

Keene State College
Teacher Candidate Preparation Program
Mathematics

1. How have you used your data to make changes in the following areas of your program?

a. advisement practices:

After each portfolio review, the Mathematics faculty assess the appropriateness of the order of the courses taken by the students. The most recent review began a dialogue of changing several of the prerequisites for the courses.

b. assessment practices or tools:

After each portfolio review process, the Mathematics faculty reflect on the quality of the assignment questions. If an assignment question or activity did not produce the type of responses expected by the faculty, the department discusses and changes the individual assignment questions.

c. curricular design:

The Mathematics faculty are currently redesigning the curriculum based on the results of the portfolio assessments. For example, although there are many technology components already required within courses for pre-service teachers, the faculty feel the addition of topics such as the use of SmartBoards within mathematics classes needed to be added to the curriculum.

d. Other:

2. How do evaluation instruments and feedback from pre-service candidate and partners (formative/summative) directly inform your program design and delivery?

After each portfolio review process, the Mathematics faculty reflect on the quality of the work as well as the assignment questions that were submitted. If an assignment question or activity does not produce the type of responses expected by the faculty, the department discusses and changes the individual assignment questions. At the completion of the entire portfolio process, student reflections of the program along with a faculty review of the students' work for four years is reviewed and discussed. This allows the Mathematics faculty to reflect on the entire program and to make appropriate changes.

3. How is technology used in your program curriculum---

a. to gather data and inform curriculum

The Mathematics Department has begun the switch from paper portfolios to TK-20. Students are now responsible for submitting their own assignments electronically for the assessment process. (See #3 for information pertaining to curriculum.)

b. to engage our pre-service candidates by modeling best practices in our classrooms

The Mathematics Department utilizes a series of technologies within instructional classes to model their use in the teaching of mathematics. These technologies include (1) dynamic geometry – Geometer’s Sketchpad, GeoGebra, Cabri Jr., (2) graphing calculators for numerical and statistical calculations, (3) SPSS, (4) Maple, and (5) SmartBoards.

- c. to inform the curriculum design and pedagogy with students in the field?
The Mathematics faculty frequently attend conferences and the Mathematics Education faculty conduct research that involves the use of technology within mathematics classes. Area cooperating teachers are also surveyed to learn what technology pre-service teachers will be using within their schools when they begin work with them. Class instruction in using SmartBoards for the teaching of mathematics has been added as an instructional component within the Mathematics Methods classes.

4. For your program, please list all forms of technology used to develop and / or reinforce content mastery for our pre-service candidate and in service candidates.

Dynamic Geometry – Geometer’s Sketchpad, GeoGebra, Cabri Jr.

Graphing Calculators – for numerical and statistical calculations

Statistical Package for the Social Sciences (SPSS) – for statistical calculations

Maple – higher level mathematical calculations & modeling

SmartBoards – how to use them for the teaching of mathematics

Web Based Items – Research Article & Projects

5. How have you made program adjustments and changes through the examination of dispositional data (include unit and SPA related dispositional data) for our candidates over the past three years?

Student disposition reviews have been positive during the past three years and have not necessitated making any program adjustments. It should be noted that in the students’ senior mathematics education seminar, they do learn about mathematics teacher attitudes and dispositions along with equity and diversity issues within a mathematics classroom.

6. If you did not provide student work samples demonstrating “did not meet” quality, please explain why:

Student portfolios have been provided. When a student’s portfolio is deemed to be at a “not proficient” level, an individualized plan is created for the student. The student’s advisor oversees the plan that may involve options such as rewriting reflection papers, working on skills assessments, or repeating a course.