



Educational Service District 113

Providing Quality Service for Children

Center for Research and Data Analysis

CTE Math Coordination

Partnership with Pacific Mountain Workforce Development Council

The purpose of this work is to create a rich resource of school district leaders to use to support decision making about math instruction in CTE programs and high schools generally.

Goal 1: To develop an informative and rich resource for school districts to support their decision making for approving dual credit and course equivalency for Algebra and Geometry courses.

Goal 2: To develop recommendations for transitioning CTE math into a context rich, interactive and applied learning environment that meets the State's high math standards.

This project will be informed by a variety of activities:

Action 1- Review of the current Applied Math Materials for congruence with the new state standards

Action 2- Review of the materials available to supplement or supplant current materials that do not meet standards

Action 3- Participation in the development of a new CTE course for the third math credit

Action 4- Conduct Interviews with national and local CTE leaders, math directors and curriculum and instruction directors to explore the strengths and weaknesses of the current math courses and equivalency activities.

Action 5- Interviews with national and local STEM leaders to explore the variety of developing approaches to contextual and applied learning experiences

Action 6- Search for current, purposed and imagined innovative workforce development projects from around the country that may improve CTE math teaching and learning in Washington State

Action 7- To the extent possible analyze student achievement data for CTE math students the help inform decision making.

Outcome: At the end of December 2009, ESD113, in partnership with the Pacific Mountain Work Force Development Council, will publish a report for wide spread distribution to support school districts in their work improving the success of their students' mathematical achievement.

August Progress Report - Tasks Completed in August

- Hired ½ time CTE coordinator – Sue Feldman
- Weekly meetings with Mike Hickman and Todd Jonson to review and implement work plan
- Met with Cheryl Fambles, partner from Pacific Mountain Work Force Development Council
- Developed a tentative outline for final report
- Telephone meeting with Ron Noble, Washington Applied Math Council Leader
- Participated in three day, statewide meeting to develop a CTE course for the third math credit option.
- Reviewed draft of Applied Math Council's alignment document
- Reviewed OSPI alignment process and report
- Developed alignment chart for algebra 1 standards, algebra 2 standards, NCTM standards, college readiness standards and Applied Math objectives

- Contacted CORD to discuss continues support for Applied Math in Washington State, similarities and differences between new CORD materials
- Met with OSPI Director for Math Education and STEM programs
- Participated in bias and sensitivity review of new math test items
- Began search for math materials appropriate for alignment with Algebra and Geometry
- Initiated reviews of literature and researching CTE math programs in other states
- Evaluating the potential interaction between CTE and STEM initiatives

September Activities

- Set up new office space at ESD
- Weekly meetings with Mike Hickman and Todd Jonson to review and implement work plan
- Met with CTE directors in and out of ESD113 region to learn what CTE math courses are being taught
- Began to search for math equivalency courses in each school district in the region to better understand the kind of Math credit students earn in CTE courses
- Reviewed OSPI alignment process and report
- Revised alignment chart for algebra 1 standards, algebra 2 standards, NCTM standards, college readiness standards and Applied Math objectives
- Contacted CORD to arrange for materials to be sent for alignment rating
- Participated in bias and sensitivity review of new science test items
- Continued search for math materials appropriate for alignment with Algebra and Geometry
- Developed a web-based cache for web based instructional materials.
- Met with OSPI Math Director
- Reviewed literature and research on CTE math programs in other states
- Continue discussions with Transition Math Project coordinators and leaders to further understand Phase II implementation projects

October Activities

- Attended and presented at Westside Applied Math Council training
- Developed, administered and analyzed a survey completed by Applied Math teachers
- Recruited math teachers to participate in standards alignment review
- Conducted an alignment review for CORD applied math and the new Washington State Algebra I Standards
- Continued to review literature and research CTE math programs in other states
- Draft Report for WIRED covering the scope of issues related to improving Math instruction in CTE courses.
- Participated in bias sensitivity review for science test items

November Activities

- Presented math standards alignment review findings at the Statewide CTE Integration Conference
- Drafted report based on the survey, alignment outcomes and interviews with CTE directors and teachers
- Developed recommendations for addressing the challenges in CTE math courses
- Continued to review literature and research CTE math programs in other states
- Managed churn from CTE community concerned about upcoming changes
- Met with Cheryl Fambles to discuss alignment review outcomes and next steps

December Activities

- Final draft of report on CTE math

- Developed a CTE math profile for ESD113 region
- Met with New Market Skills exchange to discuss possible new routes for an applied algebra class
- Began plans for WIRED/ESD113 Website site for math teachers
- Began feasibility discussion for the development of a new applied algebra curriculum
- Began planning professional development activities to begin 2010-2011 school year for CTE math teachers in response to survey results that indicated CTE math teachers are not currently satisfied with the professional development options available for applied math

Upcoming Activities

- Develop a web site as a clearinghouse for materials and a repository of links
- Continue planning for applied algebra curriculum and associated professional development

Things worth noting to date

1. Inadequacy of the currently used CORD materials to sufficiently meet the Algebra I expectations.
2. CTE math teachers are currently not satisfied with the professional development they participate in.
3. CTE math courses tend to enroll students who have failed at least one math class.
4. CTE math courses tend to teach below grade level in hopes of meeting the students where they left off learning math, which seems to be real number (fractions, decimals and negative numbers).
5. STEM (science, technology, engineering, and math) has the potential to reform CTE math to meet the new high standards for math and engage students in application of mathematics to real world problems.
6. The low level of achievement in CTE math courses is partially a reflection of the failure of the standard math curriculum.
7. CTE math courses do not use assessments that would help teachers understand how their students are making progress toward the state grade level math standards

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