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Standards-Based Assessment in a Developmental Math Course

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Standards-Based Assessment in a Developmental Math Course

Abstract

Learn why we decided to try standards-based instruction in an undergraduate, developmental algebra course and what we learned in the process.

Keywords

educational evaluation, standards, teaching strategies

Disciplines

Higher Education | Mathematics

Comments

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Standards-Based Assessment in a Developmental Math Course

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D O R D T
C O L L E G E

Introductions

***Dr. Valorie Zonnefeld
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Aaron Van Beek
Kate Van Weelden***



D O R D T
C O L L E G E

Developmental Math

- Completing a college-level math course is a common roadblock for many students (Topper, 2011).
- The ‘gatekeeper to achieving a college degree’ (Bryk & Treisman, 2010).
- “math should be a gateway, not a gatekeeper, to a successful college education” (p. 1).



Mathematics for College

- Students Enrolled
 - MATH ACT <18
 - 24 students
 - 4 Teacher Assistants
- Must pass Math 100 in their freshmen year



Mathematics for College

Meeting times

- 4 credits
 - Class 3x per week, MWF
 - Learning Style
 - Labs 2x per week, TTh
 - Extra support
 - Standards Quiz
 - Homework help



1.2 A) Convert 96 feet to inches

$$\frac{96 \text{ ft}}{3 \text{ ft}} \frac{1 \text{ yd}}{3 \text{ ft}} \frac{36 \text{ in}}{1 \text{ yd}} = 1152 \text{ in.}$$

Convert 233 grams to ounces

$$\frac{233 \text{ g}}{454 \text{ g}} \frac{1 \text{ P}}{1 \text{ P}} \frac{16 \text{ O}}{1 \text{ P}} = 8.22$$

2.2c) $2(w+4) - 1 = 1$

$$2w + 8 - 1 = 1$$

$$2w + 7 = 1$$

$$-7 \quad -7$$

$$\frac{2w}{2} = \frac{-6}{2}$$

$$w = -3$$

$$3 - (r-1) = 2(r+1) - r$$

$$3 - r - 1 = 2r + 2 - r$$

$$3 - r = 2r + 3 - r$$

$$-3 \quad -3$$

$$0 - r = 2r - r$$

$$-r = r$$

$$r = 0$$

2.3c) $5(m-1) - 6(m+3) = 4-m$

$$5m - 5 - 6m - 18 = 4 - m$$

$$5m - 5 - 6m = 22 - m$$

inconsistent

$$5m - 6m = 27 - m$$

$$-m - 6m = 27$$

$$m = 27$$

Standards-Based Design

- Selected Standards
- Homework Policy
- Assessment Strategy
- Reassessment Ticket
- Reassessing Limits



In what ways has this course helped to fulfill Dordt's mission?

Helped me try + keep positive outlook on learning.

It has helped me to gain a more positive outlook on math.

Taught me that you can be good at math when you think you aren't.

It was the 1st positive math experience I have ever had

Which course assignments, activities, and/or teaching methods were most helpful for your learning?

The standards
Board work

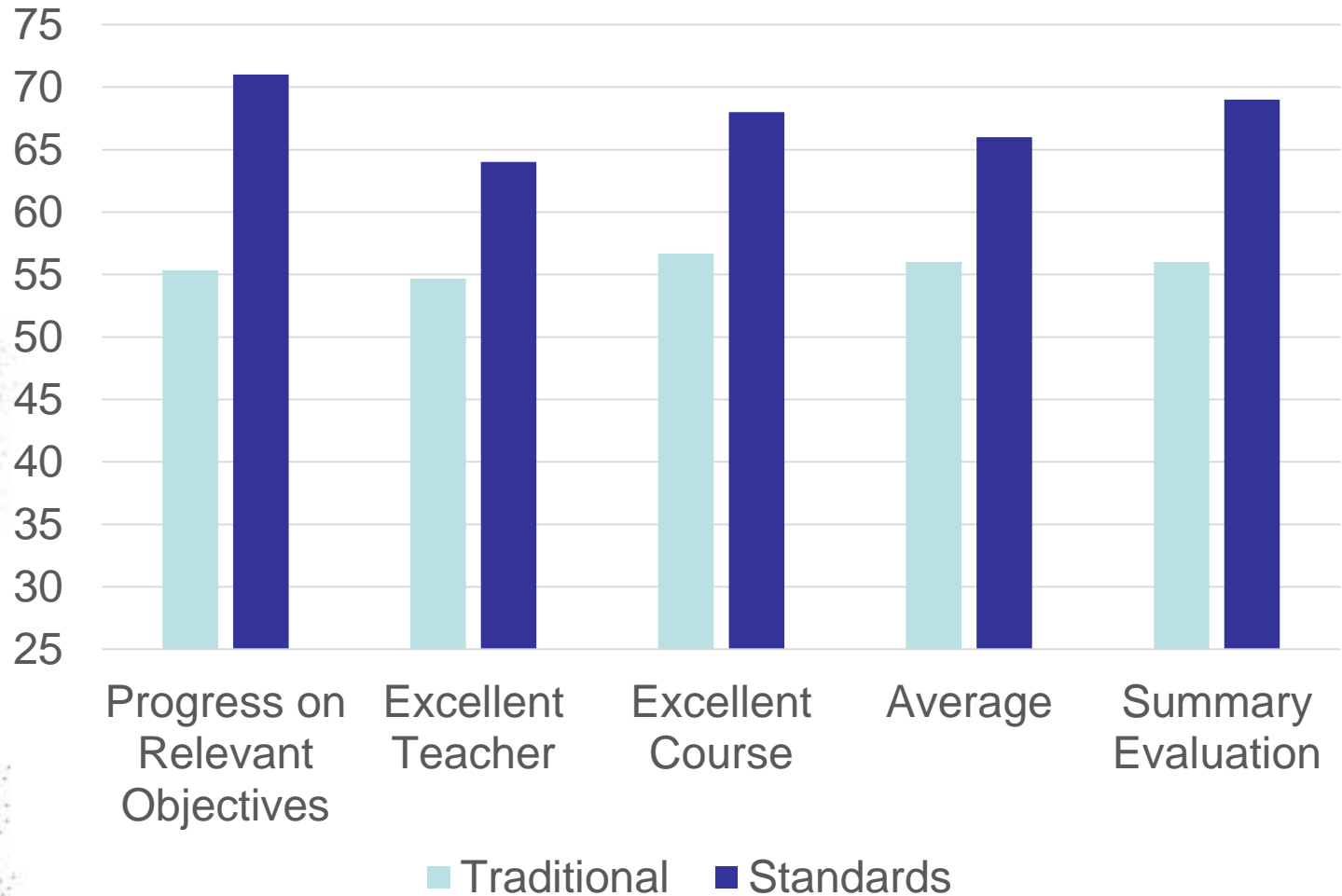
The Standard Assessments & the use of the smart board in class

I loved the standards, I have never felt more confident in math

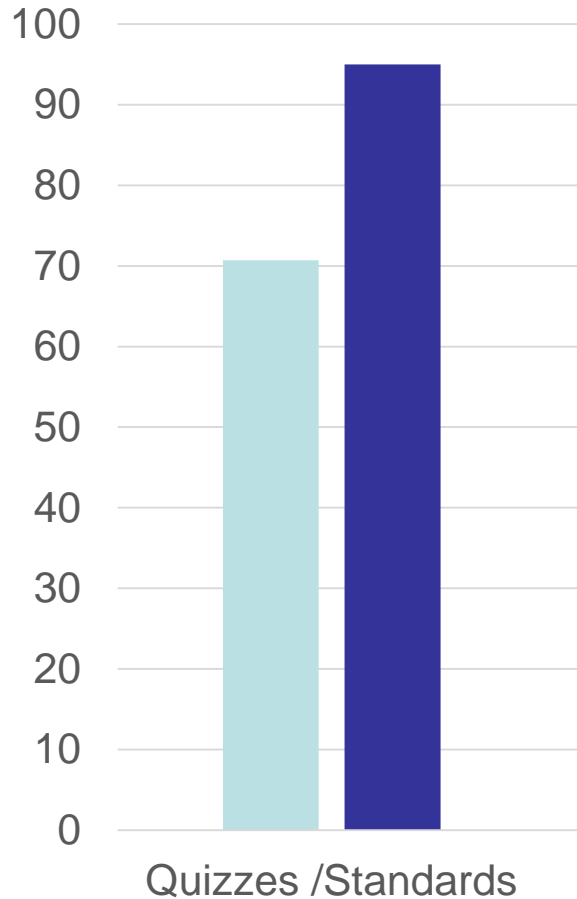
The standards were so helpful. I enjoyed the TA sessions alot.

Standards Assessments.

IDEA Ratings of Student Satisfaction



Average Grade Comparison



■ Traditional ■ Standards

$p < .0001$

$p < .0001$

$p < .0001$

$n_{\text{Traditional}} = 65, n_{\text{Standards}} = 11$

Questions?

