

Update on Oregon Department of Education Well-Rounded Access Program (WRAP)



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Background

In October 2020, the U.S. Department of Education awarded the Oregon Department of Education (ODE) a \$9.8 million, 5-Year grant to fund the Well-Rounded Access Program (WRAP), aimed at increasing availability of and access to high quality STEAM (Science, Technology, Engineering, Arts and Math) and Arts opportunities for all Oregon K-12 students. The project focuses on three main components to accomplish its goals: Course Development to create the widespread availability of STEAM and Arts courses; Course Access Structures to ensure that available courses are equitably accessible for all students; and Communication around these efforts to all interested parties, including teachers, administrators, parents, and community members.

In April 2022, ODE contracted the Oregon State University STEM Research Center (SRC) as the independent external evaluator for WRAP to monitor progress and provide timely feedback to ensure project success. The first phase of the evaluation effort focused on gathering baseline data for a number of measures. This “landscape” overview of the current status of STEAM and Arts education is vital to be able to document changes in the future. The evaluation will also provide actionable feedback to the WRAP team to modify communication, course development or course access efforts in support of mid- and long-term outcomes.

ODE and SRC collaboratively developed thirteen evaluation questions designed to guide the development of WRAP and the assessment of WRAP’s strategic impact. The evaluation questions are organized within the three areas of concentration: Course Development, Course Access Structures, and Communication. The evaluation questions guided data acquisition and analysis for the period corresponding to the beginning of WRAP activities, which will serve as a baseline for later comparison (on areas for which baseline data exist). Quantitative data considered in this evaluation effort included enrollment data from statewide STEAM and Arts courses and data from several surveys developed by the SRC. Qualitative data included information from community engagement sessions and open-response items on surveys. ODE and SRC collected data from educators, administrators, students, parents and other community education partners to ensure a variety of ideas and perspectives were represented.

Purpose of the Report

This report focuses on what can be learned from initial data collected at the outset of the project and reports on the state of affairs with regard to key WRAP activities at the midway point of the project. In this regard, baseline data are useful in two principle ways:

- They describe the state of the current system that can inform project design, strategic investment decisions and validate assumptions. This use of initial data to drive innovation or design decisions is commonly referred to as front-end or formative evaluation.
- Where programs funded by WRAP were already serving teachers and students, and investments by WRAP are designed to adjust and expand services, baseline data estimate the foundation from which to assess growth influenced by programmatic investments. Note that a variety of research questions developed for this project are associated with new activities, services or products, and therefore no baseline data exist.

In this report we focus on those evaluation questions for which data already existed or for which we collected data, and we leave out those evaluation questions that will become relevant at a later stage of the project. The report is organized by the three areas of concentration within WRAP: Course Development, Course Access Structures, and Communication.



Course Development

There are currently inequities in the availability of high-quality STEAM and Arts courses, particularly between rural and urban schools. Course development addresses this issue through the expansion of two existing STEAM courses (High School Science for All and Exploring Computer Science) and the development of a new Arts course for elementary students (Arts, Care & Connection) with associated Professional Development opportunities for teachers.

Evaluation Question 1: To what extent did the WRAP lead to increased arts availability and access for public K-12 students and for which students?

Background

- Data show consistent access to at least one arts area at the middle and high school levels, therefore the focus of this evaluation question is on elementary school arts courses. We surveyed Oregon elementary teachers to collect Arts education-related data. Only 25% of the 138 classroom teachers report that art is part of the daily classroom schedule and average weekly art instruction time for all types of elementary educators, including art and music educators, was approximately 60 minutes. The majority of art instruction was in music and visual arts.

Status of WRAP Activities

- The Arts, Care & Connection curriculum has been developed and is currently being piloted in Oregon classrooms.
- WRAP is working with Tribes and Tribal organizations to develop K-12 Tribally developed and Intertribal Native Arts lessons.
- WRAP has created an [Arts Access Toolkit](#) that is available for download on the [WRAP website](#) with an associated informational webinar. The Arts Access Toolkit is an online art education resource for elementary teachers that includes lesson plans connected to arts standards and instructional guidance for teachers.

Evaluation Question 2: To what extent did instruction time increase (either through STEAM-based integration practices or individual content instruction) for elementary school students in the content areas of Science, Computer Science, Technology, or Engineering?

Background

- Science instruction appears to be widespread in elementary school. Most (94%) of the 160 classroom teachers surveyed reported that they teach science either as a dedicated topic, integrated into other classes, or both.

- The amount of time spent on science instruction was low with 77% of surveyed classroom elementary teachers reporting they teach less than 60 minutes of science per week, this is in contrast to a national average of approximately two hours per week for elementary grades¹.

Status of WRAP Activities

- At this time, WRAP does not explicitly address science instruction at the elementary school level. However, this data gathered for the WRAP pertaining to elementary science will help inform other activities across the state to support this area of need and may have a long-term impact on student participation in high school STEAM-based courses beyond the grant timeframe.

Evaluation Question 3: To what extent did access to high quality STEAM-based or arts-specific curriculum increase for educators in both in-person and online settings?

Background

- We used participation of teachers in High School Science for All (HSS4A) and Exploring Computer Science (ECS) professional development to evaluate changes in access to high quality STEAM-based curriculum. We will be measuring if participation in professional development is followed by classroom implementation.
- HSS4A and ECS programs host well-established curriculum and teacher professional development opportunities that predate WRAP. These two programs each use a different professional development model, which results in differences in terms of how many teachers are reached for each program. During the academic year, HSS4A provides 2-hour webinars that are available to all Oregon science teachers and for the three main science disciplines. HSS4A summer professional development occurs over week-long sessions. The ECS model is a cohort model that requires a two year commitment, fidelity to a research-based curriculum and serves fewer teachers as compared to HSS4A.
- For the HSS4A program, participation data from the 2021-2022 academic year will serve as a baseline from which to measure the future impact of the program because WRAP-associated activities (e.g., offering PD during the school year) began in late 2022, although WRAP funding did not begin until 2023. In 2021-22 teachers from 107 Oregon schools participated in HSS4A professional development.

Status of WRAP Activities

- In the 2022-2023 school year, there was a *significant increase in teacher participation in HSS4A professional development* reaching 296 teachers from 131 schools.
- For ECS, WRAP funding has yet to be utilized to support teacher professional development. This along with professional development for Arts, Care & Connection and Native arts will begin in 2024.

Evaluation Question 4: To what extent were WRAP courses applicable and accessible across regions and geographic locales?

Background

- The ECS 2021 and 2022 cohorts consisted of 20 high school teachers. Twelve teachers were from rural schools and 8 from urban schools. The geographic distribution was: 7 teachers from Oregon coast schools, 8 from the Willamette Valley, 1 from Redmond, 1 from Warm Springs and 1 from the Oregon-Idaho border.
- In 2021-22, teachers from 60 urban and 36 rural schools participated in HSS4A online professional development. A map of the geographic distribution of the schools is shown in Figure 1 with rural school locations in blue and urban in red. Participating teachers came from across Oregon including the eastern border with Idaho, the Columbia River corridor and schools on the west coast. There are also clusters through the Willamette Valley and in the Bend-Redmond area. Clusters of urban schools are found in all Oregon metropolitan areas: Portland, Salem, Albany/Corvallis, Eugene, Medford and Bend. The population density in southeastern Oregon is low and there are few schools, none of which have teachers who have participated in HSS4A professional development.

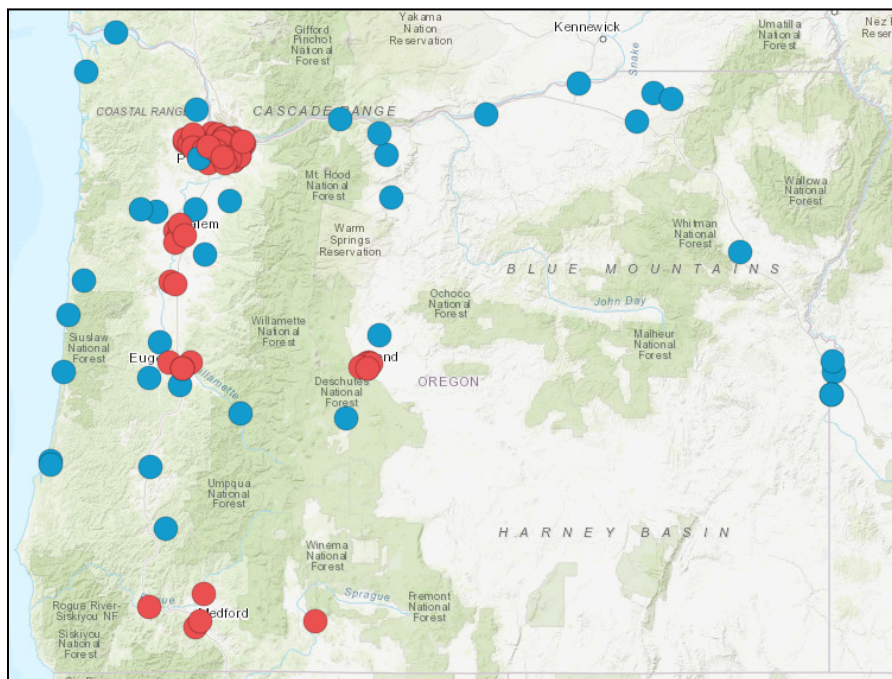


Figure 1. School locations for teachers that participated in HSS4A PD in 2021-22 Red dots are for schools in urban settings, blue for schools in rural settings.

Status of WRAP Activities

- Professional development for ECS is slated to start in 2024.
- In the 2022-2023 academic year, teachers from 131 schools participated in HSS4A online professional development, 69 urban and 53 rural schools. The geographic distribution of the schools is shown in Figure 2 with rural school locations in blue and urban in red. The distribution of schools is similar to Figure 1 although the specific

schools may have changed with some new additions and other schools that did not have continued participation. There are clear increases in the density of some of the clusters, notably in urban areas in the Willamette Valley. A WRAP priority that is being addressed through partnership with the GO STEM Hub is to increase the number of participating rural teachers and schools, especially in eastern and southeastern Oregon.

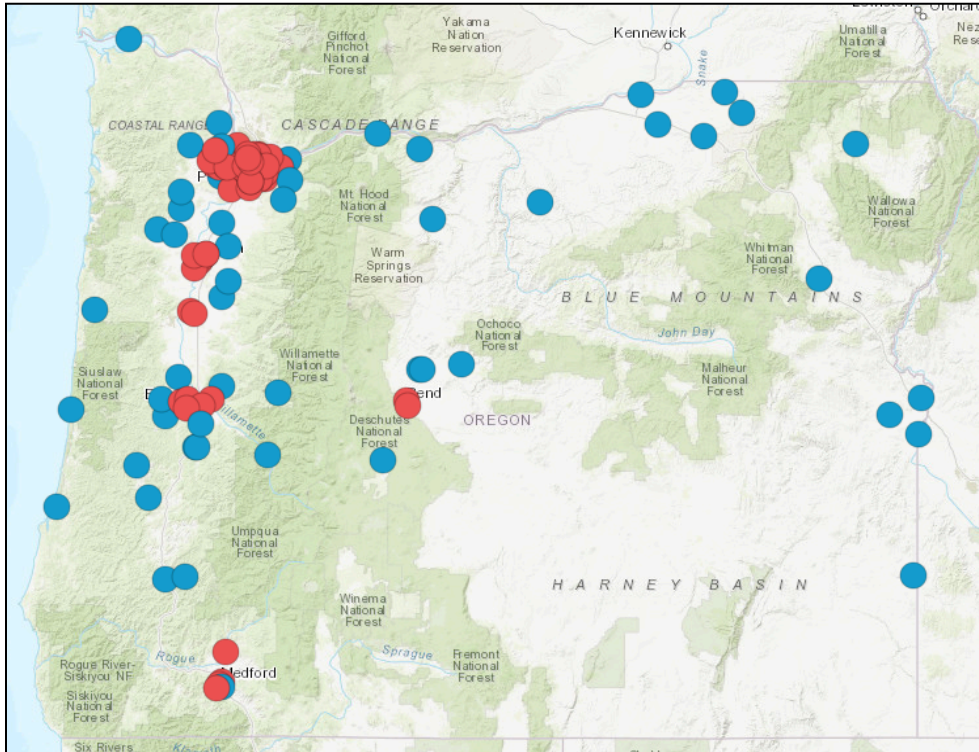


Figure 2. School locations for teachers that participated in HSS4A PD in 2022-2023. Red dots are for schools in urban settings, blue for schools in rural settings.



Course Access Structures

The focus on course access structures addresses the issue that even where well-rounded courses were available, access to such courses was limited for some students. Six data collection efforts (4 surveys and 2 interview/focus group sessions) involving teachers, administrators, community education partners, and the general public provided data to address the following evaluation questions.

Evaluation Question 5: What barriers to participation in well-rounded education persisted and for whom and why?

Background

- For the question “what are the top challenges providing STEAM and Arts education in Oregon” the most common replies were: 1) teachers’ experience with STEAM and Arts content knowledge and 2) lack of appropriate curriculum.
- For the question “what are the challenges for students in accessing STEAM and Arts courses,” equity and inclusion issues such as feeling unwelcome in such classes were commonly mentioned.

Status of WRAP Activities

WRAP will directly address these challenges through the Course Development activities described above by:

- Providing PD opportunities for elementary and high school teachers to expand their STEAM and Arts content knowledge.
- Providing access to high quality, equity-focused curriculum materials for the courses mentioned above that are freely accessible to all teachers in Oregon.



Communication

The third focus area of WRAP centers around communicating the specifics and benefits of well-rounded education, and specifically the importance of Arts and STEAM education. Five data sources (surveys and interview/focus group sessions with administrators, teachers, community education partners, and the general public) provided information to address these questions.

Evaluation Question 6: To what extent did this program increase community, students, families, and educators awareness of what STEAM and Arts education are and their benefits?

Background

- Findings from Community Engagement Sessions indicated that both STEAM and Arts education are highly valued across the education landscape of Oregon (including teachers, administrators, community partners, and parents).
- There is currently not a shared understanding of the definition of STEAM education although integration of content and pedagogical elements (e.g. hands-on) were most frequently associated with STEAM teaching and learning.

Status of WRAP Activities

WRAP will improve communication around STEAM and Arts through widespread dissemination of relevant information and resources:

- An Arts Access Toolkit and associated webinar have been produced and are available for download on the WRAP website.
- A WRAP newsletter is distributed regularly, reaching over 1600 people currently.
- An Arts Education newsletter is also available, reaching about 1400 subscribers.

Evaluation Question 7: To what extent did school administrators understand their funding options for access to well-rounded courses and to what extent were these funding options utilized?

Background

- Although numerous funding opportunities exist, none of the administrators (n=40) surveyed were aware of funding opportunities.
- Many administrators, particularly those in urban schools or districts have negative perceptions around the stability of funding for STEAM and Arts education.

Status of WRAP Activities

- WRAP conducted a funding webinar for administrators that took place on 10/28/22. There were 44 participants.
- The funding webinar is available on the WRAP website for viewing for those who couldn't attend.

Conclusion

The 2 ½ years of WRAP implementation have seen significant progress towards project goals. For Course Development, the WRAP team has partnered with two well-established teacher professional development programs to enhance high school STEAM learning opportunities in science and computer science. Compared to 2021-22, 22% more schools have teachers who participated in science teaching professional development in 2022-23. Three more partners will begin offering professional development in 2024: Exploring Computer Science for high school computer science teachers, the Arts, Care & Connection arts professional development for elementary teachers, and a Native Arts professional development program for all K-12 grades. The production and delivery of the Arts Access Toolkit has provided an important avenue to help guide and provide resources for K-12 Arts instruction. Efforts to improve communication about STEAM teaching and learning has included a STEAM toolkit, launching of the WRAP website, and a regular WRAP newsletter that provides information on recent WRAP initiatives, including professional development opportunities.

¹Banilower, E. R., Smith, P. S., Malzahn, K. A., Plumley, C. L., Gordon, E. M., & Hayes, M. L. (2018). Report of the 2018 NSSME+. Chapel Hill, NC: Horizon Research, Inc.