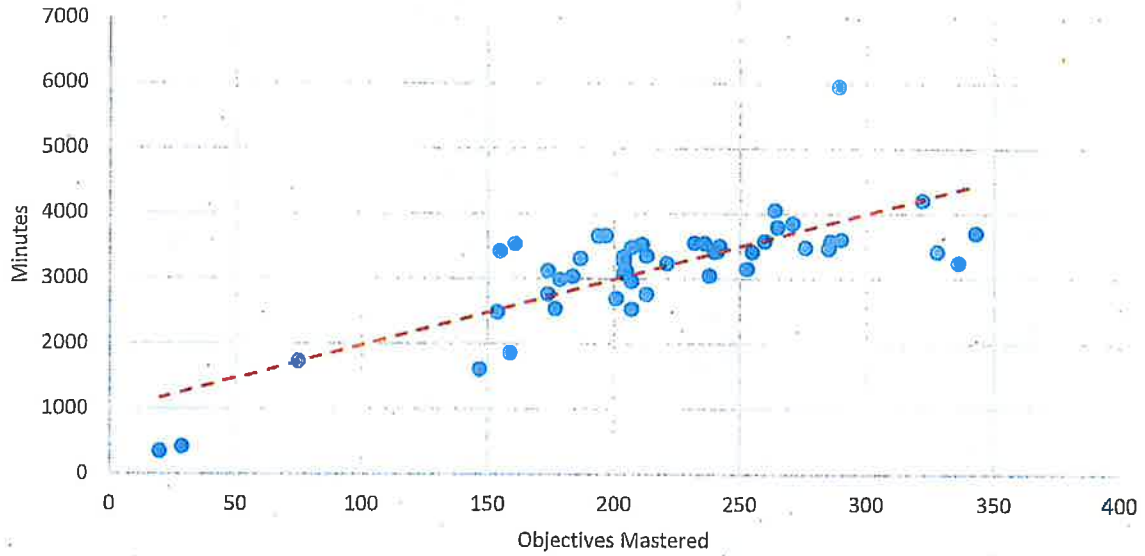
The sequencer is designed to provide individualized instruction by choosing those activities that will most benefit the student. It determines activities designed to introduce, instruct, practice, and assess student performance on specific reading and math skills. Based on performance, the sequencer will run remedial activities to re-teach and practice skills again, or advance to another objective if the student is mastering the concepts.

The charts below show that the children in the pilot program had a high level of mastering the objectives and learning strands they encountered. The charts also show that the greater the usage, the greater the number of objectives encountered and mastered.

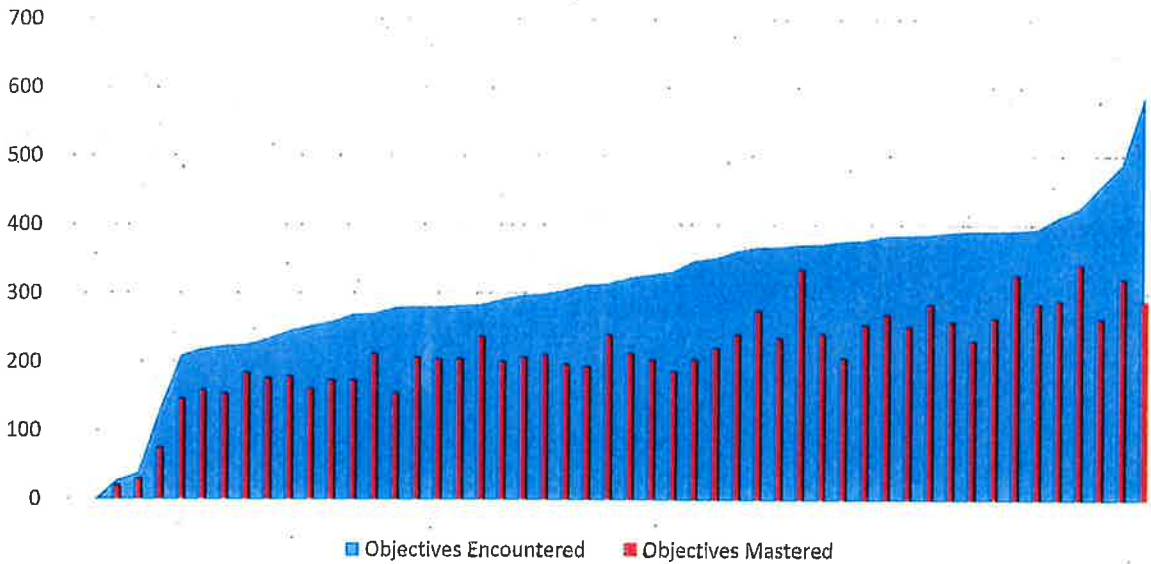
Overall Usage vs. Objectives Encountered/Mastered - ERP



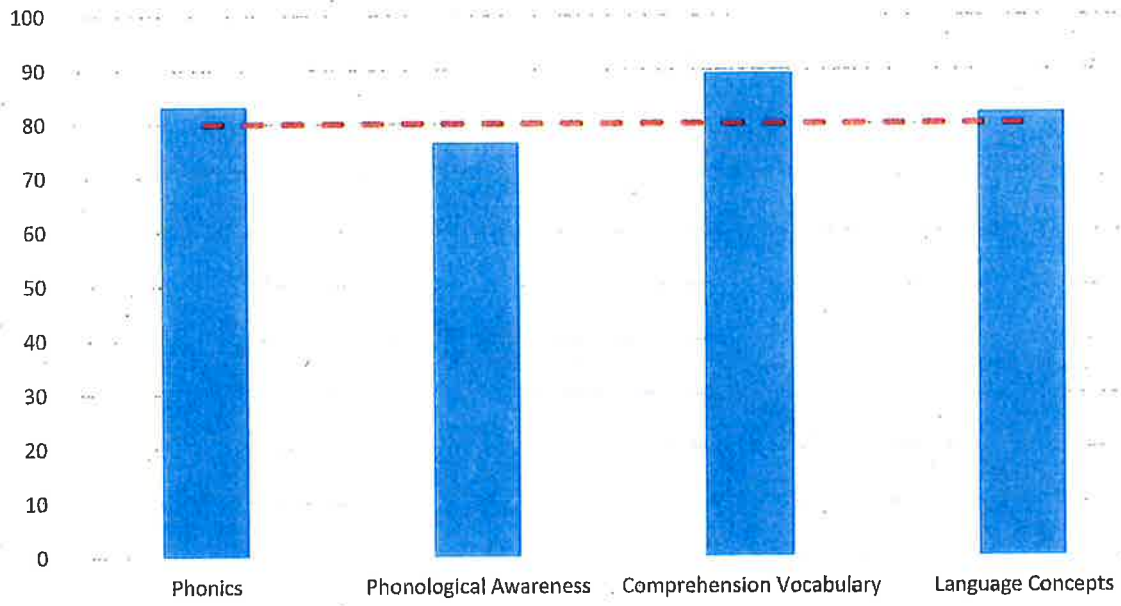
Overall Usage vs. Objectives Mastered - ERP



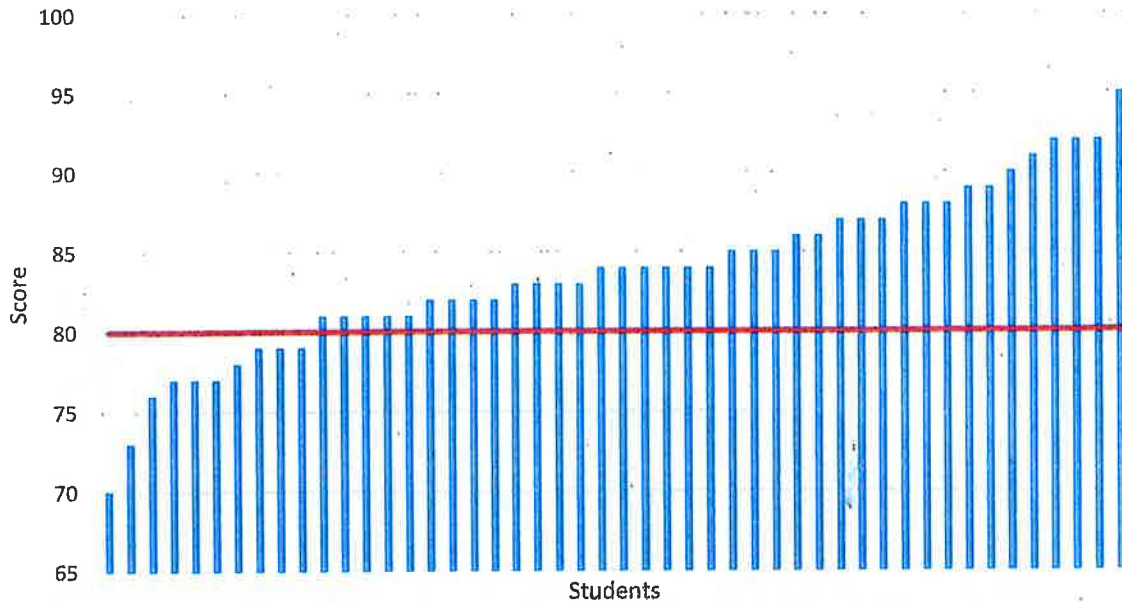
Objectives Encountered vs. Mastered - ERP



Average Strand Scores - ERP



Average Overall Scores - ERP





*Parents, grandparents, and family members attend graduation in Idaho Falls*

#### **Parent Satisfaction Level with the UPSTART Program and Related Survey Questions**

Parents/Guardians participating in the program completed a lengthy survey to provide feedback related to their experience and their child's experience in the pilot program as follows:

- 1. UPSTART was helpful in preparing my child for Kindergarten.**  
Yes 100%  
No 0%
  
- 2. Participating in UPSTART was beneficial.**  
Yes 100%  
No 0%
  
- 3. I would recommend the program to my family members and/or friends.**  
Yes 100%  
No 0%
  
- 4. If you had/have younger siblings, would you enroll them in UPSTART?**  
Yes 100%  
No 0%
  
- 5. While in the UPSTART program, I was more interested in my child's education than before the UPSTART program.**  
Yes 55%  
No 45%



- 6. While in the UPTART program, I was more involved in learning activities with my child at home than before the UPSTART program (e.g. reading, playing educational games, etc.).**  
Yes 61%  
No 39%
- 7. While my child was in the UPTART program, I became more aware of what my child needed to learn and my child's academic abilities.**  
Yes 94%  
No 6%
- 8. When my child attends elementary school, I feel that because of the UPSTART program, I will be more involved in my child's education than I would have been if my child had not been a part of the program.**  
Yes 58%  
No 42%
- 9. Representatives were friendly and courteous in our communications.**  
Yes 100%  
No 0%
- 10. Representatives were knowledgeable about the program and the software.**  
Yes 100%  
No 0%
- 11. Any issues I had were resolved to my satisfaction.**  
Yes 100%  
No 0%
- 12. In general, did your child enjoy the software?**  
Yes 100%  
No 0%
- 13. Overall, was the software:**  
Too Easy 0%  
Too Hard 3%  
Just Right 97%
- 14. Do you feel that the usage requirements were too strict?**  
Yes 10%  
No 90%

**15. Do you feel the UPSTART program is a good fit for Idaho?**

Yes 100%

No 0%

**Why?**

All children benefit from this very interesting appealing program for all children. It helps kids learn responsibilities and they get positive rewards for their hard work.

As a teacher I was very impressed with the pace and learning of the program. I loved how it worked on the letters and sounds of the letters at the same time. I loved the program?

There is a great need and interest here if people are given the chance to learn about the program.

I loved UPSTART and the program it offered my daughter. Thank you so much for giving us the opportunity to participate.

It actually tracks progress and needs to customize a learning program for each child. It provides an excellent preparation for children to enter Kindergarten ready and in many cases ahead.

There are a lot of kids in smaller towns where preschools are not offered. Families are able to more easily have a computer for them to use rather than drive to one.

It prepares students for Kindergarten and gives them a head start to be successful in reading and learning in the future.

I loved having an option to do in my home with my child as I had younger children including a grand new baby. It was easy, fun, and a very productive use of our time at home. Plus my 2 year old learned and used the program too. Love it!

It was flexible and easy to use. I felt like my child made lots of progress.

It prepares kids for Kindergarten and is an option available for those that don't afford or have time for traditional preschools.

There are no other programs like this in Idaho and it was so nice to have this program! I really hope they continue offering UPSTART in Idaho.

Most private preschools are very expensive and over half the kids entering Kindergarten don't have letter and sound recognition.

Children in any state could benefit.

I think it will give them a head start into Kindergarten.

I think it's a great fit for Idaho. I was impressed with the comprehensiveness of the program from home. It covered the basics that are needed for Kindergarten.

Because I want my kids to do it.

Such a great way for kids to prepare for preschool. And it's FREE! We hope to be able to get my younger kids involved in the program.

Especially with rural areas, low income or working parents. This makes preschool accessible to everyone and definitely gives the kids a good start for Kindergarten.

The UPSTART Program totally helped my son learn to read.

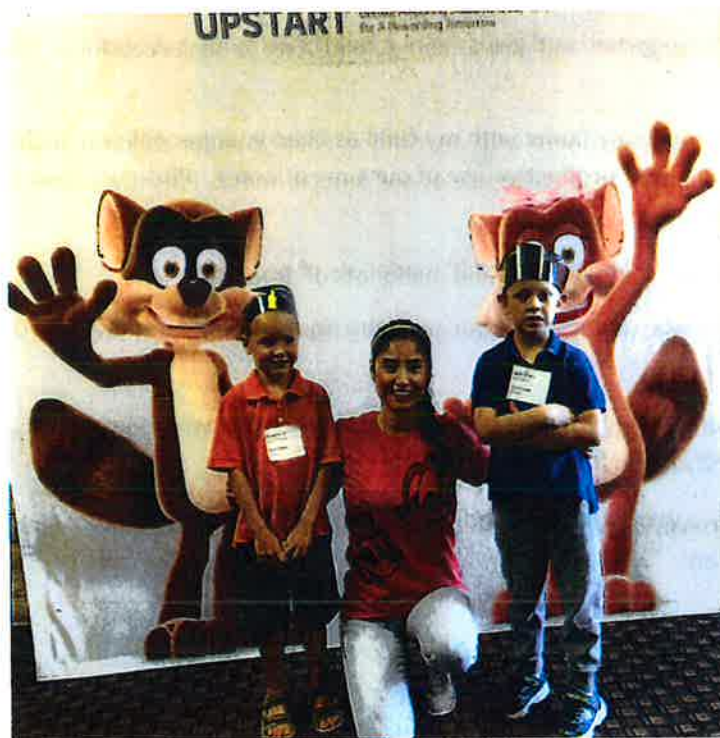
**Are there any stories or anecdotes you would like to share about how UPSTART helped your child?**

She knew that it was one of her jobs to get preschool done before she could play or do other things. When she felt that she was getting it, she was excited and wanted to keep going longer and longer.

My son loved the songs that would teach him important reading concepts. He would sing along with it and dance. It was a wonderful experience to work with UPSTART. I am so thrilled with the results and excited for him to start Kindergarten. I am SO sad that this amazing program will not be in Idaho next year! I have a 4-year-old that could benefit. ☹

UPSTART prepared my daughter for Kindergarten and heled her develop a learning routine that will continue in Kindergarten and future grades. I feel like the head start she got in reading will help her be successful in learning throughout her life. Reading makes it possible to succeed in everything! Thank you for the great program!

My child was reading in the middle/end of the program without my help. I was and am so impressed that this program taught her and gave her that skill along with many m any more skills. So impressed.



***Graduates in Salmon with UPSTART Personal Care Representative Claudia Jimenez***