



Mathematics Pathways Pilot

1. **Purpose:**

Funding was provided to create a mathematics pilot aimed at modernizing Algebra 2. This included utilization of research and stakeholder engagement to develop a revised and expanded course. This project continued and included development of instructional materials and professional learning for teachers as well as pilot implementation and data collection about student and teacher experiences during the pilot.

2. **Description of services provided:**

ESSER funding was utilized to support other aspects of course development and implementation, resulting in a cost-savings for state funds. Modern Algebra 2 curriculum provides an updated approach to Algebra 2 with relevant content, equitable teaching strategies and alignment with university expectations for admission and readiness. Course development began in FY22 with allocated ESSER funding to support learning recovery. Funds were used to contract with a project manager who worked with the Director of Secondary Mathematics to develop additional modules and write assessments for course expansion. Additional funds were used for editing and formatting materials for use, to develop professional learning materials as defined by the course model, and to develop data collection tools, collect data and analyze it.

ESSER funds were used to compensate districts for expenses incurred as teachers attended professional learning experiences and collected data from the pilot.

Contracts identified specific deliverables which included development of instructional materials and assessments that were added to the Canvas platform that houses the course, creation of professional learning modules and facilitator notes and guidance documents that others course developers can use for similar projects.

3. **Criteria for receiving services and/or grants:**

Funding utilized through the pilot must align with the intention of redesigning and expanding Modernizing Algebra 2, including support to school districts.

Beneficiaries in the 2022-23 School Year:

Number of School Districts:	7 school districts
Number of Schools:	10 high schools
Number of Students:	800
Number of Educators:	20



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4. Are federal or other funds contingent on state funding?

No

5. State funding history:

Fiscal Year	Amount Funded	Actual Expenditures
2023	\$553,000	\$185,972

6. Number of beneficiaries (e.g., school districts, schools, students, educators, other) history:

Fiscal Year	Number of Schools
2023	10

7. Programmatic changes since inception (if any):

The development of instructional materials took longer than expected and two modules were pushed into FY24 (currently in development). As many districts focused on pandemic recovery and had made significant instructional materials decisions, the number of school districts that participated was lower than expected. Recruitment for use of the course continues with districts invited to participate in the pilot.

8. Program evaluation or evaluation of major findings:

Students and teachers were surveyed and interviewed about their experience with Modern Algebra 2 during the pilot with the following reported:

- 95% of students reported increased confidence in mathematical skills and problem-solving ability.
- Many students reported increases in having a sense of belonging, help seeking behavior and metacognition.
- 100% of teachers indicated a positive impact on their teaching practice, both in Modern Algebra 2 and in other courses they teach.

ESSER funding is no longer allocated to support this pilot program, and expenditures will be solely reflected utilizing the state fund source in the next fiscal year.



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9. **Major challenges faced by the program:**

Getting districts to commit to and implement the pilot was challenging because:

- Many schools were committed to 'return to normal' and hesitated to add what they considered a new burden on teachers. There was resistance to changing the expectations for students who may have had inconsistent experiences, particularly this group of students who took Algebra 1 during remote learning in 2020–21.
- Some districts had newly adopted instructional materials and were not interested in taking new curriculum through the adoption process so quickly.
- There was a lack of understanding and confidence in the new approach to teaching rigorous mathematics.
- Algebra 2 is a high stakes course and there was hesitation to try a new course until there is data that demonstrates its effectiveness.
- Many districts have long processes required to approve new instructional materials and the course was still in development when submission deadlines passed.

During the pilot, some teachers did not maintain fidelity to the materials, pedagogy, or philosophy of the course.

- One district dropped the pilot before it started citing changes in personnel. (Not included in district/school count)
- One district dropped out after three weeks indicating that the teacher was not willing to make the changes required by the philosophy and pedagogy of the course. (Not included in district/school count)
- Teachers who did not attend professional learning did not utilize the course as expected.

10. **Future opportunities:**

- The course continues to improve through the feedback from teachers.
- The renewal of the proviso has provided funds to continue this improvement, to scale up implementation in additional schools and to support the necessary professional learning for teachers.
- Data from pilot schools can be used to demonstrate the effectiveness of the course and convince new districts to implement it. This data can also support messaging to parents and community members about the benefits of the course to create additional interest and support for it.



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- Communication and messaging about the course is being offered early and often through multiple avenues to teachers, counselors and district leaders to broaden knowledge of the course and its potential impact.
- Revisions to the professional learning sessions, including an extra day during the summer institute have been added to increase teacher confidence and fidelity to the materials and philosophy of the course.

11. **Statutory and/or budget language:**

\$553,000 of the general fund—state appropriation for fiscal year 2023 is provided solely for the office of the superintendent of public instruction to develop and implement a mathematics pathways pilot to modernize algebra II. The office should use research and engage stakeholders to develop a revised and expanded course.

12. **Other relevant information:**

While the implementation has been slower than expected, Washington is seen as a pioneer state in supporting students traversing multiple mathematics pathways and supporting equitable access to rigorous mathematics for all students. Its focus on relevant mathematics, equitable teaching practices, and solutions for small schools to support all students has been nationally recognized and supports the work to update high school mathematics learning standards.

13. **Schools/districts receiving assistance:**

[preliminaryfy23state-fundedprovisograntawardsupdated-42823.xlsx \(live.com\)](#)

14. **Program Contact Information:**

Name: Arlene Crum
Title: Secondary Mathematics Project Specialist
Phone: (360) 789-7143
Email: arlene.crum@k12.wa.us