

Developmental Math Course for TCUs: Standardizing Pathways to College-Level Success

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Background and Motivation

At many Tribal Colleges and Universities (TCUs), students are seeking to achieve dreams rooted in community and cultural responsibility. Yet placement exams and prerequisite requirements often place them into multiple developmental math (DevEd Math) courses that delay degree progress, add tuition costs, and offer no credit toward graduation. In Montana, where TCUs largely serve Indigenous, first-generation, and non-traditional students, these barriers can lessen confidence and momentum, especially when courses are inconsistently offered due to low student enrollment or faculty availability.

This study builds on existing literature addressing developmental education redesign (Boatman, 2021; Ngo, 2019; Vandal, 2014) and culturally responsive frameworks such as Tsosie's (2022) Six Rs of Indigenous Research. It explores how Montana TCUs might implement a unified, online developmental math course that (1) strengthens academic readiness, (2) sustains Indigenous ways of knowing, and (3) promotes equity and access in higher education. This research seeks to answer the research question, What are the opportunities and challenges in developing a unified, online developmental math course accepted across TCU campuses?

Methods

A qualitative case study was used to examine current DevEd Math structures across the seven Montana TCUs. Data sources include faculty, staff, and administrator interviews, and a review of course syllabi, institutional placement practices, and success data collected in Fall 2025. Data were analyzed thematically using an inductive approach to identify recurring ideas and experiences across institutions. Coding and interpretation were guided by Tsosie's (2022) Six Rs of Indigenous Research, which provided a culturally grounded framework for understanding how the values of respect, reciprocity, and responsibility shape the design of developmental mathematics. The analysis attended to each institution's unique context while revealing common barriers and collective strengths across Montana's TCU network, centering the voices of faculty, staff, and administrators.

Preliminary Findings and Next Steps

Early findings reveal widespread recognition of the need for a consistent, culturally responsive DevEd Math pathway. Common themes emerging from participants include: access and equity, faculty capacity, cultural relevance, and collaborative potential. Participants described a unified course as a way to reduce redundancy, enhance TCU collaboration, and provide equitable opportunities for students to begin their college-level mathematics journey with confidence and belonging. Next steps will focus on: course logistics, instructional design, curriculum development, institutional agreements, and a pilot implementation at Montana TCUs. This ongoing collaboration represents an important step toward standardizing equitable math pathways, strengthening inter-institutional partnerships, and honoring Indigenous approaches to mathematics and learning.

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