

TPAC Prototype
Elementary Mathematics
August 2010

DRAFT

Overview of the TPAC Assessment

Conceptual overview

In this assessment, you will describe, analyze, and evaluate the teaching of a 3-5 lesson unit of mathematics instruction that will be referred to as a “learning segment”. The assessment is built around the proposition that successful teaching is based on developing knowledge of one’s students, acting on evidence of the effects of instruction on student learning, and considering research/theory about how students learn.

The TPAC assessment is clearly focused on student learning. To complete the assessment, you will tell us what you planned or did to achieve student learning (the “what”), provide a rationale for what you planned or an analysis of the effects of your teaching on your students’ learning (the “so what”), and analyze and reflect on the resulting student learning to plan next steps or improvements (the “now what”).

Submit teaching artifacts and commentaries

You will submit artifacts and commentaries. Artifacts are evidence of your teaching practice or what you can do. They include lesson plans, copies of instructional and assessment materials, one or two video clips of your teaching, and student work samples. You will also write commentaries describing your plans or practice, explaining the rationale behind them, and analyzing and reflecting on what you learned about your teaching practice and your students’ learning. In a commentary, you respond to questions that prompt you to provide evidence of what you know and understand about your teaching practice. The commentaries will guide the assessors in interpreting the artifacts you submit. They also are evidence of your ability to communicate about and reflect on your teaching practice. You will use this set of skills as you work with parents, the principal, and colleagues. Note that your writing ability will not be scored directly, but it is important that the writing is clear and focused on key elements of your description, explanations, or analyses. Page limits indicate the expected level of detail.

The instructions in the following pages will guide you in putting together the artifacts and commentaries required in this assessment. A Glossary of terms used in the assessment appears on pages 27-29.

Evaluation Criteria and Scoring

Your assessment evidence will be judged on five dimensions of teaching: planning, engagement, assessment, reflection, and academic language. The evidence for the planning, engagement, and assessment dimensions will come from the corresponding tasks, while evidence for the academic language dimension will come from across the tasks. Read the rubrics before you begin to understand the teaching competencies that will be assessed.

Overview of Elementary Mathematics TPAC Assessment

Teaching Event Task	What to Do	What to submit
1. Planning Instruction & Assessment	<ul style="list-style-type: none"> ✓ Complete the Context for Learning form to provide relevant information about your instructional context. ✓ Select a learning segment of 3-5 lessons (or, if teaching mathematics within a large time block, about 3-5 hours of connected instruction) that support students in building conceptual understanding, computational/procedural fluency, and mathematical reasoning skills. ✓ Determine what content and related academic language you will emphasize. ✓ Consider your students' strengths and needs, create an instruction and assessment plan for the learning segment, and write lesson plans. ✓ Respond to commentary prompts to explain your thinking in developing the plans and how they reflect what you know about your students. ✓ As you are teaching, complete daily reflections by answering the prompts 	<ul style="list-style-type: none"> <input type="checkbox"/> Context Form <input type="checkbox"/> Lesson Plans for Learning Segment <input type="checkbox"/> Instructional Materials <input type="checkbox"/> Assessment tools and criteria <input type="checkbox"/> Planning Commentary <input type="checkbox"/> Daily reflections
2. Engaging Students & Supporting Learning	<ul style="list-style-type: none"> ✓ Identify lessons where you are engaging your students in understanding mathematical concepts through discourse and select one lesson for filming. ✓ Collect permission forms from parents and prepare for filming. ✓ Videotape the lesson. ✓ Review the video to identify one or two video clips that meet requirements. The total running time should not exceed 15 minutes. ✓ Respond to commentary prompts to analyze your teaching and your students' learning in the video clip(s). 	<ul style="list-style-type: none"> <input type="checkbox"/> Video Clip(s) <input type="checkbox"/> Video Label Form <input type="checkbox"/> Engagement Commentary
3. Assessing Student Learning	<ul style="list-style-type: none"> ✓ Analyze student performance across the class from one assessment completed during the learning segment. ✓ Identify three student work samples that illustrate class trends in student understanding. ✓ Select two focus students from the class whose learning you will analyze in more depth, and for whom you will document feedback on their work. ✓ Respond to commentary prompts to analyze the extent to which the class met the standards/objectives, analyze the individual learning of the two focus students and describe your feedback to them, and identify next steps in instruction based on your analysis. 	<ul style="list-style-type: none"> <input type="checkbox"/> Evaluation Criteria <input type="checkbox"/> Student Work Samples <input type="checkbox"/> Evidence of Feedback <input type="checkbox"/> Assessment Commentary

Task 1. Context for Learning Form

Provide the requested context information for the class selected for this assessment. This form is designed to be completed electronically. Use as much space as needed to respond.

About the school where you are teaching

1. Where are you teaching?

____ Elementary school ____ Middle school

____ Other (please describe) _____

2. List any specialized features of your school or classroom setting (e.g., themed magnet, classroom aide, bilingual, team taught with a special education teacher) that will affect your teaching in this learning segment.

3. Describe any district, school, or cooperating teacher requirements or expectations that might impact your planning or delivery of instruction, such as required curricula, pacing plan, use of specific instructional strategies, or standardized tests.

About the subject area/course you are teaching

4. How much time is devoted each day to mathematics instruction in your classroom?

5. Is there any ability grouping or tracking in mathematics? If so, please describe.

6. Identify any textbook or instructional program you primarily use for mathematics instruction. If a textbook, please provide the name, publisher, and date of publication.

7. List other resources (e.g., SmartBoard, manipulatives) you use for mathematics instruction in this class. [See notes for MTH/SCI](#)

About the students in the class featured in this assessment

8. Grade level(s) _____

9. Number of:

- a. students in the class _____
- b. Males _____ Females _____
- c. English language learners _____
- d. students identified as gifted and talented _____
- e. students with Individualized Education Plans (IEPs) or 504 plans _____

10. Complete the chart below to summarize the required accommodations or modifications for special education students or gifted and talented **students that will affect your mathematics instruction in this learning segment**. As needed, consult with your cooperating teacher to complete the chart. The first row has been completed as an example. Use as many rows as you need.

Special Education Category	Number of Students	Accommodations/Pertinent IEP Objectives
<i>Example: Learning Disability</i>	<i>Example: 4</i>	<i>Example: Close monitoring, follow up, and Resource Room</i>

Task 1. Planning Instruction & Assessment

Purpose

The Planning Instruction & Assessment task asks you to describe your plans for the learning segment and explain how they are appropriate for the students and the content you are teaching. You will demonstrate your ability to organize curriculum, instruction, and assessment to help diverse students meet the standards for the curriculum content and to develop academic language related to that content. You will provide evidence of your ability to select, adapt, or design learning tasks and materials that offer your students equitable access to **mathematics** curriculum content.

What Do I Need to Do?

- ✓ If you teach more than one class, select one focus class for this assessment and complete the **Context for Learning Form**.
- ✓ Review the curriculum with your cooperating teacher and select a learning segment of 3-5 lessons (or, if teaching mathematics within a large time block, about 3-5 hours of connected instruction) to describe, analyze, and reflect upon. The learning segment should provide opportunities for students to develop conceptual understanding, procedural fluency, and mathematical reasoning skills and to understand how they are connected.
- ✓ Identify the big idea or essential question along with the content standards you will address in the learning segment. Consider how students might demonstrate their learning with respect to the standards and identify or adapt learning tasks to help your students develop related knowledge and skills.
- ✓ Consider the oral and written academic language¹ that students will need to understand or produce in your learning segment and the genres that these texts represent. Select one genre for instruction. **For more information on academic language, including subject-specific examples, see Appendix A.**
- ✓ Consider what your students need to learn and identify learning objectives for both content and related academic language. Develop a plan for each lesson in the learning segment.

¹ The purposes of *Academic Language* are to clearly and explicitly define, classify, analyze, explain, argue, interpret and evaluate ideas for an audience that may not be present or known to the writer/speaker.

- Lesson plans should minimally include the following topics:
 - student academic content standards that are the target of student learning.
 - learning objectives for both content and academic language
 - assessment tools to monitor student learning (type of assessment and what is assessed)
 - instructional strategies and learning tasks to support student learning (what you and the students will be doing)
 - resources and materials
- To identify student academic content standards, please list the standard, including both the number and text. If only a portion of a standard is being addressed, then only list the relevant part(s).
- You may use your program’s lesson plan format and add any missing topics or use the topics as a guide for formatting your plans.

- ✓ Submit copies of **key** instructional materials and **all** assessment tools used during the learning segment. The instructional materials include class handouts, overheads, PowerPoint or SmartBoard slides. Select materials that, together with the plans, are needed to understand what you and the students will be doing. If any materials are included from a textbook, please provide a copy of the appropriate pages. If any of these individual items are longer than **four** pages, provide a summary of relevant features in lieu of a copy.
- ✓ Label each document or group of documents with corresponding lesson number(s).
- ✓ Provide citations for all sources of materials that you did not create (e.g., published texts, websites, other educators). Citations can be listed on the document or submitted as an additional page.
- ✓ Respond to each of the prompts in the Planning Commentary. **To protect confidentiality, please remove your name and use pseudonyms or general references (e.g., “the district”) for your school, district, or cooperating teacher. You may use either pseudonyms or first names only for students. Do this in all commentaries, and mask or remove proper names from all materials submitted, including lesson plans.**
- ✓ During the learning segment, record and submit daily reflections on teaching and learning. Daily reflections may be in the form of bulleted notes rather than paragraphs. While they need to be clear to the assessor, they need not be polished prose.

Planning Commentary

Write a commentary of 5-7 **single-spaced pages** (including prompts) that addresses the following prompts. **If you are prompted for any explanations that can be found in your lesson plans, simply refer the assessor to the appropriate page(s) of your lesson plans.**

1. What are you going to teach (big idea, essential question)?
2. Describe what you know about your students with respect to this content focus.
 - a. Include **how this knowledge influences your choices of instructional strategies to promote student learning of this content**. Consider the variety of learners in your class, including individuals and subgroups requiring different strategies.
 - b. Address what your students **can do** as well as what they are learning to do.
 - c. Address the following areas:
 - i. Academic development (e.g., prior knowledge, key skills, ways of thinking in the subject areas, developmental levels, and other special educational needs)
 - ii. The range of students' abilities to understand and produce the oral or written texts in English that are part of the learning segment.
 - iii. Social and emotional development (e.g., relationships with each other, expressing themselves in constructive ways, engaging in collaborative learning, learning environment)
 - iv. Family/community/cultural assets (e.g., cultural norms, student interests, relevant experiences and resources)
3. How do your plans support your students' learning of mathematics and academic language related to the big idea/essential question of the learning segment?
 - a. Explain how key learning tasks are related to each other to build connections from prior knowledge to new knowledge. As needed, reference the instructional materials you have included.
 - b. Explain how you will make connections among prior and new **mathematical facts, procedures, concepts, and reasoning** to deepen student learning of mathematics.
 - c. Identify the key vocabulary or phrases for the concepts being taught and linguistic features of the selected genre² that enable students to understand or produce the oral and/or written texts in the learning segment.

² E.g., vocabulary patterns, **connector words**, grammatical structures, or text organization strategies

- d. Explain how the learning tasks help students at different proficiency levels develop this academic language.
 - e. Describe any strategies planned to support students with specific learning needs.³
4. How will you monitor student learning during the learning segment?
- a. Explain how you will use the evidence from the planned assessment tools to provide feedback to students and to monitor their progress toward meeting learning objectives.
 - b. Describe any modifications in the assessment tools or accommodations planned to allow students with specific needs to demonstrate their learning.
5. **Reflection:**
- a. Indicate how specific research/theory guided your selection of specific strategies and materials to help your students develop the **conceptual understanding, procedural fluency, and mathematical reasoning skills** needed to meet the learning objectives.
 - b. Record a daily reflection after teaching each lesson by responding to the following prompts:
 - i. What is working? What is not? For whom? Why? (Consider teaching and student learning with respect to both content and academic language development.)
 - ii. How does this reflection inform what you plan to do in the next lesson?
 - c. **Submit daily reflections in a document separate from the commentary.** They are not included in calculating the page range described for the commentary.

³ This will vary by class, but commonly includes students with IEPs, English learners, or gifted students needing a greater challenge.