Minnesota Principals Academy - Action Learning Project
Melodee Hoffner

Owatonna Alternative Learning Center (OALC)
Mathematics Common Formative Assessments

Abstract

The goal of this action research project was to evaluate the OALC student results for the mathematics district level common formative assessments. There were two sets of findings examined for the district assessments 1) Intermediate Algebra, Algebra II and Geometry unit assessments 2) Critical enduring understandings assessment for Intermediate Algebra (4 out of 6). The students in Intermediate Algebra were placed in a math intervention during a four-week period, twice a week for thirty minutes, to ensure proficiency for the critical enduring understandings. The math teacher was the instructor of the intervention. The questions to be answered during the weekly, year-long math PLC's for the evaluation of the common formative assessments were 1) How can students use the assessment as a learning tool and teachers use it as a support for learning? 2) How are the Owatonna ALC students doing on district level mathematics assessments?

Research: The existing body of research provides various results on whether formative assessments can improve instruction and, more specifically, how to improve instruction. Black and Williams (1998) reviewed over 250 articles citing their findings "shows conclusively that formative assessment does improve learning" (p. 61). Their research concluded that teachers could increase the effect size of test scores between .4 and .7 simply through the effort of using formative assessments, particularly helping lower achieving students. Similarly, Stiggins and Dufour (2009) contend that, "formative assessment, done well, represents one of the most powerful instructional tools available to a teacher or a school for promoting student achievement" (p. 640) and call for using quality, balanced assessments to help stakeholders make meaningful and purposeful instructional decisions.

Vision: To ensure all students, with diverse needs, graduate with the necessary academic, social-emotional, and career/college skills. We provide a personalized, flexible learning environment, promote engaged citizenship and develop self-directed learners.

Background/Context: Owatonna Alternative Learning Center serves students grade 9-12. School has a student population that varies between 125 different students throughout the academic year. Approximately 55% of the student body is white, 4%

Asian/Pacific Islander/Native American and 10% Black and 31% Hispanic. 15% special education, 9% homeless, 10% teen parent, 7% EL and 64% FRLP. In 2014-15, there was a 29% graduation rate, 2015-16 there was a 59% graduation rate and 2016-17 there was a 68% graduation rate of seniors that attended the OALC. Most students are referred by the district high school, however, there are approximately 10% students who enroll from other districts.

What we did: Throughout the 2016-17 academic year, Math teachers from the Owatonna High School and the math teacher from the Owatonna Learning Center, during their PLC's, collaborated and examined their data. They used protocol to understand how students demonstrated the intended learning and planned how to respond to the learning. The ALC math teacher implemented a school-wide intervention for Intermediate Algebra.

What we found out: The overall results for the unit assessments in Intermediate Algebra are 63% scored correct or with a minor error, 37% scored a major error or no answer. The overall results for Algebra II is 76% scored correct or with a minor error, 24% scored a major error or no answer. The overall results for Geometry are 69% scored correct or with a minor error, 31% scored a major error or no answer. Except for one special education student, the ALC students with 70% or better attendance, met 100% proficiency in the Intermediate Algebra critical enduring understandings during their intervention.

Implications for practice: We believe there needs to be a stronger focus on critical enduring understandings at the ALC, earlier math interventions, revision of the district level assessments/ Critical EU's, continue to examine instructional strategies to produce greater results and increased time for the PLC's. The transient nature and poor attendance of the ALC student population proves to be a challenge.