

CAE

CBE Performance Task Sample PT for a Pedagogy of Mathematics course



Course: Pedagogy of Mathematics (Grades 7-12)

This course is designed to help prospective teachers develop the knowledge and skills required to teach mathematics at the secondary school level. Upon completion of this course, the graduate will be able to display the following competencies:

- **Competency 1:** Exhibit mastery of mathematics content knowledge at the university level.
- **Competency 2:** Effectively plan lessons aligned with national and/or state standards.
- **Competency 3:** Plan and implement lessons and activities using appropriate teaching tools (books, technology, and other resources) and varied instructional methods.
- **Competency 4:** Adjust teaching methods and lessons to accommodate for the individual needs of diverse students.
- **Competency 5:** Plan assessments to collect data and to drive and adjust instruction.

Performance Task

Instructions:

This assessment is based on the scenario described below and the three artifacts provided. Read the scenario and use the artifacts, as well as additional resources, to complete all three tasks.

Scenario:

You are teaching a second-semester geometry course at the high school level. The next unit you plan to teach will be aligned to the standards in the domain of “Similarity, Right Triangles, and Trigonometry,” specifically focusing on “Define Trigonometric Ratios and Solve Problems Involving Right Triangles.”

Artifacts:

Artifact #1: The spreadsheet shows your gradebook for a class of 20 students. All of the quiz and test scores have been logged (all scores are out of a maximum score of 100).

Artifact #2: Individualized Education Program (IEP) documents for five students in your class.

Artifact #3: Template of lesson plan (for 45-minute class periods).

Tasks:

Task 1: Use Artifact #3 to create three lesson plans that align to one or more of the standards in the given domain. Cite specific resources (books, technology, and/or other resources) and state how you plan to use them for your lessons. Specify any accommodations you would provide to students who need help in certain areas or students who have IEPs.

Task 2: Provide a one- or two-page analysis of your lesson plans that

- explains the arc/progression of the three lessons. Explain the benefits of implementing the learning activities and teaching methods you chose. What are the specific outcomes you hope to achieve through these means?
- analyzes the resources you used. What makes each resource a good resource? How will each resource help students reach the learning objectives?
- provides details about your choices for the special accommodations you designated for specific students. Why did you make these accommodations for these students?
- describes what information you can gather from the lesson plans about student understanding and student misconceptions. How do you know if your lesson was effective in helping students understand these concepts?

Task 3: Create a 10-question quiz that will assess your students’ understanding of the content taught in your three lesson plans. How will the results of this assessment shape your instruction of the rest of the content you plan to cover in geometry?

Artifact #1

The spreadsheet shows your gradebook for a class of 20 students. All of the quiz and test scores have been logged (all scores are out of a maximum score of 100).

A1 fx Student Name						
Student Name	Quiz - Understand Similarity in Terms of Similarity Transformations	Test - Understand Similarity in Terms of Similarity Transformations	Review - The Pythagorean Theorem	Test - The Pythagorean Theorem	Quiz - Solve Problems and Prove Theorems Involving Congruence and Similarity	Test - Solve Problems and Prove Theorems Involving Congruence and Similarity
Richard A.	78	80	86	74	79	73
Cara B.	96	100	95	95	93	85
Kelly C.	87	79	80	89	78	73
Miguel D.	80	85	93	86	96	88
Jesse E.	92	90	90	94	88	80
Jose F.	95	92	88	93	86	82
Melanie G.	94	97	87	90	84	80
Jordan H.	83	85	82	85	89	79
Ellie I.	87	92	90	89	85	86
Jacob J.	80	82	76	78	80	73
Nicholas M.	73	78	71	76	80	70
Joseph N.	95	100	96	98	94	92
Samantha S.	88	90	78	86	75	70
Ellen T.	85	88	90	87	88	83
Carlos U.	100	96	96	98	93	90
Kinberly V.	73	70	76	72	79	83
Sally W.	93	91	92	96	90	87
Keith X.	95	98	90	97	96	88
Lisa Y.	96	99	95	94	98	93
Isabel Z.	79	72	80	84	88	89

Artifact #2

Individualized Education Program (IEP) documents for five students in your class.

INDIVIDUALIZED EDUCATION PROGRAM

Student Information

Name: Samantha S.

DOB: 10/5/99

Grade: 10

Gender: Female

Language(s): English

Summary Of Recommendations

Disability Classification: Visual Impairment

Program Eligibility: Yes

Recommended Services:

Samantha must work closely with general education teachers and special education paraprofessionals who have the knowledge and the ability to adapt instruction to address her visual needs. She does not require extra help outside of her general instruction classes, but it is required that a paraprofessional be in her general education classrooms 75% of the time. Assistive technology and/or large-print texts should be readily available for her use whenever applicable or necessary.

Performance

Date of Conference: 2/5/15

Conference Type: Annual Review

Academic Performance:

Samantha possesses grade-level math skills and below grade-level reading skills. At the beginning of the school year, she was doing well on her geometry quizzes and tests but has been struggling with the newer material. She often makes numerical or arithmetic mistakes but shows a good understanding of the new mathematical concepts she is learning in class. She struggles with reading but is able to engage in conversation about texts during class discussion.

Social/Emotional Development:

Samantha is verbal and is not afraid to participate in class. She is generally social and works well in group settings but can keep to herself at times. She seems to have self-esteem issues regarding her vision and gets embarrassed when using large-print texts or assistive technology.

Health and Physical Development:

Samantha is healthy and does not need medication. She is physically fit and active and has no disorders or disabilities beyond her vision impairment. On the eye exam that she took on 10/16/14, her vision was recorded as 20/500. She has received the appropriate eyeglass prescription and is required to wear them at all times.

Annual Goals And Benchmarks

1. Annual Goal: By the end of the school year, Samantha will be able to correct her mistakes without being prompted.

Area: Visual/Content

Benchmark:

Samantha will use self-correction 85% of the time to demonstrate understanding of key concepts developed in content areas.

Provider:

Special education paraprofessional

Initiation Date:

9/8/14

Check Date:

11/11/14

Mastery Date:

2. Annual Goal: Samantha's auditory skills will be strengthened by hearing texts or problems that are read aloud and by answering questions based on what she heard.

Area: Auditory

Benchmark:

Samantha will listen to texts and will be able to understand the main premise of the texts 85% of the time. She will be able to answer questions correctly that are read aloud 85% of the time.

Provider:

Special education paraprofessional/ general education teacher

Initiation Date:

9/8/14

Check Date:

Ongoing

Mastery Date:

Artifact #3

Template of lesson plan (for 45-minute class periods).



Lesson Plan

Subject/Course:

Topic:

Lesson Title:

Lesson Duration:

Objective(s):

Standards Alignment:

Materials:

Resources/References:

Summary of Tasks and Activities:

Accommodations:

Assessments/Take-Home Tasks:

Rubric

0	1	2	3
Competency 1: Exhibit mastery of mathematics content knowledge at the university level.			
Response presents several major mathematical mistakes.	Response presents several minor mathematical mistakes.	Response presents few minor mathematical mistakes.	Response is free of mathematical mistakes.
Competency 2: Effectively plan lessons aligned with national and/or state standards.			
Competency 3: Plan and implement lessons and activities using appropriate teaching tools (e.g., books, technology, and other resources) and varied instructional methods.			
Response does not mention or explain how the activities and teaching methods will help the students reach the learning objectives and standards.	Response mentions or explains activities and/or teaching methods that are not suitable, appropriate, and/or effective for reaching the learning objectives and standards.	Response mentions or explains activities and teaching methods that are somewhat suitable, appropriate, and effective for reaching the learning objectives and standards.	Response specifically mentions and explains how the activities and teaching methods are suitable, appropriate, and effective for reaching the learning objectives and standards; lessons are engaging and provide opportunities for student participation.
Response does not mention any resources that will be used in the lesson plans.	Response mentions resources that are not suitable, appropriate, and/or effective for the learning objectives and standards for the lesson plans.	Response mentions resources that are somewhat suitable, appropriate, and effective for the learning objectives and standards for the lesson plans.	Response specifically describes how the resources are suitable, appropriate, and effective for reaching the learning objectives and standards for the lesson plans.
Competency 4: Adjust teaching methods and lessons to accommodate for the individual needs of diverse students.			
Response does not explain the accommodations that have been made for students with Individualized Educational Programs (IEPs) and/or students who are struggling.	Response does not provide reasonable explanations for the choices of accommodations; the accommodations are not effective ways of helping students understand the lesson better; and/or the response lacks mention of accommodations for some students that have IEPs.	Response provides some reasonable explanations for the choices of accommodations; the response provides some explanations of how these accommodations will help some students understand the lesson better; and the response lacks mention of accommodations for some students that have IEPs.	Response explains appropriate choices of the accommodations that have been made for students with IEPs and students who are struggling; response provides detailed explanations of how these accommodations will help these students understand the lesson better; and all students with IEPs as well as students who are struggling have appropriate accommodations.

Competency 5: Plan assessments to collect data and to drive and adjust instruction.			
Response does not describe ways to measure how well the students understand the content from the lesson.	Response mentions irrelevant information the teacher plans to gather from the lesson plans; response describes inappropriate or ineffective ways to measure how well the students understand the content from the lesson.	Response describes what information the teacher plans to gather from the lesson plans; response describes somewhat reasonable ways to measure how well the students understand the content from the lesson.	Response describes what information the teacher plans to gather from each lesson plan; response describes appropriate and effective ways to measure how well the students understand the content from the lesson.
Integrated Competency: Demonstrate graduate-level writing skills.			
No response	Writing contains several major and minor errors in grammar, spelling, and/or mechanics; errors are highly distracting and seriously impact readability.	Writing contains some minor errors in grammar, spelling, and/or mechanics; errors do not seriously impact readability.	Writing is free of any grammar, spelling, and mechanics mistakes; writing reflects mastery of standard written English conventions.
No response	Writing is poorly organized and incoherent.	Writing is somewhat organized.	Writing is well organized.