

"I would recommend this to others. Not only ones who want to skip a course, but to ones who struggle with math or need to brush up on their skills."

-Brush-UP Student

Introduction

Brush-Up is a math refresher course focused on remediating math deficiencies through a week-long workshop with the goal of accelerating college completion. Colleges are grappling with the low success of developmental math students. Less than one quarter of students who enroll in developmental education complete a degree. Math students appear to have greater obstacles with the potential to be referred to multiple levels of remediation. These students have to successfully navigate one to three semesters of pre-college instruction before being prepared for their first college-level course.

This pilot was an innovative intervention targeting students placed into developmental math courses to accelerate their preparedness for the college-level course. Funded by the U.S. Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant, the workshop is a part of a multifaceted program designed to accelerate students identified with low skills in math into their program of study and completion.

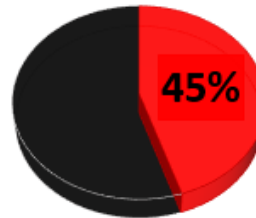
NorthCentral

MISSOURI COLLEGE

ENROLLMENT FALL 2015

 **1708**
Including dual credit

PERCENT OF STUDENTS PLACED
INTO DEVELOPMENTAL MATH



62%

Retention Rate

| | | | | | |
|----------------|-----------------|----------------------|---------------------------|----------------------------------|-----------------------------|
| Placement Exam | | Pre-Algebra DS048 | Basic Algebra DS049 | Intermediate Algebra MT110 | College Algebra MT122 |
| ACT | | 16 and below | - | 17-21 | 22 and above |
| Compass | Pre- Algebra | 0-45 | 46-100 | - | - |
| | Algebra | - | 0-45 | 46-65 | 66-100 |

Pre/Post Survey

- Motivation and Goals for the Workshop
- Experience with Compass Exam
- Math Background
- Satisfaction with the Workshop
- Recommendations for Future Workshops

100% *of students recommended
the Brush-UP to others*

Survey Results

| <i>Level</i> | <i># of Students</i> | <i># that placed higher</i> |
|-----------------------------|----------------------|-----------------------------|
| <i>Pre-Algebra</i> | 11 | 10 * |
| <i>Intermediate Algebra</i> | 8 | 2 |

* Student placed two levels higher.

Summary of Findings

- ❖ Students participating in the Basic Brush-Up were more successful at testing into the higher level math course.
- ❖ The topics presented in the Intermediate Math Brush-Up are more difficult and could be less “intensive review” and more “teaching new material” to students.
- ❖ Both Brush-Ups had a small number of participants to allow the instructor to work individually with students.
- ❖ Instructor needs to be flexible.
- ❖ Need to replicate our findings.
- ❖ Offering Basic Brush-Up again this summer.
- ❖ Offering new Writing Brush-Up this summer.



This document is 100% funded by the MoSTEMWINS \$19.7 million grant from the U.S. Department of Labor, Employment and Training Administration (TAACCCT). The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.



This MoWINS product was created by North Central Missouri College and is licensed under the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

Two Pilot Groups

Pre-Algebra (Group size: 11) -consisted of students that tested into Pre-Algebra. Students were recruited through mail as well as informational meetings during registration.

Intermediate Algebra (Group size: 8)-consisted of students that either tested into Intermediate Algebra or who were placed in Intermediate Algebra upon the completion of Basic Algebra. Students were recruited through mail, informational meetings during registration, and from their Basic Algebra courses.

Brush-UP Schedule

- One week
- 8:00-12:00 M-F
- Days 1-4: Intense review
- Day 5: Retake Compass placement exam

Brush-UP Content

EdReady, an open education resource, is a personally-tailored math remediation system that guides students' instruction based on their current ability. Students begin with a placement test that helps them determine their study path. Each lesson on the study path gives students a warm-up, presentation, worked examples, practice and review. Students are able to pick which of these they want to work through based on the amount of review needed. When finished, they take a test over each unit in order to see if they have mastered the topic. While students were working on EdReady, the instructor moved around the classroom to give individualized help.

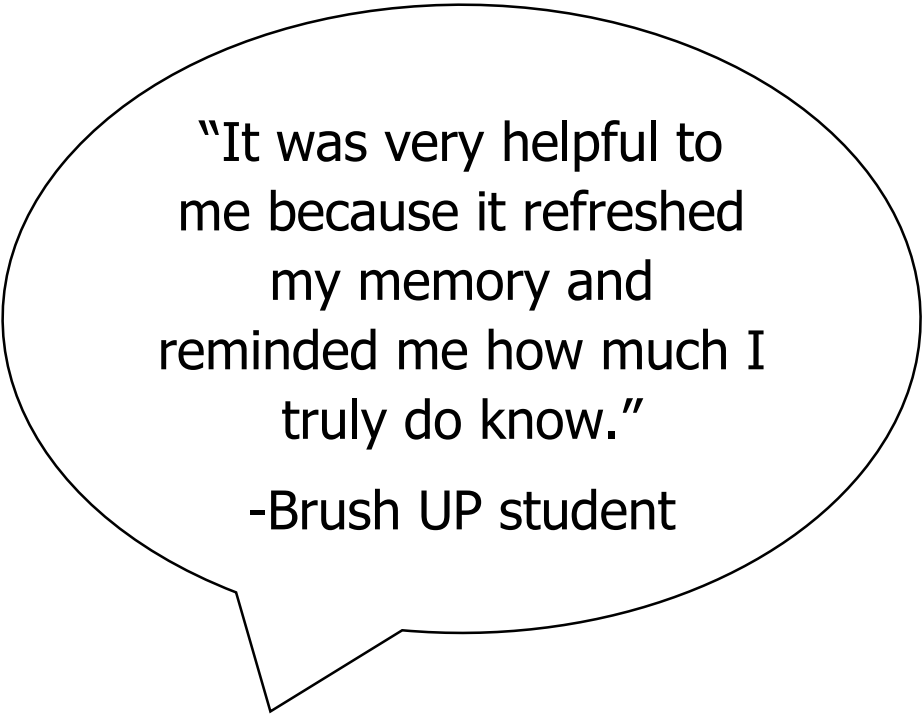
An example of a lesson in EdReady.

Classroom Instruction was based on the study paths created by EdReady. The instructor worked through the topics that consistently needed attention when addressing the group as a whole. This was primarily lecture-based as the instructor focused on reviewing definitions, formulas, and rules, as well as working out examples. Another significant aspect of this was training the student to use scientific and graphing calculators. Testing strategies and the format of the placement exam were also discussed.

Brain Breaks were frequently given. These were short, fun activities that got the students up and moving as well as working together.



Students working in groups to complete a brain break activity.



"It was very helpful to me because it refreshed my memory and reminded me how much I truly do know."

-Brush UP student

"EdReady was really awesome. Great program!"

"The environment was fun and fast paced. I feel I've learned a lot."

"I loved EdReady! I love everything about the website! It is a huge help!"

“I would recommend this to others. Not only ones who want to skip a course but to ones who struggle with math or need to brush up on their skills.”

A MATH

REFRESHER

WORKSHOP:

ACCELERATING

STUDENTS

PLACED IN

DEVELOPMENTAL

MATH

By Traci Norris

and Sharon Weiser