

EMPower[®] Helps Kentucky

Adult Education Students Gain Conceptual Understanding and Real-World Math Skills

Success Story

Overview

Kentucky Adult Education (KYAE) Skills U helps adult students attain high school equivalency diplomas and prepare for college and career success.

Gayle Box, Senior Associate of College and Career Preparation, has worked for a decade to ensure adult students reach their goals. With KYAE Skills U's adoption of the College and Career Readiness Standards (CCRS) from the Office of Career, Technical and Adult Education (OCTAE) in 2012, Gayle's focus became the implementation of those standards.

“As part of our work with OCTAE's *Standards-in-Action* initiative, we were asked to examine the extent to which our instructional resources aligned with the CCRS.” says Gayle. “We discovered that the *EMPower* series, which emphasizes a conceptual understanding of mathematics in real-world situations, aligns tightly to the CCR Standards for Mathematics (CCRS), but very few of our programs were using it.”

To test *EMPower*'s effectiveness, KYAE Skills U conducted a pilot of *EMPower* in 2016–17 using the revised *Empower* titles. The CCRSM advocate for focused instruction (deep, not wide), coherent instruction that connects ideas, and conceptual understanding balanced with procedural skill and fluency as applied to everyday situations. *EMPower* offered such instruction at a foundational level.

Implementation

KYAE Skills U programs were invited to apply for the 9-month long pilot facilitated by Gayle, set to start in August



Eastern Kentucky

2016. The twenty selected programs were then divided into 4 cohorts: one designated for corrections facilities and the other three sorted by size. Instructors used *Empower* as the foundation of ABE-level math instruction and collected data to determine the program's efficacy.

In Phase 1 (the fall session), instructors were asked to complete 2 lessons a month from the book *Everyday Number Sense: Mental Math and Visual Models*. In Phase 2 (spring), they were asked to teach at their own pace through lesson 14 in *Everyday Number Sense*, and then move into the other books, *Using Benchmarks* and *Split It Up*.

Cohorts met on Google hangouts bi-weekly during Phase 1, and monthly during Phase 2, to discuss their experiences. The result was a robust pilot that improved as it progressed.

Results

The *EMPower* pilot faced unique challenges when it came to measuring results.

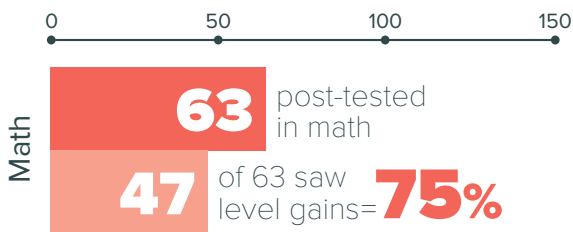
“Some of our students come in at a third or fourth-grade level and want to earn their high school equivalency diploma in a month,” says Gayle. “Attendance is often erratic. Through *EMPower* lessons, teachers were able to better assess student gaps in understanding and offer supplemental work to address those gaps.”

And the results from the *EMPower* pilot were impressive!

The KYAE Skills U benchmark for Level 4 gains is 56%. After Phase 1, 75% of students post-testing in math made level gains. In Phase 2, level gains rose to 81%.

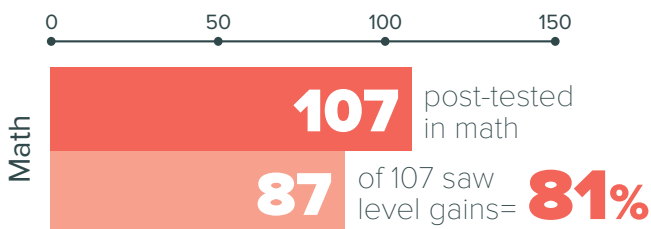
TABE Conclusions for Phase 1 (Fall)
EMPower: Everyday Number Sense

129 students participated in the *EMPower* lessons across 20 programs



TABE Conclusions for Phase 2 (Spring)
EMPower: Everyday Number Sense

135 students participated in the *EMPower* lessons across 20 programs



Student Engagement

EMPower is designed to involve students in the act of learning through collaboration and productive struggle, so instructors distributed questionnaires to gauge the program’s usefulness and relevance. The responses were consistently positive as both teachers and students loved the real-world scenarios that engage students with math.

“We found that with *EMPower*, students see math as related to their lives. When recapping the previous week’s material, one student described the *EMPower* lesson as ‘exciting and educational,’” says Gayle.

“With *EMPower*, students see math as related to their lives.”

–Gayle Box
Senior Associate of College and Career Preparation
Kentucky Adult Education (KYAE) Skills U

The Future

Due to the success of the 2016-17 *EMPower* pilot, KYAE Skills U is working to expand the program as a professional development opportunity for up to twenty more programs across the state.

Anecdotal pilot data show that *EMPower* lessons help students to reason using math. Pilot instructors agreed that if students get even one lesson, they come away with a better foundational understanding of math.

About *EMPower*

EMPower focuses on the conceptual understanding adult education students need to explore advanced concepts and attain academic and career success. Students experience productive struggle by applying problem-solving strategies, and then then exploring procedures for arriving at solutions. *EMPower* lessons foster the Mathematical Practices described in the College and Career Readiness Standards.