tim triad · interactive · media

PLATINUMATH

HIGHER EDUCATION
USE CASE
DOCUMENTATION
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HOW TO USE THIS USE CASE GUIDE

This guide features use cases for adoption of *PlatinuMath* for the following teacher education course formats:

- **math methods** (taught either over single or multiple semesters) and

- **instructional technology methods**.

ADOPTION FORMATS

These are the most common adoption formats for *PlatinuMath*:

- Required as part of the course syllabus, with use of PlatinuMath tracked and part of the student's grade

- Supplemental to the course, with use optional but suggestested

Note: Faculty have had the most success when PlatinuMath has been required as part of their course syllabus.

PROCUREMENT OF PLATINUMATH

Pre-service teachers purchase *PlatinuMath* as a resource for the math methods or technology methods classroom. The product is then theirs to use for life as a teaching toolkit for use in the classroom.

When the forthcoming student version is released, pre-service teachers who were trained with *PlatinuMath* will be able to procure accounts for their students at a deep discount.

HOW

ORDERING OF TOPIC AREAS WITHIN PLATINUMATH: SINGLE-SEMESTER MATH METHODS

PlatinuMath topics are ordered from simple to complex but may not line up with the ordering of concepts within an instructor's syllabus. Instructors may assign *PlatinuMath* modules (Topic Areas such as "Place Value," "Ratios & Proportions," etc.) in any order to match their syllabus as long as students first watch the opening narrative to set up the story component.

GETTING STARTED WITH PLATINUMATH: SINGLE-SEMESTER MATH METHODS

1. **Training & Brainstorm Session with Faculty.** This usually takes the form of a 45-minute video chat discussion on how faculty can best use *PlatinuMath* in the course. Typically, during this session, the Triad team works with the faculty to discuss the teaching conditions that might influence how they use *PlatinuMath* with their class:
   - Do classes meet face-to-face or virtually?
   - How many times a week does the class meet?
   - How long are class sessions?
   - How much time is spent lecturing vs. engagement in active learning?
   - How are students assessed?
   - What are some ways *PlatinuMath* can be used to enhance the course?

2. **Virtual Session for Students Led by Triad.** This usually takes the form of a 30- to 45-minute chat discussion that covers: (a) an overview of *PlatinuMath*, (b) how to login and use *PlatinuMath* tools, and (c) how *PlatinuMath* will be used within the course.

ONGOING USE OF PLATINUMATH: SINGLE-SEMESTER MATH METHODS

Triad has identified best practices for ongoing use of *PlatinuMath* during a typical semester in math methods.

Students engage in a Topic Area every 2 weeks. There are 6 large topic areas in *PlatinuMath*, so engagement in one Topic Area every two weeks will typically take a student across a full semester. Successful use cases for this format:

• **Case A:** On their own, students play *PlatinuMath* games and engage with connected materials and activities (learning videos, lesson planning, online discussions). At some point near the end of the 2-week window, faculty engage in a face-to-face or virtual touch base session with students regarding their experiences.

• **Case B:** Instructors introduce a *PlatinuMath* Topic Area to students during a face-to-face or virtual class session. The class works together or in small groups to explore games and connected materials and activities (learning videos, lesson planning, online discussions) for the current Topic Area. What is not completed in a class session then remains for students to complete on their own during the 2-week period.

Students engage in a Topic Areas at their own pace during the semester. Successful use cases for this format:

• **Case A:** Students play *PlatinuMath* games and engage with all connected materials and activities on their own with the understanding that they should complete all Topic Areas by the end of the semester. Faculty schedule several touch base sessions across the semester and have open discussions around what students have learned and experienced in *PlatinuMath* over time.

• **Case B:** Faculty select several *PlatinuMath* Topic Areas that they want to introduce and explore with students during face-to-face or virtual class sessions they plan throughout the semester. [For example, perhaps the instructor wants to highlight 3 PlatinuMath Topic Areas that, at select times during the semester, they work with the class or divide the class into small groups to explore.] The students then engage with the remainder of PlatinuMath on their own, with the expectation that they complete the rest of the Topic Areas before the end of the semester.

ASSESSMENT OF STUDENTS: SINGLE-SEMESTER MATH METHODS

HOW

PlatinuMath records student performance data and usage (time on task and frequency of logins). Students can also participate in discussion prompts that instructors create themselves, Triad provides, or a combination of both. Other activities include lesson plan creation, group team building activities, and maker activities. Some popular approaches for assessing students who use *PlatinuMath* for math methods courses are described below.

• **Pass/Fail Approach.** Faculty access the student performance dashboard and check to see if students have completed all Topic Areas.

• **Discussion Prompt Approach.** Faculty set expectations for a specific number of discussion posts and responses that students are expected to complete periodically. Students are graded on participation within the discussion forum for each *PlatinuMath* Topic Area.

• **Lesson Plan Approach.** For each Topic Area, students are asked to build a lesson plan using *PlatinuMath* games. This helps give students experience creating math-centric lesson plans using technology and games. Some faculty have chosen to grade students on completion of these lesson plan building activities.

NOTE: Faculty can engage with learner dashboard information in a more detailed way if they want. While *PlatinuMath* records intricate details on which game levels students complete, most faculty report that they are not interested in that level of detailed or granular information. However, if an instructor is interested, that level of data does exist.

FINAL WRAP-UP SESSION

Wrap-Up Virtual Session for Students (Optional). This usually takes the form of a 30- to 45-minute chat discussion where the instructor, students, and a Triad representative discuss their experience with *PlatinuMath*. Also typically discussed are ways that students can add *PlatinuMath* to their teaching toolkit so that they can continue to use the resources once they reach the classroom.

Most of the case information presented in the previous section for single-semester use applies to multi-semester use except for the discussion on ordering of concepts. Below are details on how *PlatinuMath* Topic Areas have been distributed across multiple semesters.

HOW

ORDERING OF TOPIC AREAS WITHIN PLATINUMATH: MUTLI-SEMESTER MATH METHODS

Fundamental Topic Areas in *PlatinuMath* (Place Value, Ratios & Proportions, Operations with Fractions, and so forth) were ordered to scaffold mathematical concepts from simplest to most complex.

If your institution teaches math methods across multiple semesters, *PlatinuMath* may cover more concepts than you typically cover in one semester. If this is the case, *PlatinuMath* Topic Areas may be spread over multiple semesters, with topics re-aligned as necessary to match curricular goals.

Note: When math methods is split over multiple semesters, with courses taught by different faculty members, we encourage those faculty teams to work together to coordinate how *PlatinuMath* materials might be split across the semesters.

HOW

ORDERING OF TOPIC AREAS WITHIN PLATINUMATH: SINGLE-SEMESTER I.T. METHODS

The order of Topic Areas is typically not important for Instructional Technology Methods courses. What may be of value here, however, is to understand that *PlatinuMath* topics are ordered from simple to complex, which could help drive a discussion related to the use of games to teach both simple and complex topics.

GETTING STARTED WITH PLATINUMATH: SINGLE-SEMESTER I.T. METHODS

1. **Training & Brainstorm Session with Faculty.** This usually takes the form of a 45-minute video chat discussion on how faculty can best use *PlatinuMath* in the course. Typically, during this session, the Triad team works with the faculty to discuss the teaching conditions that might influence how they use PlatinuMath with their class:
   • Do classes meet face-to-face or virtually?
   • How many times a week does the class meet?
   • How long are class sessions?
   • How much time is spent lecturing vs. engagement in active learning?
   • How are students assessed?
   • What are some ways *PlatinuMath* can be used to enhance the course?

2. **Virtual Session for Students.** This usually takes the form of a 30- to 45-minute chat discussion that covers: (a) an overview of *PlatinuMath*, (b) how to login and use *PlatinuMath* tools, and (c) how *PlatinuMath* will be used within the course.

ONGOING USE OF PLATINUMATH: SINGLE-SEMESTER I.T. METHODS

Triad has identified best practices for ongoing use of *PlatinuMath* during a typical semester in I.T. methods courses. For these classes, emphasis is typically placed on integration of games into teaching, types of learning games, student engagement with games, and so forth. Successful use cases include:

• **Case A:** On their own, students play *PlatinuMath* games and engage with all connected materials and activities (learning videos, lesson planning, online discussions), with the understanding that they should complete all Topic Areas by the end of the semester. Instructors schedule several touch base sessions across the semester and have open discussions around what students have learned and experienced in *PlatinuMat*h over time.

• **Case B:** Faculty select several *PlatinuMath* Topic Areas they want to introduce based on teaching goals. For example, the instructor could highlight several ways to integrate games into classroom teaching or explore several different game mechanics used in *PlatinuMath*. Topic Areas or individual games could then be chosen to match teaching goals, with students working independently or as a cohort to explore *PlatinuMath* and participate in relevant discussion either via our online forum or planned face-to-face class sessions spread over the semester. The students would then engage with the remainder of *PlatinuMath* on their own, with the expectation that they complete all other components before the end of the semester.

HOW

ASSESSMENT OF STUDENTS - SINGLE-SEMESTER I.T. METHODS

PlatinuMath records student performance data and usage (time on task and frequency of logins). Students can also engage in discussion prompts that either instructors create themselves, Triad provides, or a combination of both. Other activities include lesson plan creation, group team building activities, and maker activities. Some popular approaches for assessing students who use *PlatinuMath* for I.T. methods courses are desribed below.

• **Discussion Prompt Approach.** Faculty set expectations for a specific number of discussion posts and responses students are expected to complete periodically. Students are graded on participation within the discussion forum for each *PlatinuMath* Topic Area. For Technology Education classes, Triad can work with faculty to develop discussion prompts that are more technology-driven rather than math-driven.

• **Lesson Plan Approach.** For each chosen Topic Area, students are asked to build a lesson plan using *PlatinuMath* games. This helps give students experience creating game-centric lesson plans. Some faculty have chosen to grade students on completion of these lesson plan building activities.

NOTE: Faculty can engage with learner dashboard information in a more detailed way if they want. While *PlatinuMath* records intricate details on which game levels students complete, most faculty report that they are not interested in that level of detailed or granular information. However, if an instructor is interested, that level of data does exist.

FINAL WRAP-UP SESSION

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