

# Blackboard, Chalk Optional

## Abstract

GCTC Adult Education agreed to be part of the KYAE Blackboard Pilot Project. The development of a Bb math course was approved as our local PLC project.

**Problem statement:** GED math is the most difficult subject for many of our students and often is an obstacle to program completion/retention to goal.

**Significance of work:** Developing one common math course that can be used by all math instructors. It will provide instructional consistency and the ability for the course to be delivered at any location, including our learning centers and our workplace locations.

**Employed methods or research:** Local PLC instructional team used the KCTCS Essential Standards as well as their own best practices to define the population as well as the curriculum to be included in the online course (Calebs, 2018).

**Implications of study:** Math instruction will be of high quality and consistent across the 5-county LPN which has the potential to increase the MSG rate in math as an enrollment subject as well as increased passing rates on GED math subtest.

## Introduction

We used the opportunity presented by KYAE to develop a Blackboard course to help improve Math MSGs.

- In looking at the data across all five counties, we saw a need to improve MSG rates with students enrolled in math.
- Our data, as shown in the chart below, showed that most students require a math course to complete their GED diploma.
  - Therefore, a higher-level TABE course was created that would help improve both MSG rates and GED attainments.

## Product Description & Motivation

### Why use Blackboard for math?

• There is an increasing demand for online learning options among adults, yet it is a relatively new practice in adult education instruction. Busy adults often face significant barriers to participating in traditional classroom instruction. As technology access grows, adults are making strides to use technology in their daily lives thus successful adult education programs will find innovative ways to blend technology with instruction by developing high quality online learning opportunities.

**Research:** There are numerous studies regarding the use of DL in adult education programs.

• eLEARN Virginia: statewide initiative using a blended approach to online learning. Project involved close collaboration with local programs, with on-site and online mentoring (Sebastian, 2007).

• GED-i test prep curriculum developed at the Center for the Application of Information Technologies at Western Illinois University. This is a nationally recognized online GED test prep curriculum (Oleson-Tracy 2021).

• Study of GED prep through DL in Rural PA. This study examined the types and uses of DL when compared to traditional classroom instruction in the rural areas of Pennsylvania (Prins et al., 2011).

**Results:** Many of the projects reviewed are still in the very early stages of implementation but pilot projects indicated that DL is as effective as face-to-face classes in preparing students to pass the GED test.

### Product Description

• Consideration of how well learning objectives and instructional strategies worked together to support learning

• Course needed to be user-friendly with a logical, manageable flow since students may be working on this independently at times when no live assistance is available

• Goals and objectives needed to be clearly written and appropriate to the course level

• Content is "chunked" in manageable segments (presented in distinct learning units or modules)

• Used a consistent framework based on our experience at GCTC

• Course design needed to include guidance for learners to work with content in meaningful ways

• These components were addressed by 6 faculty/staff instructors as well as the Director and PLC Coach.

### How is this approach novel?

• Rather than working in county silos, this team worked as SME to design a course that can be used regardless of location.

## Goals

The goal of our PLC project was to create and allow a customized means of delivering a contextualized learning tool specifically to assist students who are struggling with completing the Math portion of the GED and/or obtaining a TABE gain in Math

- The overall GED and Post-40 Hour TABE MSG results over the previous three years would serve as our baseline estimate of our metric for student outcomes.
- Our goal was reasonable. We set a goal of course completion by April 30. From that end date, we created sub-goals with deadlines:
  - Research Nov 30 – Jan 31
  - Content development & module building Feb 1 – Mar 31
  - Proofreading & editing Apr 1 – 15
  - Final changes Apr 15 – Apr 28

## Results

Our PLC product is a collaboratively created course, intended to be used at future date by the local programs that are members of the PLC. The course was created from a Blackboard Course Shell provided by KYAE and the course that is a result of this project is housed and shared on KYAE's Blackboard's central course page. Although the course itself is a "product" of the PLC, this project's purpose was, ultimately, to be used as research/reference; and for the group to describe their process and their experiences during this course's creation.

The course consists of 8 Modules: Basic probability, Percent, Circles and Pythagorean Theorem, Equations, Inequalities, Slopes and Graphs, Functions, and a review module.

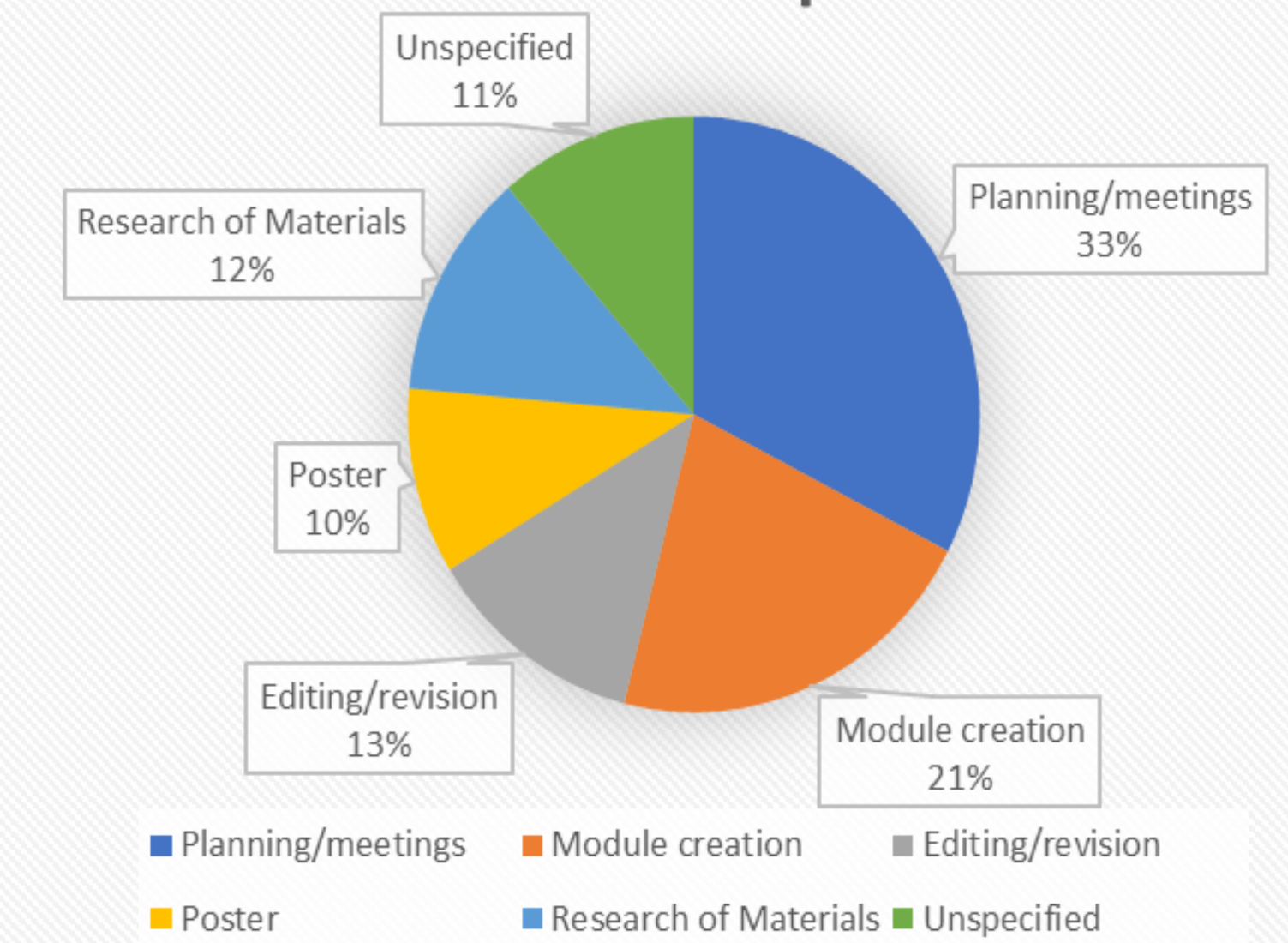
These modules were chosen after deliberations of the PLC group over several meetings and were chosen after the group made several determinations as to scope of the project, namely:

The working group that would develop the modules for this course consisted of 6 instructors with a combined 81 years of teaching experience. All but one of the instructors actively teach math to Adult Ed. students (1 instructor who primarily instructs in reading/language worked with the group in the planning and editing portions of this product.)

In an after-completion survey, the instructors who were directly involved in the module creation portion of this project, reported (approx.) 15 hours of creation time per instructor, and a total of 89 hours for the group on items directly related to course creation. The time spent creating the course could be classified loosely into 6 categories: 1) Planning/Meeting (29 hours/ ~33%); 2) Module Creation in Blackboard (19 hours/ ~21%); 3) Editing/Revision (11 hours/~12%); 4) Research of materials/resources (11 hours/~12%); 5) Unspecified (10 hours/ ~11%); 6) Poster (9 hours/ ~10%).

(Note: \*\*1) Times spent are approximate and do not include any PLC work hours of the working group not directly or proximately related to course creation; \*\*2) and/or any time spent by those not directly tasked with course creation (e.g., Program Director, PLC coach, KYAE Blackboard Staff, et. al.) is not included; \*\*\*3) There were additional work hours on items (e.g., poster creation,) after the survey of hours spent were collected and tabulated.

## 89 Total Reported Hours



## Discussion

The team met upon completion of the project to discuss the tasks of our pilot and to analyze what was we learned and how this could be implemented.

- Our team met our goal of developing a math course using Blackboard.
- Our baseline and goal were appropriate. The Blackboard math course was created by a team of experienced Adult Education instructors. All content was then reviewed and edited for consistency, formatting errors, and broken/inactive links.
- The team will continue to have conversations about course implementation.

## Conclusions

We successfully included the TABE High Impact Indicators, focusing on the skills that crosswalk to the math GED test. The course is well-organized and easy to navigate.

Some instructors intend to use it as a stand-alone, fully online course. Other instructors will use it for practice and remediation to supplement their in-person classes. The course provides consistent content and delivery across all sites.

The target service area is GED-seeking students who enroll at NRS levels 3 and 4. It would be accessible to any students with internet access. It would not work for incarcerated students.

In the next fiscal year, we will implement the course with students. Once implemented, we will track MSGs and GED attainment data to compare to the previous 3 years.

## References & Acknowledgements

- Calebs, K. (2018). The KCTCS essential standards: A quality guide for teaching online.
- Olesen-Tracey, (2021). Leading online learning initiatives in adult education. MPAEA Journal of Adult Education, 39 (2), 36-39.
- Prins, E., Drayton, B., & Gungor, R. (2011). GED preparation through distance learning in rural Pennsylvania. <https://files.eric.ed.gov/fulltext/ED540869.pdf>.
- Sebastian, R. (2007). eLEARN Virginia: A New e-learning program for adult Virginians in need of GED and workplace education. In C. Montgomerie & J. Seale (Eds.). Proceedings of ED-MEDIA 2007--World Conference on Educational Multimedia, Hypermedia & Telecommunications (pp. 1305-1309). Vancouver, Canada: Association for the Advancement of Computing in Education (AACE).

Total ABE Enrollments 2022-2023	Math Enrollments 2022-2023	MSGs Earned 2022-2023
136	128	74

# Screenshot 1

JAE-GCTCMath-20230000

## GCTC Math









Content Calendar Discussions Messages Analytics

Student Preview

### Course Faculty

No course faculty

### Details & Actions


-  Roster  
[View everyone in your course](#)
-  Course Groups  
[View sets & groups](#)
-  Course Image  
[Edit display settings](#)
-  Course is open  
[Students can access this course](#)
-  Class Collaborate  
[Join session](#) ...
-  Announcements  
[Create announcement](#)
-  Books & Tools  
[View course & institution tools](#)
-  Question Banks  
[Manage banks](#)

Add course schedule

[Skip](#)


### Course Content

#### Basic Probability

 Hidden from students


In this module, you will learn: Simple Probability, including: Complements of Probabilities Adding probabilities Compound Probabilities, including: Independent and Dependent Events.

#### Percent

 Hidden from students


In this module, students will learn : Writing Percents as Fractions. Writing Percents as Decimals. Converting Fractions and Decimal into Percents. Solving simple percent problems.

#### Circles and Pythagorean Theorem

 Hidden from students

In the module, you will learn about Circles, including: Diameter, Center, Radius, and Circumference and the basics of Pythagorean Theorem.

#### Equations

 Hidden from students

Students progress through the module in order

In this module, you will learn to solve simple one and two-step equations.

## Screenshot 2

**Inequalities**  
Hidden from students ▾  
In this module, students will learn to read and write inequalities. ... ▾

**Slope & Graphs**  
Hidden from students ▾  
In this module, you will learn to find Slope, Graph Linear Equations, and write Linear Equations. ... ▾

**Functions**  
Hidden from students ▾  
In this module, you will learn to identify and evaluate Linear Functions. ... ▾

**Test Review Packet**  
Hidden from students ▾  
Be READY for the MATH TEST after completing this review packet! The TI-30xs calculator is allowed for all questions on the official test except the first five. Questions 1-9 in this packet are examples of those and must be solved without the calculator. Use the attached formula sheet, especially for the geometry questions. It is allowed and extremely helpful. To check your work, refer to the...  
[Show more](#) ... ▾