

Montana Upstart Pilot Programs

Nonprofit Waterford.org was awarded a Federal Education Innovation and Research (EIR) Expansion Grant that has been used to provide the Waterford Upstart kindergarten readiness program to approximately 600 four- and five-year-old children in Montana during the 2020-2021 and 2021-2022 school years.

About Waterford Upstart: Waterford Upstart is an **in-home kindergarten readiness program** that was **created by the Utah State Legislature in 2009**. The program is implemented by nonprofit Waterford.org and helps children develop the cognitive and social-emotional skills they need for school success.

- Four- and five-year-old children use **Waterford Upstart in the home for 15 minutes a day**, five days a week.
 - The usage model falls **well within the American Academy of Pediatrics (AAP) recommendation of no more than one hour of screen time per day for 4-year-old children**.
- Children receive a **personalized curriculum in reading or math and science**.
- **Each family receives coaching to ensure strong parental engagement**. Waterford Upstart empowers parents in the education of their young children through a parent engagement curriculum developed over the program's 13 years of experience working with families.
 - While the curriculum is in English, **families are supported in English and Spanish, with translation services offered for additional languages**, as needed.
- **Social-emotional learning** is modeled in the curriculum and developed by parents through off-line activities.
- **All participants receive computers and Internet service is provided as part of the program** if the home does not have connectivity.

Evidence of Effectiveness: Upstart's evidence of effectiveness has been thoroughly vetted in the most rigorous contexts and was a critical factor in recent **Federal Education Innovation and Research (EIR) Expansion Grant** and **TED Audacious Project** awards.

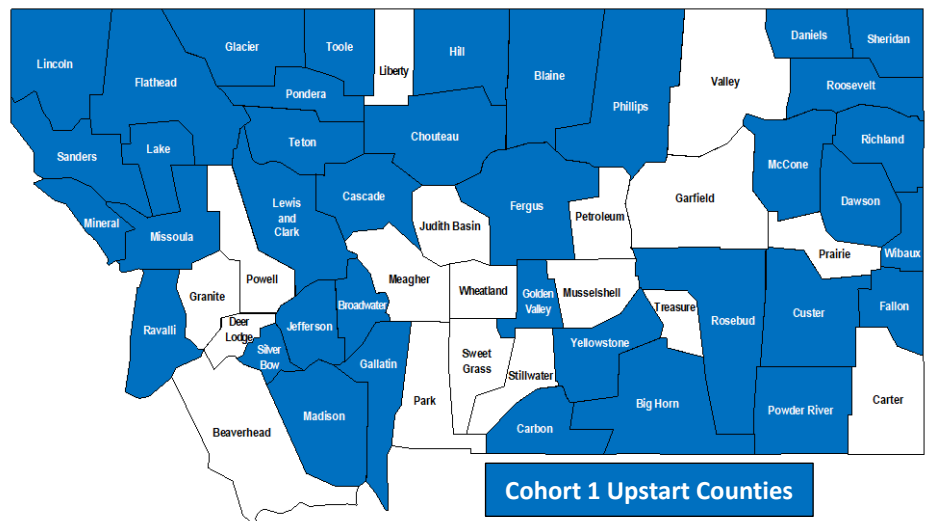
- Meets **What Works Clearinghouse standards without reservation** and **ESSA Tier 1 Strong Evidence** standards.
- Upstart's **third-party randomized controlled trial (RCT) study** for the U.S. Department of Education produced significant and sizable positive effects: 0.42 standard deviations of improvement in literacy for the reading group relative to the math group, and 0.38 in math for the math group relative to the reading group.
- Similarly, over **eleven years of external evaluations** in Utah show Upstart children achieving 2X–3X the learning gains than non-Upstart children.

Montana Upstart Pilot Programs: **Waterford Upstart is aligned to Montana Early Learning Standards**; Head Start Early Learning Outcomes Framework; is a Certified Autism Resource; meets WIDA standards for language development; and is endorsed by the Council of Administrators of Special Education (CASE).

- As part of the grant, Waterford.org convened a **TASK Force with education stakeholders across the state** – including representatives from child development centers, Local Educational Agencies, and the Office of Public Instruction – to introduce Waterford Upstart and seek guidance on program implementation.
- Under the grant, Waterford.org provided Waterford Upstart to approximately **600 four- and five-year-old children across Montana** over the past two years, serving **219 children under Cohort 1** (2020-2021 school year) and **393 children under Cohort 2** (2021-2022 school year).

Cohort 1 (2020-2021 school year)

- Statewide, approximately **220 children** from **87 different municipalities** across **38 counties** used Waterford Upstart in the home as part of Cohort 1.
- 76.92% rural** participants and **23.08% non-rural** participants.
- 44.78% of families below 185% of the Federal Poverty Level.**



Cohort 1 Upstart Counties

| County | Count |
|------------|-------|
| Big Horn | 3 |
| Blaine | 1 |
| Broadwater | 2 |
| Carbon | 1 |
| Cascade | 15 |
| Chouteau | 1 |
| Custer | 2 |
| Daniels | 1 |
| Dawson | 2 |
| Fallon | 3 |

| County | Count |
|-----------------|-------|
| Fergus | 1 |
| Flathead | 18 |
| Gallatin | 17 |
| Glacier | 7 |
| Golden Valley | 3 |
| Hill | 5 |
| Jefferson | 3 |
| Lake | 13 |
| Lewis and Clark | 12 |
| Lincoln | 1 |

| County | Count |
|--------------|-------|
| Madison | 5 |
| McCone | 1 |
| Mineral | 4 |
| Missoula | 15 |
| Phillips | 1 |
| Pondera | 1 |
| Powder River | 7 |
| Ravalli | 14 |
| Richland | 3 |
| Roosevelt | 3 |

| County | Count |
|--------------|------------|
| Rosebud | 1 |
| Sanders | 3 |
| Sheridan | 1 |
| Silver Bow | 3 |
| Teton | 4 |
| Toole | 1 |
| Wibaux | 2 |
| Yellowstone | 39 |
| TOTAL | 219 |

Average Weekly Usage: Montana Upstart participants’ average **reading usage** on a weekly basis was **77 minutes** compared to the **usage criterion of 75 minutes per week**. The average total reading usage was **2,667 minutes**.

Montana Upstart participants’ average **math and science usage** on a weekly basis was **77 minutes** compared to the **usage criterion of 75 minutes per week**. The average total math and science usage was **2,621 minutes**.

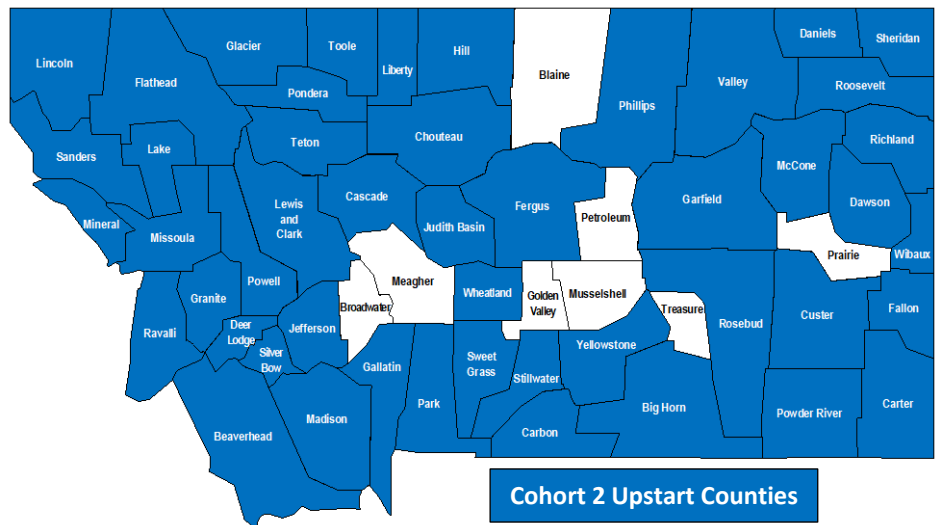
Reading Program Outcomes: The **Waterford Assessment of Core Skills (WACS)** is a **computerized adaptive test of early literacy for students** with initial content validity established against state and national standards. To establish concurrent validity and predictive validity, **student performance on WACS was compared to performance on five commonly-used standardized tests** also measuring early reading skills, **including DIBELS** (Dynamic Indicators of Basic Early Literacy Skills), **IRI** (Idaho Reading Indicator), **ITBS** (Iowa Tests of Basic Skills), **SAT 10** (Stanford Achievement Test Series), and **TPRI** (Texas Primary Reading Inventory).

Average final scores for Cohort 1 showed the following **notable outcomes:**

- Children’s outcomes averaged at the “Kindergarten Advanced” level**, where most children score toward the end of the kindergarten year.
- 96.36% of children scored at “Kindergarten Beginning” or above**, demonstrating strong school readiness outcomes.
- 95% of parents said the program helped prepare their child for kindergarten** and over **94% of parents would recommend Waterford Upstart** to a friend or colleague.

Cohort 2 (2021-2022 school year)

- Statewide, approximately **400 children** from **97 different municipalities** across **48 counties** registered for Cohort 2 of the program that will be complete in June 2022.
- 87.79% rural** participants and **12.21% non-rural** participants.
- 56.74% of families below 185% of the Federal Poverty Level.**



Cohort 2 Upstart Counties

| County | Count |
|------------|-------|
| Beaverhead | 2 |
| Big Horn | 2 |
| Carbon | 2 |
| Carter | 2 |
| Cascade | 75 |
| Chouteau | 1 |
| Custer | 4 |
| Daniels | 1 |
| Dawson | 5 |
| Deer Lodge | 1 |
| Fallon | 3 |
| Fergus | 5 |
| Flathead | 19 |

| County | Count |
|-----------------|-------|
| Gallatin | 22 |
| Garfield | 1 |
| Glacier | 10 |
| Granite | 2 |
| Hill | 2 |
| Jefferson | 7 |
| Lake | 7 |
| Lewis and Clark | 14 |
| Liberty | 1 |
| Lincoln | 3 |
| Madison | 1 |
| McConc | 1 |

| County | Count |
|--------------|-------|
| Mineral | 4 |
| Missoula | 20 |
| Park | 1 |
| Phillips | 2 |
| Pondera | 7 |
| Powder River | 4 |
| Powell | 2 |
| Ravalli | 15 |
| Richland | 6 |
| Roosevelt | 3 |
| Rosebud | 3 |
| Sanders | 5 |
| Sheridan | 4 |

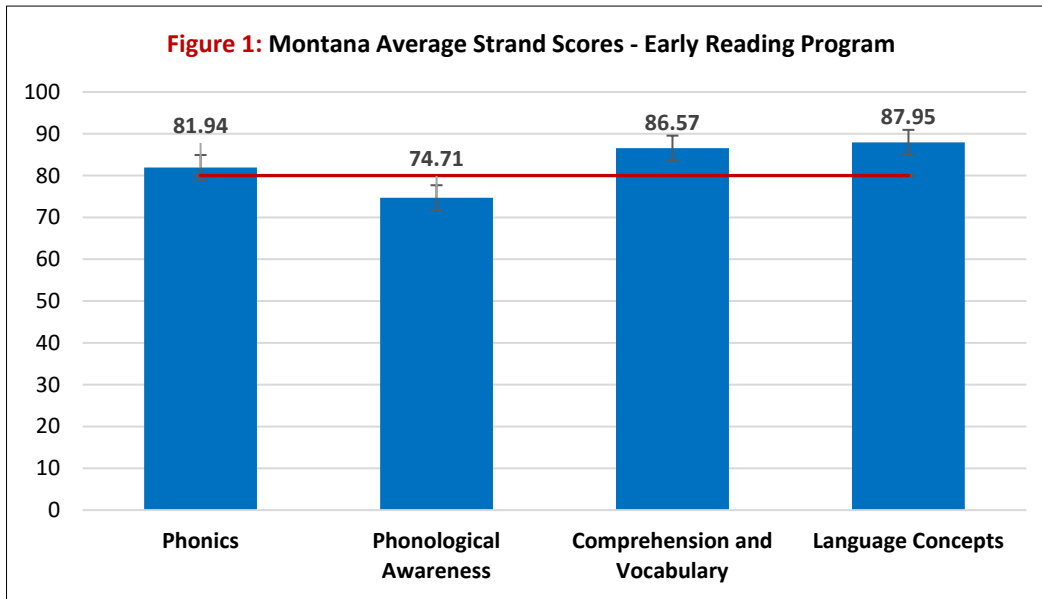
| County | Count |
|--------------|------------|
| Silver Bow | 4 |
| Stillwater | 9 |
| Sweet Grass | 1 |
| Teton | 1 |
| Toole | 5 |
| Valley | 3 |
| Wheatland | 1 |
| Wibaux | 5 |
| Yellowstone | 94 |
| TOTAL | 393 |

Average Weekly Usage: Montana Upstart participants’ average **reading usage** on a weekly basis has been **65 minutes** compared to the **usage criterion of 75 minutes per week**. The average total reading usage after twenty-four weeks on the program has been **1,246 minutes**.

Montana Upstart participants’ average **math and science usage** on a weekly basis was **75 minutes** compared to the **usage criterion of 75 minutes per week**. The average total math and science usage after twenty-four weeks on the program has been **1,363 minutes**.

Strand Scores: **Reading strand scores** are scores for subskills as a percentage of 100. A **score of 80 or higher within the Waterford Early Reading Program represents mastery**, which is the goal of the cognitively based Waterford Upstart program. The sequencer, within the software, individualizes instruction to provide remediation until a child achieves mastery.

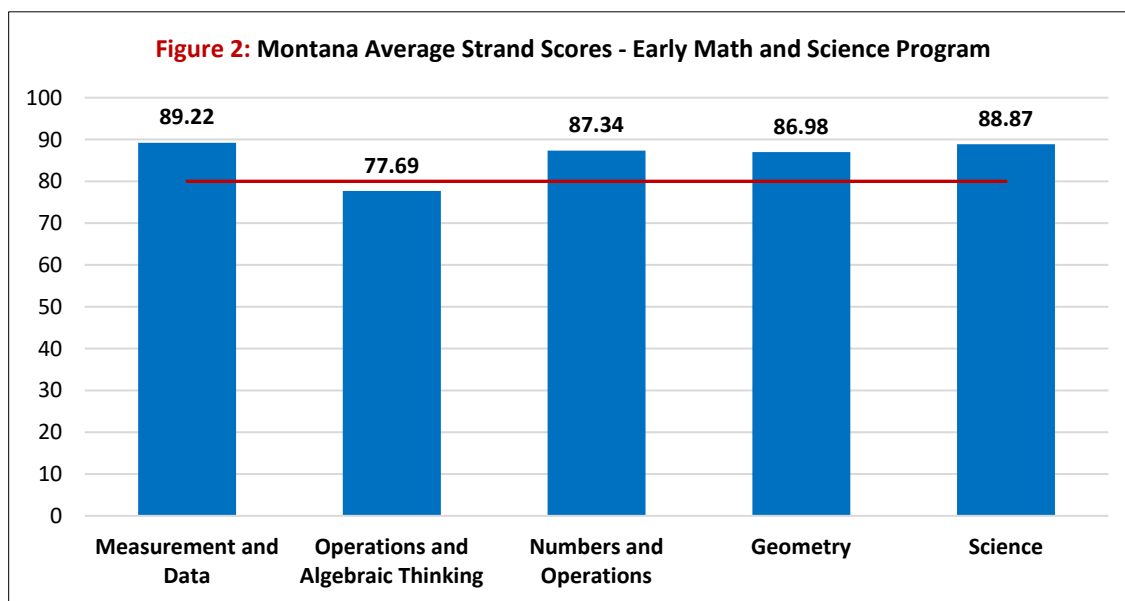
Figure 1 shows the average score, organized by strand, for all students who scored on a given strand for reading. The red line represents the expected average score, 80. **The average score for three of the four reading strands was above 80.**



* *Note: Phonological awareness is an individual's understanding of the sound structure of words (e.g., what rhymes with cat?). As such, it is a difficult skill to learn, aligned closely to age, with significant growth seen even in month variations. While Waterford Upstart helps students work on this skill through the curriculum and offline family activities, there is generally lower performance on this skill strand.*

Strand Scores: Math and science strand scores are scores for subskills as a percentage of 100. A score of 80 or higher within the Waterford Early Math and Science Program represents mastery, which is the goal of the cognitively based Waterford Upstart program. The sequencer, within the software, individualizes instruction to provide remediation until a child achieves mastery.

Figure 2 shows the average score, organized by strand, for all students who scored on a given strand for math and science. The red line represents the expected average score, 80. The average score for four of five of the math and science strands was above 80.



Average Overall Scores: Within the curriculum, the expected average overall score, 80, represents “mastery” of material. After twenty-four weeks on the program, the average overall score within the Early Reading Program was 82.76 and the average overall score within the Early Math and Science Program was 86.43 for children in the Montana Upstart pilot.