edTPA®

Secondary Mathematics

Assessment Handbook

Version 08

edTPA stems from a twenty-five-year history of developing performance-based assessments of teaching quality and effectiveness. The Teacher Performance Assessment Consortium (Stanford and AACTE) acknowledges the National Board for Professional Teaching Standards, the Interstate Teacher Assessment and Support Consortium, and the Performance Assessment for California Teachers for their pioneering work using discipline-specific portfolio assessments to evaluate teaching quality. This version of the handbook has been developed with thoughtful input from over six hundred teachers and teacher educators representing various national design teams, national subject matter organizations (ACEI, ACTFL, AMLE, CEC, IRA, NAEYC, NAGC, NCSS, NCTE, NCTM, NSTA, SHAPE America), and content validation reviewers. All contributions are recognized and appreciated.

This document was authored by SCALE with editorial and design assistance from Evaluation Systems.

SCALE

Stanford Center for Assessment, Learning, & Equity

Contents

Introduction to edTPA Secondary Mathematics

Purpose

The purpose of edTPA Secondary Mathematics, a nationally available performance-based assessment, is to measure novice teachers' readiness to teach secondary mathematics. The assessment is designed with a focus on student learning and principles from research and theory. It is based on findings that successful teachers

- develop knowledge of subject matter, content standards, and subject-specific pedagogy
- develop and apply knowledge of varied students' needs
- consider research and theory about how students learn
- reflect on and analyze evidence of the effects of instruction on student learning

As a performance-based assessment, edTPA is designed to engage candidates in demonstrating their understanding of teaching and student learning in authentic ways.

Overview of the Assessment

The edTPA Secondary Mathematics assessment is composed of three tasks:

1. Planning for Instruction and Assessment
2. Instructing and Engaging Students in Learning
3. Assessing Student Learning

For this assessment, you will first plan **3–5 consecutive mathematics lessons** (or, if teaching within a large time block, **3–5 hours of connected instruction**) referred to as a learning segment. Consistent with the Principles and Standards for School Mathematics (NCTM 2000), a learning segment prepared for this assessment should reflect a balanced approach to mathematics. This means your segment should include learning tasks in which students have opportunities to develop

- conceptual understanding
- procedural fluency
- mathematical reasoning and/or problem-solving skills
- precise communication skills

You will then teach the learning segment, making a videorecording of your interactions with students during instruction. You will also assess, informally and formally, students' learning **throughout** the learning segment. Upon completion of the three tasks, you will submit artifacts from the tasks (e.g., lesson plans, clips from your videorecording, assessment materials, instructional materials, student work samples), as well as commentaries that you have written to explain and reflect on the Planning, Instruction, and Assessment components of the tasks. The artifacts and commentaries for each task will then be evaluated using rubrics especially developed for each task.

Understanding Academic Language in edTPA: Supporting Learning and Language Development

Academic language (AL) is the oral and written language used for academic purposes. AL is the "language of the discipline" used to engage students in learning and includes the means by which students develop and express content understandings.

When completing your edTPA, you must consider the AL (i.e., **language demands**) present throughout the learning segment in order to support student learning and language development. The **language demands** in Secondary Mathematics include **function; vocabulary/symbols; written, visual, or verbal communication; grammatical structures (syntax);** and **mathematical precision**.

As directed:

- Identify a key *language function* and one essential learning task within your learning segment lesson plans that allows students to practice the function (Planning Task 1, Prompts 4a/b).
- Identify *vocabulary/symbols and one additional language demand* related to the language function and learning task (Planning Task 1, Prompt 4c).
- Identify and describe the *instructional and/or language development supports* you have planned to address the language demands (Planning Task 1, Prompt 4d). *Language development supports* are scaffolds, representations, and instructional strategies that teachers intentionally provide to help learners understand and use the language they need to learn within disciplines.

It is important to realize that not all learning tasks focus on grammatical structures and written, visual, or verbal communication. As you decide which additional language demands (i.e., grammatical structures and/or written, visual, or verbal communication) are relevant to your identified function, examine the language understandings and use that are **most relevant** to the learning task you have chosen. Then, you should plan to provide appropriate and targeted language development supports for students to learn and practice the language demands within the chosen learning task.

Academic language definitions and a few examples of language demands and supports to help teacher candidates and educator preparation programs understand edTPA Rubrics 4 and 14 are provided in the Appendix. See the Secondary Mathematics Glossary and the Understanding Rubric Level Progressions for Rubric 4 and Rubric 14 for additional examples of language demands.

Understanding Rubrics

When preparing your artifacts and commentaries, refer to the rubrics frequently to guide your thinking, planning, and writing.

After each rubric, there is a corresponding resource called Understanding Rubric Level Progressions (URLP). The URLP for each rubric presents score-level distinctions and other information for each edTPA rubric, including:

1. Elaborated explanations for rubric Guiding Questions
2. Key terms used in rubrics
3. Primary sources of evidence for each rubric
4. Rubric-specific scoring decision rules
5. Examples that distinguish between levels for each rubric: **Level 3**, **below 3** (Levels 1 and 2), and **above 3** (Levels 4 and 5).

Secondary Mathematics Learning Segment Focus

Candidate's instruction should support students to develop conceptual understanding, procedural fluency, and reasoning/problem-solving skills.

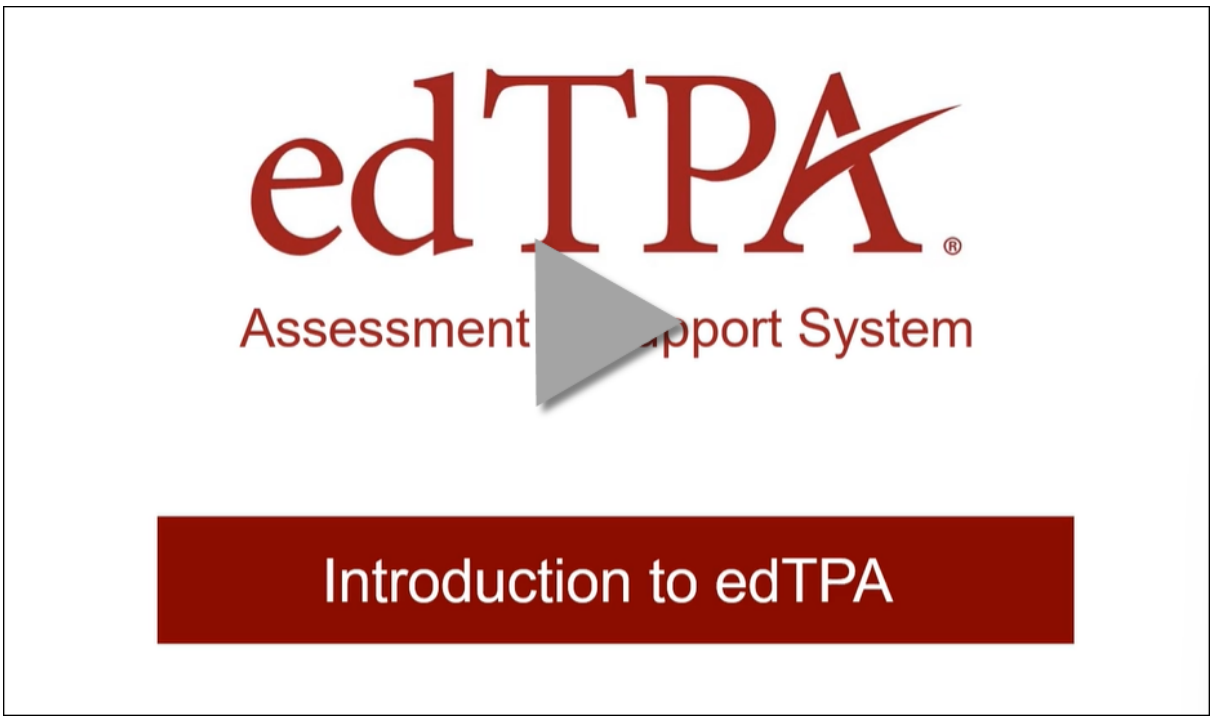
Helpful Resources

In addition to the instructions and rubrics, the following requirements and resources are provided for you in this handbook:

- **Secondary Mathematics Evidence Chart:** specifications for electronic submission of evidence (artifacts and commentaries), including templates, supported file types, number of files, response length, and other important evidence specifications
- **Glossary:** definitions of key terms can be accessed by referring to the **Secondary Mathematics Glossary**.

You should review the *Making Good Choices* document prior to beginning the planning of the learning segment. If you are in a preparation program, it will have additional resources that provide guidance as you develop your evidence.

Candidate Support Webinar: Introduction to edTPA



Video URL: https://vimeo.com/771727364/8cd3cb66c5

Planning Task 1: Planning for Instruction and Assessment

What Do I Need to Do?

- **Select a class.** If you teach more than one class, select one focus class for this assessment. If your placement for mathematics has you responsible for a group rather than a whole class, plans should describe instruction for that group (**minimum of 4 students**). That group will constitute "the whole class" for edTPA.
  - **Note: California candidates**—within your edTPA, you must include an English learner, a student with an identified disability, and a student from an underserved education group.[1]
- **Provide context information.** Complete and submit the Secondary Mathematics Context for Learning Information template found in your account. This template provides essential information about your students and your school/classroom. The context information you submit should be **no more than 4 pages, including prompts**.
- **Identify a learning segment to plan, teach, and analyze.** Review the curriculum with your cooperating teacher and select a learning segment of **3–5 consecutive lessons**. (If teaching secondary mathematics within a large time block, select a learning segment of about **3–5 hours of connected instruction**.)
- **Identify a central focus.** Identify the central focus along with the content standards and objectives you will address in the learning segment. The central focus should support students in developing
  - conceptual understanding,
  - procedural fluency, **AND**
  - mathematical reasoning and/or problem-solving skills.
- **Identify and plan to support language demands.** Select a key language function from your learning objectives. Choose a learning task that provides opportunities for students to practice using that language function. Identify additional language demands associated with that task. Plan targeted supports that address the identified language demands, including the language function.
- **Write a lesson plan** for each lesson in the learning segment. Your lesson plans should be detailed enough that a substitute or other teacher could understand them well enough to use them.
- **Your lesson plans must include** the following information, even if your teacher preparation program requires you to use a specific lesson plan format:

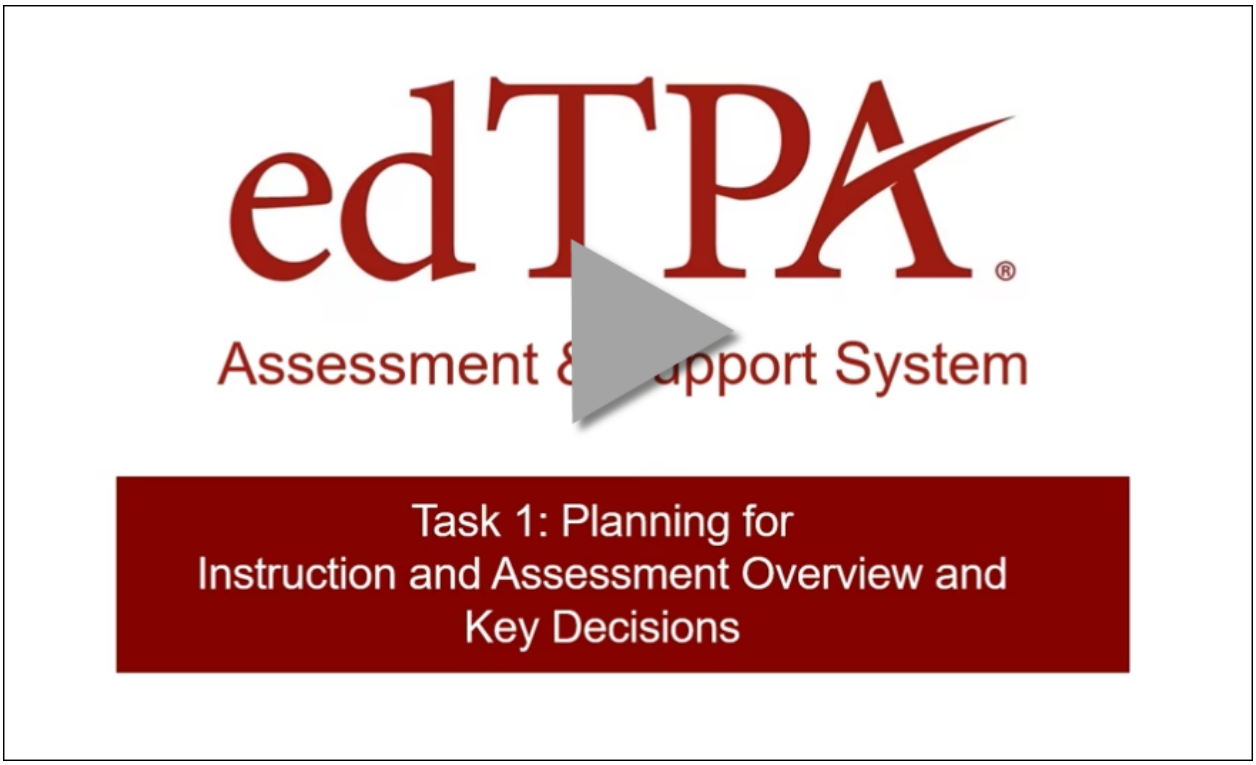
[1] California candidates—If you do not have any English learners, select a student who is challenged by academic English. If you do not have a student with an identified disability or a student who is from an underserved education group, select a student receiving tiered support within the classroom or a student who often struggles with the content.

  - State-adopted student academic content standards that are the target of student learning (Note: Please include the **number and text** of each standard that is being addressed. If only a portion of a standard is being addressed, then only list the part or parts that are relevant.)
  - Learning objectives associated with the content standards
  - Informal and formal assessments used to monitor student learning, including type(s) of assessment and what is being assessed
  - Instructional strategies and learning tasks (including what you and the students will be doing) that support the needs of all students
  - Instructional resources and materials used to engage students in learning
- **Each lesson plan must be no more than 4 pages in length.** You will need to condense or excerpt lesson plans longer than 4 pages. Any explanations or rationale for decisions should be included in your Planning Commentary and deleted from your plans.
- **Respond to the prompts** listed in the Planning Commentary template found in your account **prior to teaching the learning segment** and submit the completed template.
- **Submit your original lesson plans.** If you make changes while teaching the learning segment, you may offer reflection on those changes in the Instruction Task 2 and Assessment Task 3 Commentaries**. Select and submit key instructional materials** needed to understand what you and the students will be doing (**no more than 5 additional pages per lesson plan**). The instructional materials might include such items as class handouts, assignments, slides, and interactive whiteboard images.
- **Submit copies of all written assessments and/or directions for any oral or performance assessments.** (Submit only the blank assessment given to students; do not submit student work samples for this task.)
- **Provide citations for the source of all materials that you did not create** (e.g., published texts, websites, and material from other educators). List all citations by lesson number at the end of the Planning Commentary. Note: Citations do not count toward the commentary page limit.

See the Planning Task 1: Artifacts and Commentary Specifications in the Secondary Mathematics Evidence Chart for instructions on electronic submission of evidence. The evidence chart identifies templates, supported file types, number of files, response length, and other important evidence specifications. Your evidence cannot contain hyperlinked content. Any web content you wish to include as part of your evidence must be submitted as a document file, which must conform to the file format and response length requirements.

Review the Planning Task 1 Key Decisions and Key Points in the *Making Good Choices* document for supplementary advice for completing specific components of Planning Task 1.

Candidate Support Webinar: Task 1: Planning for Instruction and Assessment Overview and Key Decisions



Video URL: https://vimeo.com/797488626/3d5cac5f63

How Will the Evidence of My Teaching Practice Be Assessed?

For Planning Task 1, your evidence will be assessed using rubrics 1–5, which appear on the following pages. When preparing your artifacts and commentaries, refer to the rubrics frequently to guide your thinking, planning, and writing.

Planning Rubrics

Rubric 1: Planning for Mathematical Understandings

How do the candidate's plans build students' conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1[2]	Level 2	Level 3	Level 4	Level 5
Candidate's plans for instruction **focus solely on** facts and/or procedures with **no connections** to • concepts **OR** • mathematical reasoning and/or problem-solving skills. **OR** There are **significant content inaccuracies** that will lead to student misunderstandings. **OR** **Standards, objectives, learning tasks, and materials are not aligned with each other.**	Candidate's plans for instruction **support student learning of facts and procedures** with **vague connections to** • concepts **AND** • mathematical reasoning and/or problem-solving skills.	Candidate's plans for instruction **build on each other** to support learning of facts and procedures with **clear** connections to • concepts **AND** • mathematical reasoning and/or problem-solving skills.	Candidate's plans for instruction build on each other to support learning of facts and procedures with clear **and consistent** connections to • concepts **AND** • mathematical reasoning and/or problem-solving skills.	**Level 4 plus:** Candidate explains how s/he will use learning tasks and materials to **lead students to make** clear and consistent **connections**.

[2] Text representing key differences between adjacent score levels is shown in bold. Evidence that does not meet Level 1 criteria is scored at Level 1.

Understanding Rubric Level Progressions: Rubric 1

The Guiding Question

The Guiding Question addresses how a candidate's plans build a learning segment of three to five lessons around a central focus. Candidates will explain how they plan to organize tasks, activities, and/or materials to align with the central focus and the standards/objectives. The planned learning segment must develop students' conceptual understanding, procedural fluency, and mathematical reasoning/problem-solving skills.

Key Concepts of Rubric:

- Aligned[3]
- Significant content inaccuracies

Mathematic Terms Central to the edTPA:

- Conceptual understanding
- Procedural fluency
- Mathematical reasoning
- Problem-solving skills

Primary Sources of Evidence:

Context for Learning Information

Planning Commentary **Prompt 1**

Strategic review of Lesson Plans & Instructional Materials

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ Pattern of **significant content inaccuracies** that are core to the central focus or a key learning objective for the learning segment ▪ A pattern of misalignment is demonstrated in relation to standards/objectives, learning tasks and materials across two or more lessons

[3] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- Plans for instruction are **logically sequenced** to facilitate students' learning.
- Plans are presented in a linear sequence in which **each lesson builds on the previous one(s)** OR a nonlinear sequence, e.g., when a mathematical problem is posed and students develop an understanding of concepts and procedures by reasoning from what they already know to explore the problem.
- In addition, the sequencing of the plans supports students' learning by connecting facts and procedures to concepts **AND** reasoning or problem solving during the learning segment. **These connections are explicitly written in the plans or commentary**, and how the connections are made is not left to the determination of the scorer.
- Be sure to pay attention to each component of the subject-specific emphasis (facts, concepts, procedures, mathematical reasoning or problem solving).

Below 3

Evidence that demonstrates performance below 3:

- Plans for instruction support student learning of facts and/or computations/procedures but **with little or no** planned instruction to guide understanding of the underlying concepts of facts and procedures or why the procedures work.

What distinguishes a Level 2 from a Level 3: At Level 2,

- The candidate is paying some attention to helping students understand what they are doing with facts or procedures, but the **connections** to concepts or reasoning **are fleeting or vague,** so students are largely left to make sense of these on their own.

What distinguishes a Level 1 from a Level 2: At Level 1,

- The candidate is **focused on teaching memorization or step-by-step procedures where there is** little or no attention to assisting students in understanding the concepts or problem.

Automatic Score of 1 is given when:

- There is a pattern of **significant content inaccuracies** that will lead to student misunderstandings. Content flaws in the plans or instructional materials are significant and systematic, and interfere with student learning.
- **Standards, objectives, learning tasks, and materials are not aligned** with each other. There is a pattern of misalignment across two or more lessons. If one standard or objective does not align within the learning segment, this level of misalignment is not significant enough for a Level 1. For example, if each lesson has a different math topic, then there is a significant pattern of misalignment.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- Learning tasks are designed to support students to make clear, **consistent** connections between facts, procedures, concepts AND reasoning or problem-solving skills.
- Consistent connections require students to routinely apply understandings of concepts and explain their reasoning or problem-solving strategies as they use facts or procedures throughout the learning segment.

What distinguishes a Level 4 from a Level 3: At Level 4,

- In the commentary, the candidate addresses connections between and among facts, concepts, procedures, and reasoning or problem solving in every lesson. Be sure to pay attention to each component of the subject-specific emphasis (facts, concepts, procedures, mathematical reasoning or problem solving).
- The candidate uses these connections **to deepen student understanding of the central focus**.

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- Plans include activities and questions that will clearly support students in making these connections themselves.
- This would include **plans that pose strategic problems and/or questions that lead students to make the connections** and/or plans where **students develop the habit** of looking for connections between concepts and procedures through reasoning and problem-solving strategies, justifying the steps in a solution, and/or identifying and correcting errors in their solution strategy.

Rubric 2: Planning to Support Varied Student Learning Needs

How does the candidate use knowledge of his/her students to target support for students to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
There **is no evidence of planned supports**. **OR** **Candidate does not attend to ANY INSTRUCTIONAL requirements in IEPs and 504 plans.**	Planned supports are **loosely tied to learning objectives or the central focus of the learning segment**.	Planned supports are **tied to** learning objectives and the central focus **with attention to the characteristics of the class as a whole**.	Planned supports are tied to learning objectives and the central focus. **Supports address the needs of specific individuals or groups with similar needs.**	**Level 4 plus:** **Supports include specific strategies to identify and respond to preconceptions, common errors, and misunderstandings.**

Understanding Rubric Level Progressions: Rubric 2

The Guiding Question

The Guiding Question addresses how the candidate plans to support students in relationship to students' characteristics. This includes using the candidate's understanding of students to develop, choose, or adapt instructional strategies, learning tasks and materials.

Key Concept of Rubric:

- Planned supports[4]

Primary Sources of Evidence:

Context for Learning Information (required supports, modifications, or accommodations)

Planning Commentary **Prompts 2 and 3**

Strategic review of Lesson Plans & Instructional Materials to clarify planned supports

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ Planned support according to requirements in IEP or 504 plans is completely missing. The automatic 1 is only related to the support for IEP or 504 plans, not for students with other learning needs. ▪ If there are no students with IEPs or 504 plans, then this criterion is not applicable.

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- Candidate explains how planned supports for students address the learning needs of the whole class while assisting them in achieving the learning objectives.
- Candidate addresses at least one of the requirements from IEPs and 504 plans as described in the Context for Learning Information.
    - Requirements must be explicitly addressed in the commentary and/or the Planning Task 1 artifacts. List of requirements and/or accommodations in the Context for Learning Information document is not sufficient by itself.

Below 3

Evidence that demonstrates performance below 3: Candidate plans insufficient supports to develop students' learning relative to the identified learning objectives or the central focus. Evidenced by ONE or more of the following:

[4] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

- Candidate does not plan supports for students.
- Planned supports are not closely tied to learning objectives or the central focus.
- Evidence does not reflect ANY instructional requirements in IEP or 504 plans.

What distinguishes a Level 2 from a Level 3: At Level 2,

- Plans address at least one of the instructional requirements set forth in IEPs and 504 plans. However, it is not clear that other planned supports will be helpful in supporting students to meet the learning objectives.
- The supports would work for almost any learning objective. Therefore, supports are not closely connected to the learning objectives or central focus (e.g., pair high and low students during partner work without a specific description of how that supports students with a specific need, check on students who are usually having trouble, without any specific indication of what the candidate might be checking for, such as setting up equation correctly from a word problem).
- Supports are tied to learning objectives within each lesson, but there is no central focus.

What distinguishes a Level 1 from a Level 2: At Level 1,

- Evidence of intentional support for students' needs as described by the candidate is absent.

Automatic Score of 1 is given when:

- If IEP/504 requirements are described in the Context for Learning or commentary but none are included in the planned support, then the rubric is scored as an Automatic Level 1, regardless of other evidence of support for the whole class or groups or individuals in the class. If the candidate describes one or more of the IEP or 504 plan requirements for any student in the lesson plans or commentary, then the score is determined by the Planned Support criterion. **(If there are no students with IEPs or 504 plans, then this criterion is not applicable.)**

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- Plans address specific student needs (beyond those required in IEP and 504 plans) by including scaffolding or structured supports that are explicitly selected or developed to help individual students and groups of students with similar needs to gain access to content and meet the learning objectives.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The candidate explains how the supports tied to the learning objectives are intended to meet specific needs of individuals or groups of students with similar needs, in addition to the whole class. Supports should be provided for more than one student—either more than one individual or for a specific group of students with similar needs (e.g., more instruction in a prerequisite skill).

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- Identifies possible preconceptions, errors, or misconceptions associated with the central focus, and describes specific strategies to identify and respond to them.
    - If the plans and commentary attend to preconceptions, errors, or misconceptions without also satisfying Level 4 requirements, this is not sufficient evidence for Level 5.

Rubric 3: Using Knowledge of Students to Inform Teaching and Learning

How does the candidate use knowledge of his/her students to justify instructional plans?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate's justification of learning tasks is either **missing OR represents a deficit view** of students and their backgrounds.	Candidate justifies learning tasks with **limited attention to students'** • **prior academic learning and/or prerequisite skills OR** • **personal or community assets**.	Candidate **justifies** why learning tasks (or their adaptations) **are appropriate using examples of students'** • prior academic learning and/or prerequisite skills **OR** • personal or community assets. **Candidate makes superficial connections to research and/or theory.**	Candidate justifies why learning tasks (or their adaptations) are appropriate using examples of students' • prior academic learning and/or prerequisite skills **AND** • personal or community assets. Candidate makes **connections** to research and/or theory.	**Level 4 plus:** Candidate's justification is **supported by principles from** research and/or theory.

Understanding Rubric Level Progressions: Rubric 3

The Guiding Question

The Guiding Question addresses how the candidate justifies the ways in which learning tasks and materials make content meaningful to students, by drawing upon knowledge of individuals or groups, as well as research or theory.

Key Concepts of Rubric:

- Deficit thinking[5]
- Prior academic learning and/or prerequisite skills
- Assets (personal, community)

Primary Source of Evidence:

Planning Commentary **Prompts 2 and 3**

Scoring Decision Rules

Multiple Criteria	▪ Criterion 1 (primary): Justification of plans using knowledge of students—i.e., prior academic learning and/or prerequisite skills AND/OR assets (personal, community) ▪ Criterion 2: Research and theory connections ▪ Place greater weight or consideration on criterion 1 (justification of plans using knowledge of students).
AUTOMATIC 1	▪ Deficit view of students and their backgrounds

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- **Primary Criterion:** The candidate explains how the learning tasks are explicitly connected to the students' prior academic knowledge OR knowledge of students' assets (personal, community). Assets include students' backgrounds, interests, community or family resources and personal experiences.
- **Secondary Criterion:** The candidate refers to research or theory in relation to the plans to support student learning. The connections between the research/theory and the tasks are superficial/not clearly made. They are not well connected to a particular element of the instructional design.
- If evidence meets the primary criterion at Level 3, the rubric is scored at Level 3 **regardless of the evidence for the secondary criterion**.
- If evidence meets the primary criterion at Level 4, and candidate has NO connection to research/theory, the rubric is scored at Level 3.

[5] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- There is a limited amount of evidence that the candidate has considered his/her particular class in planning.

OR

- The candidate justifies the plans through a deficit view of students and their backgrounds.

What distinguishes a Level 2 from a Level 3: At Level 2,

- The candidate's justification of the learning tasks makes some connection with what they know about students' prior academic learning and/or prerequisite skills OR assets (personal, community). These connections are not strong, but are instead vague or unelaborated, or involve a listing of what candidates know about their students in terms of prior knowledge or background without making a direct connection to how that is related to planning.

What distinguishes a Level 1 from a Level 2: At Level 1,

- There is no evidence that the candidate uses knowledge of students to plan.

Automatic Score of 1 is given when:

- Candidate's justification of learning tasks includes a pattern representing a deficit view of students and their backgrounds. (See the explanation of deficit thinking listed above under Key Concepts of Rubric.)

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- The candidate's justification not only uses knowledge of students—as academic learners AND as individuals who bring in personal or community assets—but also uses research or theory to inform planning.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The evidence includes specific examples from students' prior academic learning and/or prerequisite skills AND knowledge of students' assets (personal, community), and explains how the plans reflect this knowledge. The explanation needs to include explicit connections between the learning tasks and the examples provided.
- The candidate explains how research or theory informed the selection or design of at least one learning task or the way in which it was implemented. The connection between the research or theory and the learning task(s) must be explicit.
- Scoring decision rules: To score at Level 4, the candidate must meet the primary criterion at Level 4 and make at least a fleeting, relevant reference to research or theory (meet the secondary criterion at least at Level 3).

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- Explains how principles of research or theory support or **set a foundation for** their planning decisions.
    - The justifications are explicit, well-articulated, and demonstrate a thorough understanding of the research/theory principles that are clearly reflected in the plans.

Rubric 4: Identifying and Supporting Language Demands

How does the candidate identify and support language demands associated with a key mathematics learning task?

Level 1	Level 2	Level 3	Level 4	Level 5
Language demands[6] identified by the candidate are **not consistent with the selected language function**[7] **OR task**. **OR** **Language development supports are missing or are not aligned with the language demand(s)** for the learning task.	**Language development supports primarily address one language demand** (vocabulary/symbols; function; mathematical precision; written, visual, or verbal communication; grammatical structures).	**General** language development supports **address use of two or more language demands** (vocabulary/symbols; function; mathematical precision; written, visual, or verbal communication; grammatical structures).	**Targeted** language development supports address use of • **Vocabulary/symbols,** • **language function, AND** • **one or more additional language demands** (mathematical precision; written, visual, or verbal communication; grammatical structures).	**Level 4 plus:** Language development supports are **designed to meet the needs of students with different levels of language learning**.

[6] Language demands include: language function, vocabulary and/or symbols, syntax, and written, visual, or verbal communication (organizational structures, text structure, etc.).

[7] Language function refers to the learning outcome (verb) selected in prompt 4a (e.g., compare/contrast, conjecture).

Understanding Rubric Level Progressions: Rubric 4

The Guiding Question

The Guiding Question focuses on how the candidate describes the planned instructional supports that address the identified language demands for the learning task.

Key Concepts of Rubric:

Use the terms below and their definitions from the glossary as well as the Academic Language Appendix to further clarify concepts on Rubric 4.

- Language demands[8]
- Language functions
- Vocabulary/symbols
- Written, visual, or verbal communication
- Grammatical structures
- Language development supports

Primary Sources of Evidence:

Planning Commentary **Prompt 4**

Strategic review of Lesson Plans

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- General supports are planned and described, though not in specific detail, for students' application of any two or more of the language demands (function; vocabulary/symbols and grammatical structures; written, visual, or verbal communication; or mathematical precision).
    - Language development supports must go beyond providing opportunities for students to practice using the language demands either individually or with other students within the learning segment. Examples of general language development supports include describing and defining the

[8] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

function; modeling vocabulary/symbols, grammatical structures, or written, visual, or verbal communication; providing an example with little explanation; questions and answers about a language demand; whole group discussion of a language demand; or providing pictures to illustrate vocabulary/symbols.

- The candidate may inaccurately categorize a language demand (e.g., identifies grammatical structures as written, visual, or verbal communication), but does describe general supports for two of the language demands required of students within the learning task. For example:
    - "For written, visual, or verbal communication, I will model how to identify and substitute terms into the formula $y – y1= m(x – x1)$. To support vocabulary/symbols, we will review the terms (slope, point, line) and solve several sample problems as a class." This example would be scored at a level 3 because there are supports for two language demands, vocabulary/symbols and grammatical structures, even though the candidate categorizes using formulas (a form of grammatical structures) as written, visual, or verbal communication.

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- The candidate has a superficial view of academic language and provides supports that are misaligned with the demands or provides support for only one language demand (vocabulary/symbols; function; grammatical structures; written, visual, or verbal communication; or mathematical precision).

What distinguishes a Level 2 from a Level 3: At Level 2,

- The primary focus of support is on only one of the language demands (vocabulary/; function; grammatical structures; written, visual, or verbal communication; or mathematical precision) with little attention to any of the other language demands.
- Support may be general, (e.g., discussing, defining or describing a language demand), or it may be targeted, (e.g., modeling a language demand while using an example with labels). Regardless, the support provided is limited to one language demand.

What distinguishes a Level 1 from a Level 2: At Level 1,

- There is a pattern of misalignment between the language demand(s) and the language development supports identified. For example, the language function is listed as compare/contrast, but the language task is that the students will be adding two three-digit numbers and explain what strategy they used. The grammatical structures are supported by sentence frames that say, First I …, Next I …
- The only demand is the language function, but the language function that is identified does not qualify as a language function (solving a problem, simplifying an expression, modeling how to solve the problem).

OR

- Language development supports are completely missing.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- The supports specifically address the language function, vocabulary/symbols, and at least one other language demand (mathematical precision; grammatical structures; and/or written, visual, or verbal communication) in the context of the chosen task.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The candidate identifies specific planned language development supports and describes how supports address each of the following: vocabulary/symbols, the language function, and at least one other language demand (mathematical precision; grammatical structures; and/or written, visual, or verbal communication).
- Supports are focused (e.g., provide structures or scaffolding) to address specific language demands, such as sentence starters (grammatical structures or function); modeling how to construct an argument, explanation, or paragraph using a think aloud (function; written, visual, or verbal communication); graphic organizers tailored to organizing text (function or written, visual, or verbal communication); identifying critical elements of a language function using an example; or more in-depth exploration of vocabulary/symbols development (vocabulary/symbols mapping that includes antonym, synonym, student definition and illustration).

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- The candidate includes and explains how one or more of the language development supports are either designed or differentiated to meet the needs of students with differing language needs.

Rubric 5: Planning Assessments to Monitor and Support Student Learning

How are the informal and formal assessments selected or designed to monitor students' conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
The assessments **only provide evidence** of students' **procedural skills and/or factual knowledge**. **OR** **Candidate does not attend to ANY ASSESSMENT requirements in IEPs and 504 plans.**	The assessments **provide limited evidence to monitor students'** • conceptual understanding, • procedural fluency, **AND** • mathematical reasoning and/or problem-solving skills **during the learning segment**.	The assessments **provide evidence** to monitor students' • conceptual understanding, • procedural fluency, **AND** • mathematical reasoning and/or problem-solving skills during the learning segment.	The assessments provide **multiple forms of evidence** to monitor students' **progress** toward developing • conceptual understanding, • procedural fluency, **AND** • mathematical reasoning and/or problem-solving skills **throughout** the learning segment.	**Level 4 plus:** **The assessments are strategically designed to allow individuals or groups with specific needs to demonstrate their learning.**

Understanding Rubric Level Progressions: Rubric 5

The Guiding Question

The Guiding Question addresses the alignment of the assessments to the standards and objectives and the extent to which assessments provide multiple forms of evidence to monitor student progress throughout the learning segment. It also addresses required adaptations from IEPs or 504 plans. The array of assessments should provide evidence of students' conceptual understanding, procedural fluency, and mathematical reasoning/problem-solving skills.

Key Concepts of Rubric:

- Assessment (formal or informal)[9]

Primary Sources of Evidence:

Context for Learning Information (required supports, modifications, or accommodations for assessments)

Planning Commentary **Prompt 5**

Assessment Materials

Strategic review of Lesson Plans

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ None of the assessment adaptations required by IEPs or 504 plans are made. (If there are no students with IEPs or 504 plans, then this criterion is not applicable.) The automatic 1 is only related to the assessment accommodations for IEP or 504 plans, not for students with other learning needs.

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- The planned assessments provide evidence of students' conceptual understanding, procedural fluency AND mathematical reasoning/problem-solving skills at various points within the learning segment. The assessments must provide evidence of all three (conceptual understanding, procedural fluency, and mathematical reasoning/problem-solving skills).
- Requirements from the IEP or 504 plan must be explicitly addressed in the commentary and/or the Planning Task 1 artifacts. List of assessment requirements

[9] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

and/or accommodations in the Context for Learning Information document is not sufficient by itself.

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- The planned assessments will yield insufficient evidence to monitor students' conceptual understanding, procedural fluency, or mathematical reasoning/problem-solving skills within the learning segment.

What distinguishes a Level 2 from a Level 3: At Level 2,

- Assessments will produce evidence of student learning, but evidence is limited. Examples of limited assessments include a single assessment or assessments for only procedures or conceptual understanding and not the other areas.
- Although assessments may provide some evidence of student learning, they do not monitor all areas of learning across the learning segment.

What distinguishes a Level 1 from a Level 2: At Level 1,

- The assessments only focus on memorization of facts or following procedures without providing evidence of conceptual understanding or reasoning/problem-solving skills.

Automatic Score of 1 is given when:

- If there is NO attention to ANY **assessment-related** IEP/504 plan requirements (e.g., more time; a scribe for written assignments) in either the commentary or Planning Task 1 artifacts, the score of 1 is applied; otherwise the evidence for the other criteria will determine the score. **(If there are no students with IEPs or 504 plans, then this criterion is not applicable.)**

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- The array of assessments provides consistent evidence of conceptual understanding, procedural fluency, AND mathematical reasoning or problem-solving skills.
- Assessment evidence will allow the candidate to determine students' progress toward developing conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills.

What distinguishes a Level 4 from a Level 3: At Level 4,

- There are multiple forms of evidence, not just the same kind of evidence collected at different points in time or in different settings, to monitor student development of conceptual understanding, procedural fluency, AND mathematical reasoning/problem-solving skills for the central focus. "Multiple forms of evidence" means that different types of evidence are used—e.g., description, explanation, sketch, problem steps, generalization to another context—and not that there is only one type of evidence on homework, exit slips, and the final test.
- The array of assessments provides evidence to track student progress toward developing the areas of conceptual understanding, procedural fluency, and mathematical reasoning/problem-solving skills defined by the standards and learning objectives.

- This evidence is collected for all three areas in every lesson OR the assessments correspond to a plan for the learning segment that builds understandings in one or more areas and uses that understanding to address other areas.

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- Describes how assessments are targeted and explicit in design to allow individuals or groups with specific needs to demonstrate their learning without oversimplifying the content.
- Strategic design of assessments goes beyond, for example, allowing extra time to complete an assignment or adding a challenge question.

Instruction Task 2: Instructing and Engaging Students in Learning

What Do I Need to Do?

- **Obtain required permission for videorecording.** Before you record your video, ensure that you have the appropriate permission from the parents/guardians of your students and from adults who appear in the video. Adjust the camera angle to exclude individuals for whom you do not have permission to film.
- **Examine your plans for the learning segment** and identify challenging learning tasks in which you and students are actively engaged. The video clip(s) you select for submission should provide a sample of how you interact with students to support them to develop conceptual understanding, procedural fluency, **AND** mathematical reasoning and/or problem-solving skills.
- **Identify lessons to videorecord.**
- **Provide 1–2 video clips (together totaling no more than 15 minutes, but not less than 3 minutes)** that demonstrate how you interact with students in a positive learning environment to develop conceptual understanding, procedural fluency, **AND** mathematical reasoning and/or problem-solving skills.
- **(Optional) Provide evidence of students' language use.** You may provide evidence of language use with your video clip(s) from Instruction Task 2, an additional video clip of one or more students using language within the learning segment (**no more than 5 minutes in length**), **AND/OR** through the student work samples analyzed in Assessment Task 3.
- Determine whether you will feature the whole class or a targeted group of students (**minimum of 4 students**) within the class.
- **Videorecord your classroom teaching.** Tips for videorecording your class are available from your teacher preparation program.
- **Select video clip(s) to submit** and verify that the clip(s) meet the following requirements:
  - Ensure that you and your students can be seen in the video clips you submit. Also, ensure that your face appears at least once in the video for identification purposes.
  - Check the sound quality to ensure that you and your students can be heard on the video clip(s) you submit. If most of the audio in a clip cannot be understood by a scorer, **submit another clip**. If there are occasional audio portions of a clip that cannot be understood that are relevant to your commentary responses, do one of the following: 1) provide a transcript with time stamps of the inaudible portion and refer to the transcript in your response; 2) embed quotes with time-stamp references in the commentary response; or 3) insert captions in the video (captions for this purpose will be considered permissible editing).
  - A video clip must be continuous and unedited, with no interruption in events.
  - If you have inadvertently included individuals for whom you do not have permission to film in the video clip(s) you plan to submit, you may use software to blur the faces of these individuals. This is not considered editing. Other portions of the submitted

video clip(s), including the classroom, your face, and the faces of individuals for whom you have obtained permission to film should remain unblurred.

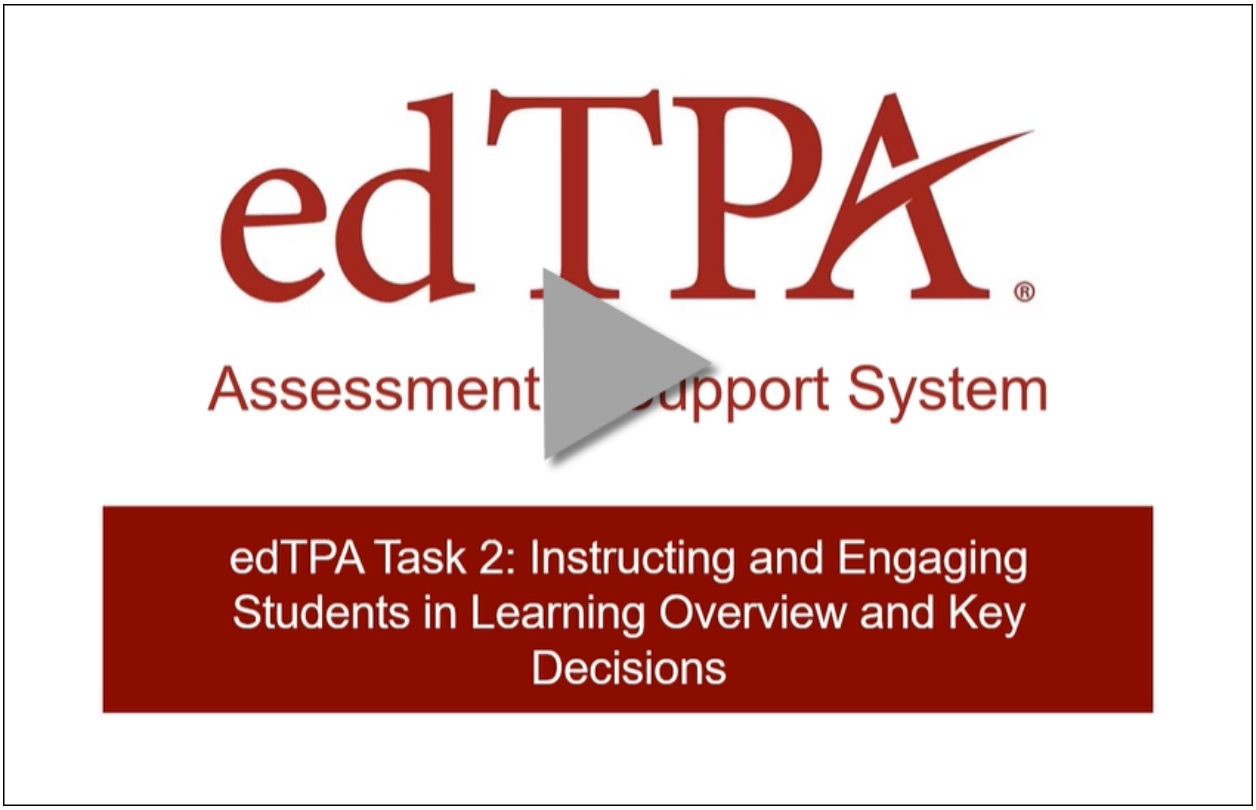
- Do not include the name of the state, school, or district in your video. Use first names only for all individuals appearing in the video.

- **Respond to the prompts** listed in the Instruction Commentary template found in your account **after viewing the video clip(s)** and submit the completed template.
- **Determine if additional information is needed to understand what you and the students are doing in the video clip(s).** For example, if there are graphics, texts, or images that are not clearly visible in the video, or comments that are not clearly heard, you may insert digital copies or transcriptions at the end of the Instruction Commentary (**no more than 2 pages in addition to the responses to commentary prompts**).

See the Instruction Task 2: Artifacts and Commentary Specifications in the Secondary Mathematics Evidence Chart for instructions on electronic submission of evidence. The evidence chart identifies templates, supported file types, number of files, response length, and other important evidence specifications. Your evidence cannot contain hyperlinked content. Any web content you wish to include as part of your evidence must be submitted as a document file, which must conform to the file format and response length requirements.

Review the Instruction Task 2 Key Decisions and Key Points in the *Making Good Choices* document for supplementary advice for completing specific components of Instruction Task 2.

Candidate Support Webinar: Task 2: Instructing and Engaging Students in Learning Overview and Key Decisions



Video URL: https://vimeo.com/803471740/a2f6307f88

How Will the Evidence of My Teaching Practice Be Assessed?

For Instruction Task 2, your evidence will be assessed using rubrics 6–10, which appear on the following pages. When preparing your artifacts and commentaries, refer to the rubrics frequently to guide your thinking, instruction, and writing.

Instruction Rubrics

Rubric 6: Learning Environment

How does the candidate demonstrate a respectful learning environment that supports students' engagement in learning?

Level 1	Level 2	Level 3	Level 4	Level 5
The clip(s) reveal evidence of **disrespectful interactions** between teacher and students or between students. **OR** **Candidate allows disruptive behavior to interfere with student learning.**	The candidate **demonstrates respect for students**. **AND** Candidate provides a **learning environment that serves primarily to control student behavior**, **and minimally supports the learning goals**.	The candidate demonstrates **rapport with** and respect for students. **AND** **Candidate provides a positive, low-risk learning environment that reveals mutual respect among students.**	The candidate demonstrates rapport with and respect for students. **AND** Candidate provides a **challenging learning environment that promotes** mutual respect among students.	The candidate demonstrates rapport with and respect for students. **AND** Candidate provides a challenging learning environment that **provides opportunities to express varied perspectives** and promotes mutual respect among students.

Understanding Rubric Level Progressions: Rubric 6

The Guiding Question

The Guiding Question addresses the type of learning environment that the candidate establishes and the degree to which it fosters respectful interactions between the candidate and students, and among students.

Key Concepts of Rubric:

- Respect[10]
- Rapport
- Learning environment

Primary Sources of Evidence:

Video Clip(s)

Instruction Commentary **Prompt 2**

Note that for the Instruction Task, the commentary is intended to provide context for interpreting what is shown in the video. Candidates sometimes describe events that do not appear in the video or conflict with scenes from the video—**such statements should not override evidence depicted in the video**.

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3: In the clip(s):

- The candidate's interactions with students are respectful, demonstrate rapport (evidence of relationship between candidate and students and/or ease of interaction that goes back and forth based on relevance or engaged conversation), and students communicate easily with the candidate.
- There is evidence that the candidate facilitates a positive learning environment wherein students are willing to answer questions and work together without the candidate or other students criticizing their responses.

[10] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

- There is evidence of mutual respect among students. Examples include attentive listening while other students speak, respectful attention to another student's idea (even if disagreeing), working together with a partner or group to accomplish tasks.

Below 3

Evidence that demonstrates performance <u>below 3</u>: The clip(s):

- Do not exhibit evidence of positive relationships and interactions between candidate and students.
- Reveal a focus on classroom management and maintaining student behavior and routines rather than engaging students in learning.

What distinguishes a Level 2 from a Level 3: At Level 2,

- Although clip(s) reveal the candidate's respectful interactions with students, there is an emphasis on candidate's rigid control of student behaviors, discussions, and other activities in ways that limit and do not support learning. There is a general lack of rapport with students, as the candidate is interacting with students mainly to control behavior.

What distinguishes a Level 1 from a Level 2: At Level 1, there are two different ways that evidence is scored:

1. The clip(s) reveal evidence of candidate-student or student-student interactions that discourage student contributions, disparage the student(s), or take away from learning.
2. The classroom management is so weak that the candidate is not able to, or does not successfully, redirect students, or the students themselves find it difficult to engage in learning tasks because of disruptive behavior.

Note: Classroom management styles vary. Video clips that show classroom environments where students are productively engaged in the learning task should not be labeled as disruptive. Examples of this may include students engaging in discussion with peers, speaking without raising their hands, or being out of their seats.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>: The clip(s)

- Reveal a positive learning environment that includes tasks/discussions that challenge student thinking and encourage respectful student-student interaction.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The learning environment supports learning tasks that appropriately challenge students by promoting higher-order thinking or application to develop new learning. There must be evidence that the environment is challenging for students. Examples include: students cannot answer immediately, but need to think to respond; the candidate asks higher-order thinking questions; students are trying to apply their initial learning to another context.
- The learning environment encourages and supports mutual respect among students, e.g., candidate reminds students to discuss ideas respectfully with each other.

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- The learning environment encourages students to express, debate, and evaluate differing perspectives about content with each other. Perspectives could be from curricular sources, students' ideas, and/or lived experiences.

Rubric 7: Engaging Students in Learning

How does the candidate actively engage students in developing conceptual understanding, procedural fluency, AND/OR mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
Students are participating in tasks that are vaguely or superficially related to the central focus.	Students are **participating** in learning tasks **focusing primarily on mathematical procedures with little attention to** understanding of • mathematical concepts **OR** • mathematical reasoning and/or problem-solving skills.	**Students are engaged** in learning tasks **that address** understanding of • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.	Students are engaged in learning tasks that **develop** understanding of • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.	Students are engaged in learning tasks that **deepen and extend** their understanding of • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.
There is little or no evidence that the candidate **links students' prior academic learning and/or prerequisite skills or personal or community assets with new learning**.	Candidate makes **vague or superficial links** between **prior academic learning and/or prerequisite skills and new learning**.	Candidate **links prior academic learning and/or prerequisite skills to new learning**.	Candidate links prior academic learning and/or prerequisite skills **AND personal or community assets** to new learning.	Candidate **prompts students to link** prior academic learning and/or prerequisite skills **AND** personal or community assets to new learning.

Understanding Rubric Level Progressions: Rubric 7

The Guiding Question

The Guiding Question addresses how the candidate provides video evidence of engaging students in meaningful tasks and discussions to develop their understanding of mathematical concepts, procedures, and/or reasoning/problem-solving skills.

Key Concepts of Rubric:

- Engaging students in learning[11]
- Assets (personal, community)

Primary Sources of Evidence:

Video Clip(s)

Instruction Commentary **Prompt 3**

Note that for the Instruction Task, the commentary is intended to provide context for interpreting what is shown in the video. Candidates sometimes describe events that do not appear in the video or conflict with scenes from the video—**such statements should not override evidence depicted in the video**.

Scoring Decision Rules

Multiple Criteria	▪ Criterion 1 (primary): Engagement in learning tasks ▪ Criterion 2: Connections between students' academic learning AND/OR assets (personal, community) and new learning ▪ Place greater weight or consideration on the criterion 1 (engagement in learning tasks).
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- **Primary Criterion:** The clip(s) show that the students are engaged in learning tasks that provide opportunities for students to focus on conceptual understanding, procedural understandings, and reasoning and/or problem solving. Although these content understandings are evident in conversations, they are addressed at a cursory level. For example, the candidate has a student summarize how he found the value of an angle formed by two parallel lines cut by a transversal, using the concept of supplementary angles and the procedure (angle relationships) used. The

[11] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

candidate relates this to the congruent supplement theorem, but moves on immediately, leaving the instruction at a cursory level.

- **Secondary Criterion:** The clips show the candidate **making connections** to students' prior academic learning and/or prerequisite skills to help them develop the new content or skills.

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- Students are participating in tasks that provide little opportunity to develop conceptual understanding or mathematical reasoning and/or problem-solving skills.

What distinguishes a Level 2 from a Level 3: At Level 2,

- Students are participating in rote tasks that primarily focus on following step-by-step procedures AND/OR concepts and provide little opportunity to develop mathematical reasoning and/or problem-solving skills.
- The structure of the learning task or the way in which it is implemented constrains student development of content and skills.
- In addition, the candidate may refer to students' learning from prior units, but the references are indirect or unclear and do not facilitate new learning.

What distinguishes a Level 1 from a Level 2: At Level 1,

- The learning tasks seen in the video clip(s) have little relation to the central focus identified.
- In addition, the candidate is not using either students' prior academic learning and/or prerequisite skills or assets (personal, community) to build new learning.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- The learning tasks as seen in the clip(s) are structured to engage students to develop understandings of concepts and procedures through mathematical reasoning and problem-solving skills.
- Connections between students' prior academic learning and/or prerequisite skills and assets (personal, community) are made to support the new learning.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The learning tasks in the clip(s) include structures or scaffolding that promote the learning of concepts, procedures AND mathematical reasoning and/or problem-solving skills. Students must interact with the content in ways that are likely to either extend initial understandings or surface misunderstandings that the candidate can then address.
- In addition, the candidate draws upon not only prior academic learning and/or prerequisite skills, but also students' assets (personal, community) to develop new learning. Examples of experience outside of school may include....calculating how many hours in an after school job at a reasonable rate for teenage employees would be needed to save enough for some object with current popularity, using baseball batting averages to illustrate the comparison of decimals or measures of center, any metaphor based on familiar objects or situations for that particular group of students.

What distinguishes a Level 5 from a Level 4: At Level 5,

- The learning tasks as seen in the clip(s) are structured or scaffolded so that students will develop and use concepts, procedures, AND reasoning and/or problem solving in ways that are appropriately challenging directly related to new learning.
- In addition, the candidate encourages students to connect and use their prior knowledge and assets (personal, community) to support new learning.

Rubric 8: Deepening Student Learning

How does the candidate elicit responses to promote thinking and to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate does most of the talking and students provide few responses. **OR** Candidate responses include **significant content inaccuracies** that will lead to student misunderstandings.	Candidate **primarily asks surface-level questions** and evaluates student responses as **correct or incorrect**.	Candidate **elicits student responses related to** understanding • mathematical concepts, • procedures, **OR** • mathematical reasoning and/or problem-solving skills.	Candidate **elicits and builds on students' responses to develop understanding of** • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.	**Level 4 plus:** **Candidate facilitates interactions among students so they can evaluate their own abilities to understand and apply** • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.

Understanding Rubric Level Progressions: Rubric 8

The Guiding Question

The Guiding Question addresses how, in the video clip, the candidate brings forth and builds on student responses to guide learning; this can occur during whole class discussions, small group discussions, or consultations with individual students.

Key Concepts of Rubric:

- Significant content inaccuracies[12]

Primary Sources of Evidence:

Video Clip(s)

Instruction Commentary **Prompt 4a**

Note that for the Instruction Task, the commentary is intended to provide context for interpreting what is shown in the video. Candidates sometimes describe events that do not appear in the video or conflict with scenes from the video—**such statements should not override evidence depicted in the video**.

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ Pattern of **significant content inaccuracies** that are core to the central focus or a key learning objective for the learning segment

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- The candidate prompts students to offer responses that require thinking related to either concepts or procedures OR to mathematical reasoning and problem solving, e.g., by using "how" and "why" questions. Some instruction may be characterized by initial questions focusing on facts to lay a basis for later higher-order questions in the clip(s). A **pattern** of evidence supporting a particular score level has a heavier weight than **isolated** evidence in another score level.

Below 3

Evidence that demonstrates performance below 3:

- In the clip(s), classroom interactions provide students with limited or no opportunities to think and learn.

[12] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

What distinguishes a Level 2 from a Level 3: At Level 2,

- The candidate asks questions that primarily elicit right/wrong or yes/no answers and do little to encourage students to think about the content being taught.

What distinguishes a Level 1 from a Level 2: At Level 1,

- There are almost no opportunities shown in the clip(s) that students were able to express ideas. (For example, the candidate does most of the talking during the video)

Automatic Score of 1 is given when:

- There is a pattern of **significant content inaccuracies** that will lead to student misunderstandings.
- The candidate makes a significant error in content (e.g., introducing an inaccurate definition of a central concept before students work independently) that is **core to the central focus or a key standard** for the learning segment.

Above 3

Evidence that demonstrates performance above Level 3:

- In the clip(s), the candidate uses student ideas and thinking to develop students' mathematical learning or their abilities to evaluate their own learning.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The candidate follows up on student responses to encourage the student or his/her peers to explore or build on the ideas expressed.
- The candidate uses this strategy to develop students' understanding of mathematics concepts, procedures, AND reasoning and/or problem-solving skills.
- Examples of "building on student responses" include: referring to a previous student response in developing a point or an argument; calling on the student to elaborate on what s/he said; posing questions to guide a student discussion; soliciting student examples and asking another student to identify what they have in common; asking a student to summarize a lengthy discussion or rambling explanation; and asking another student to respond to a student comment or answer a question posed by a student to move instruction forward.

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- There is evidence in the clip(s) that the candidate structures and supports student-student conversations and interactions that facilitate students' ability to evaluate and self-monitor their learning.

Rubric 9: Subject-Specific Pedagogy: Using Representations

How does the candidate use representations to develop students' understanding of mathematical concepts and procedures?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate stays focused on facts or procedures **with little or no attention to mathematical concepts**. **OR** Candidate uses **mathematically inappropriate representations** or **uses representations in ways that will lead to student misunderstandings**.	Candidate makes **vague or superficial use of representations** to help students understand mathematical concepts and procedures.	Candidate **uses representations in ways that help students understand** mathematical concepts and procedures.	Candidate provides opportunities for students to use representations **in ways that deepen student understanding of mathematical concepts and procedures**.	**Level 4 plus:** Candidate **facilitates interactions among students so they can evaluate their own abilities to use representations** to represent and understand mathematical concepts and procedures.

Understanding Rubric Level Progressions: Rubric 9

The Guiding Question

The Guiding Question addresses how the candidate uses representations (e.g., charts, graphs, metaphors, equations) in the clip(s) to build students' understanding of mathematical content.

Key Concepts of Rubric:

- Conceptual understanding[13]
- Procedural fluency
- Representation

Primary Sources of Evidence:

Video Clip(s)

Instruction Commentary **Prompt 4b**

Note that for the Instruction Task, the commentary is intended to provide context for interpreting what is shown in the video. Candidates sometimes describe events that do not appear in the video or conflict with scenes from the video—**such statements should not override evidence depicted in the video**.

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ Representations that are not appropriate or used inappropriately for the content being taught

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- In the clip(s), the candidate guides conversation and/or structures explorations using representations that help students develop understanding of mathematical concepts and procedures.

Below 3

Evidence that demonstrates performance below 3:

- In the clip(s), the candidate is not using representations effectively to guide student learning.

[13] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

What distinguishes a Level 2 from a Level 3: At Level 2,

- The candidate attempts to use representations to facilitate understanding of mathematical concepts and procedures, but the connections between them are not strong enough or clear enough to be effective.

What distinguishes a Level 1 from a Level 2: At Level 1,

- The candidate stays focused on facts or procedures and fails to make connections to concepts.

Automatic Score of 1 is given when:

- The representations are significantly inappropriate for the intended learning.
- The use of the representations will lead to significant student misunderstandings.

Above 3

Evidence that demonstrates performance above Level 3:

- In the clip(s), the candidate is making strategic choice or use of representations to develop students' mathematical learning.

What distinguishes a Level 4 from a Level 3: At Level 4,

- In the clip(s), the candidate provides opportunity for students to use problems or visual representations to guide and encourage students to think more deeply about mathematical concepts and procedures.

What distinguishes a Level 5 from a Level 4: At Level 5, in the clip(s), the candidate meets all of Level 4 AND

- Structures and supports student-student conversations to help them evaluate their own use of representations to explore concepts and conjectures and to solve problems.

Rubric 10: Analyzing Teaching Effectiveness

How does the candidate use evidence to evaluate and change teaching practice to meet students' varied learning needs?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate suggests **changes unrelated to evidence of student learning**.	Candidate **proposes changes to teacher practice that are superficially related to student learning needs** (e.g., task management, pacing, improving directions).	Candidate proposes changes that address **students' collective learning needs related to the central focus**. **Candidate makes superficial connections to research and/or theory.**	Candidate proposes changes that address **individual and collective learning needs** related to the central focus. Candidate makes **connections** to research and/or theory.	**Level 4 plus:** Candidate **justifies changes using principles from** research and/or theory.

Understanding Rubric Level Progressions: Rubric 10

The Guiding Question

The Guiding Question addresses how the candidate examines the teaching and learning in the video clip(s) and proposes what s/he could have done differently to better support the needs of all students. The candidate justifies the changes based on student needs and references to research and/or theory.

Key Concepts of Rubric:

- N/A

Primary Sources of Evidence:

Instruction Commentary **Prompt 5**

Video Clip(s) (for evidence of student learning)

Scoring Decision Rules

Multiple Criteria	▪ Criterion 1 (primary): Proposed changes ▪ Criterion 2: Connections to research/theory ▪ Place greater weight or consideration on criterion 1 (proposed changes).
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at <u>Level 3</u>:

- **Primary criterion:** The proposed changes address the central focus and the candidate explicitly connects those changes to the learning needs of the class as a whole.
    - Proposed changes noted by the candidate should be related to the lessons that are seen or referenced in the clip(s), but do not need to be exclusively from what is seen in the clip(s) alone. This means that since only portions of the lessons will be captured by the clip(s), candidates can suggest changes to any part of the same lesson(s) referenced in the clip(s), even if those portions of the lesson(s) are not depicted in the clip(s).
- **Secondary criterion:** The candidate refers to research or theory in relation to the plans to support student learning. The connections between the research/theory and the tasks are vague/not clearly made.
- If evidence meets the primary criterion at Level 3, the rubric is scored at Level 3 **regardless of the evidence for the secondary criterion**.
- If evidence meets the primary criterion at Level 4, and candidate has NO connection to research/theory, the rubric is scored at Level 3.

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- The changes proposed by the candidate are not directly related to student learning.

What distinguishes a Level 2 from a Level 3: At Level 2,

- The changes address improvements in teaching practice that mainly focus on how the candidate structures or organizes learning tasks, with a superficial connection to student learning. There is little detail on the changes in relation to either the central focus or the specific learning that is the focus of the video clip(s). Examples include asking additional higher-order questions without providing examples, improving directions, repeating instruction without making significant changes based on the evidence of student learning from the video clips, including more group work without indicating how the group work will address specific learning needs.
- If a candidate's proposed changes have nothing to do with the central focus, this rubric cannot be scored beyond a Level 2.

What distinguishes a Level 1 from a Level 2: At Level 1,

- The changes are not supported by evidence of student learning from lessons seen or referenced in the clip(s) (i.e., the candidate proposes changes from lessons other than those that were provided in the clips).

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- The proposed changes relate to the central focus and explicitly address individual and collective needs that were within the lessons seen in the video clip(s).
- The changes in teaching practice are supported by research and/or theory.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The changes clearly address the learning needs of individuals in addition to the learning needs of the whole class in the video clip(s) by providing additional support and/or further challenge in relation to the central focus. Candidate should explain how proposed changes relate to each individual's needs.
- The candidate explains how research or theory is related to the changes proposed. Candidates may cite research or theory in their commentary, or refer to the ideas and principles from the research; either connection is acceptable, as long as they clearly connect the research/theory to the proposed changes.
- Scoring decision rules: To score at Level 4, the candidate must meet the primary criterion at Level 4 and make at least a fleeting, relevant reference to research or theory (meet the secondary criterion at least at Level 3).

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- Explains how principles of research or theory support or frame the proposed changes. The justifications are explicit, well-articulated, and demonstrate a thorough understanding of the research/theory principles that are clearly reflected in the explanation of the changes.

Assessment Task 3: Assessing Student Learning

What Do I Need to Do?

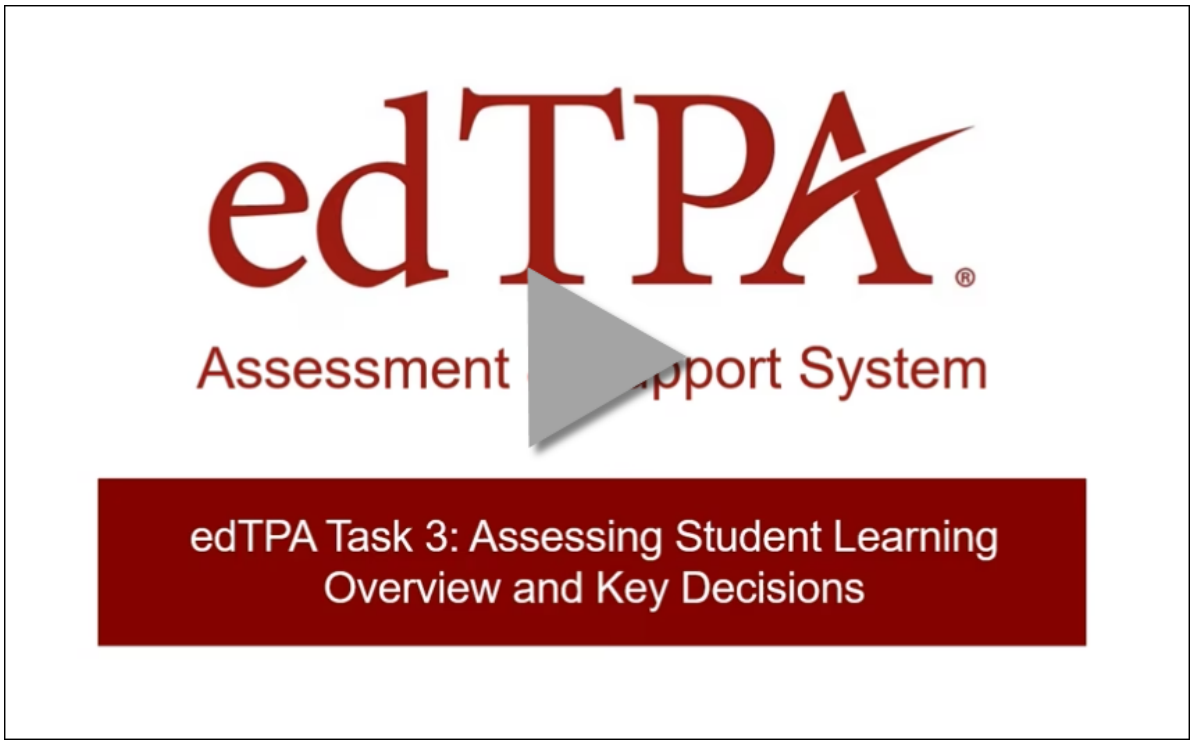
- **Select <u>one</u> assessment from your learning segment you will use** to evaluate your students' developing knowledge and skills. It should be an assessment that is completed by the whole class featured in the learning segment. (If you are teaching only a group within the class for the learning segment, that group will be "the whole class.") The assessment should reflect the work of individuals, not groups, but may be individual work from a group task. The assessment should provide opportunities for students to demonstrate
  - conceptual understanding,
  - procedural fluency, **AND**
  - mathematical reasoning and/or problem-solving skills.
- **Define and submit the evaluation criteria** you will use to analyze student learning related to the mathematical goals described above.
- **Collect and analyze student work** from the selected assessment to identify **quantitative and qualitative** patterns of learning within and across learners in the class. You may submit text files with scanned student work, a video or audio file of a student's oral work, **OR** a student-created video or multimedia file. For each focus student, a video or audio work sample must be no more than 5 minutes in total running time.
- **Select 3 student work samples** that represent the patterns of learning (i.e., what individuals or groups generally understood and what a number of students were still struggling to understand) you identified in your assessment analysis. These students will be your **focus students** for this task. **At least one of the focus students must have an identified learning need** (for example, an English learner, a student with an IEP [Individualized Education Program] or 504 plan, a struggling reader, an underperforming student or a student with gaps in academic knowledge, and/or a gifted student needing greater support or challenge).
- **Document the feedback** you gave to each of the **3 focus students** on the work sample itself, as an audio clip, or as a video clip. You must submit evidence of the actual feedback provided to each focus student, and not a description of the feedback.
- If you submit a student work sample or feedback as a video or audio clip and comments made by you or your focus student(s) cannot be clearly heard, do one of the following: 1) attach a transcription of the inaudible comments (**no more than 2 additional pages**) to the end of the Assessment Commentary; 2) embed quotes with time-stamp references in the commentary response; or 3) insert captions in the video (captions for this purpose will be considered permissible editing).
- If you submit a student work sample or feedback as a video or audio clip and additional students are present, clearly identify which students are your focus students in the relevant prompts (1d and 2a) of the Assessment Commentary (**in no more than 2 sentences**).

- **Respond to the prompts** listed in the Assessment Commentary template found in your account **after analyzing student work from the selected assessment** and submit the completed template.
- **Include and submit the chosen assessment, including the directions/prompts provided to students.** Attach the assessment (**no more than 5 additional pages**) to the end of the Assessment Commentary.
- **Provide evidence of students' understanding and use of the targeted academic language function and other language demands.** You may choose evidence from the video clip(s) submitted in Instruction Task 2, an additional video clip of one or more students using language within the learning segment (**no more than 5 minutes in length**), **AND/OR** student work samples submitted in Assessment Task 3.

See the Assessment Task 3: Artifacts and Commentary Specifications in the Secondary Mathematics Evidence Chart for instructions on electronic submission of evidence. The evidence chart identifies templates, supported file types, number of files, response length, and other important evidence specifications. Your evidence cannot contain hyperlinked content. Any web content you wish to include as part of your evidence must be submitted as a document file, which must conform to the file format and response length requirements.

Review the Assessment Task 3 Key Decisions and Key Points in the *Making Good Choices* document for supplementary advice for completing specific components of Assessment Task 3.

Candidate Support Webinar: Task 3: Assessing Student Learning Overview and Key Decisions



Video URL: https://vimeo.com/803917885/55799d6eb7

How Will the Evidence of My Teaching Practice Be Assessed?

For Assessment Task 3, your evidence will be assessed using rubrics 11–15, which appear on the following pages. When preparing your artifacts and commentaries, refer to the rubrics frequently to guide your thinking, planning, instruction, assessment, and writing.

Assessment Rubrics

Rubric 11: Analysis of Student Learning

How does the candidate analyze evidence of student learning of conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
The analysis is **superficial or not supported** by either student **work samples or the summary of student learning**. **OR** The evaluation criteria, learning objectives, and/or analysis are **not aligned with each other**.	The analysis **focuses on what students did right OR wrong**. **OR** The analysis **focuses solely on** students' ability to apply **procedures and/or their factual knowledge**.	The analysis focuses on what students did right **AND** wrong. **AND** Analysis includes **some differences in whole class learning**.	Analysis uses specific examples from work samples to **demonstrate patterns of learning consistent with the summary**. **AND** **Patterns of learning are described for whole class.**	Analysis uses specific evidence from work samples to demonstrate the connections between quantitative and qualitative patterns of **learning for individuals or groups**.

Understanding Rubric Level Progressions: Rubric 11

The Guiding Question

The Guiding Question addresses the candidate's analysis of student work to identify patterns of learning across the class.

Key Concepts of Rubric:

- Aligned[14]
- Evaluation criteria
- Patterns of learning

Primary Sources of Evidence:

Assessment Commentary **Prompt 1**

Student work samples

Evaluation criteria

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ Significant misalignment between evaluation criteria, learning objectives, and/or analysis

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- The analysis is an accurate listing of what students did correctly and incorrectly in relation to procedures, concepts AND reasoning or problem solving.
- The analysis is aligned with the evaluation criteria and/or assessed learning objectives.
- Some general differences in learning across the class are identified.

Below 3

Evidence that demonstrates performance below 3:

- The analysis is superficial (e.g., primarily irrelevant global statements) or focuses only on partial data (on right or wrong answers or only on procedures or facts).
- The analysis is contradicted by the work sample evidence.

[14] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

- The analysis is based on an inconsistent alignment with evaluation criteria and/or standards/objectives.

What distinguishes a Level 2 from a Level 3: There are **two different ways** that evidence is scored at Level 2:

1. The analysis presents an incomplete picture of student learning by only addressing either successes or errors.
2. The analysis does not address conceptual understanding, reasoning, or problem solving but focuses only on procedures or facts.

What distinguishes a Level 1 from a Level 2: There are **two different ways** that evidence is scored at Level 1:

1. The analysis is superficial because it ignores important evidence from the work samples, focusing on trivial aspects.
2. The conclusions in the analysis are not supported by the work samples or the summary of learning.

Automatic Score of 1 is given when:

- There is a significant lack of alignment between evaluation criteria, learning objectives, and/or analysis.
- A lack of alignment can be caused by a lack of relevant evaluation criteria to assess student performance on the learning objectives.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>: The analysis:

- Identifies patterns of learning (quantitative and qualitative) that summarize what students know, are able to do, and still need to learn.
- Describes patterns for the whole class, groups, or individuals.
- Is supported with evidence from the work samples and is consistent with the summary.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The analysis describes consistencies in performance (patterns) across the class in terms of what students know and are able to do and where they need to improve.
- The analysis goes beyond a listing of students' successes and errors, to an explanation of student understanding in relation to their performance on the identified assessment. An exhaustive list of what students did right and wrong, or the % of students with correct or incorrect responses, should be scored at Level 3, as that does not constitute a pattern of student learning. A pattern of student learning goes beyond these quantitative differences to identify specific content understandings or misunderstandings, or partial understandings that are contributing to the quantitative differences.

- Specific examples from work samples are used to demonstrate the whole class patterns. An example is "Most students were successful on the abstract equations (Problems 1–10) but far fewer were successful with the word problems (problems 11–13). Student A was able to solve both types of problems (1–10), although making an arithmetic error on Problem 8 with otherwise correct procedures. However, most students were like Student B, who could solve the problems when the equations were given, but could not set up the equation correctly from the word problems (11–13)."

What distinguishes a Level 5 from a Level 4: At Level 5,

- The candidate uses specific evidence from work samples to demonstrate qualitative patterns of understanding. The analysis uses these qualitative patterns to interpret the range of similar correct or incorrect responses from individuals or groups (e.g., quantitative patterns), and to determine elements of what students learned and what would be most productive to work on. The qualitative patterns may include struggles, partial understandings, and/or attempts at solutions. An example would be "Most students could use correct procedures to solve the abstract equations (See problems 1–10), as illustrated by Students A and B. But most students were like Student B, who could not set up the equation on any of the word problems, while Student A's work sample represented the few students who could. Even though Student A made an arithmetic error on Problem 8, the procedure was correct. While Student B found the correct solution to problems 1–10, he was unable to construct the correct equation for any of the word problems (problems 11–13.) This suggests that most of my students understood the procedures and how to use them, but most had difficulty with conceptual understanding sufficient to recognize the variables when they appeared in a real-world context. They appeared to be really confused, because like Student B, there was no consistent error across the word problems, but the information in the problem appeared to be almost randomly matched to the variables. So in Problem 11, the unknown (which should be y) is assigned to the beginning value. In Problem 12, the slope is calculated incorrectly, and in Problem 13, the irrelevant information is put in the place of the starting value."

Rubric 12: Providing Feedback to Guide Learning

What type of feedback does the candidate provide to focus students?

Level 1	Level 2	Level 3	Level 4	Level 5
Feedback is unrelated to the learning objectives OR is developmentally inappropriate. **OR** Feedback **contains significant content inaccuracies**. **OR** **No feedback is provided to one or more focus students.**	Feedback is **general** and **addresses needs AND/OR strengths related to the learning objectives**.	Feedback is **specific** and addresses **either** needs **OR** strengths **related to the learning objectives**.	Feedback is specific and **addresses both strengths AND needs** related to the learning objectives.	**Level 4 plus:** **Feedback for one or more focus students** • **provides a strategy to address an individual learning need OR** • **makes connections to prior learning or experience to improve learning.**

Understanding Rubric Level Progressions: Rubric 12

The Guiding Question

The Guiding Question addresses the evidence of feedback provided to the focus students. Feedback may be written on the three student work samples or provided in a video/audio format. The feedback should identify what students are doing well and what needs to improve in relation to the learning objectives.

Key Concepts of Rubric:

- Significant content inaccuracies[15]
- Developmentally inappropriate feedback

Primary Sources of Evidence:

Assessment Commentary **Prompt 2a–b**

Evidence of feedback (written, audio/video)

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ One or more content errors in the feedback that will mislead student(s) in significant ways ▪ No evidence of feedback for one or more focus students
Preponderance of Evidence	▪ You must apply the preponderance of evidence rule when the focus students receive varying types of feedback. For example, when the candidate provides feedback on both strengths and needs for 2 out of the 3 focus students, this example would be scored at a level 4 according to the preponderance of evidence rule.

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- The feedback identifies **specific** strengths OR needs for improvement. At Level 3, the candidate MUST provide the focus students with qualitative feedback about their performance that is aligned with the learning objectives. Specific feedback includes such things as pointing to successful use of a strategy, naming a type of problem successfully solved, pointing to and naming errors, suggesting information that would help solve the problem successfully. Checkmarks, points deducted, grades, or scores do not meet the Level 3, even when they distinguish errors from correct responses.

[15] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

- For a learning segment on solving systems of equations, examples of specific feedback are, "You were able to choose a variable and show how to multiply the entire equation by a constant to eliminate that variable." (STRENGTH) OR "You multiplied by a constant, but you didn't eliminate the variables in this problem; what do you need to do for the variable to eliminate?" (NEED)

Below 3

Evidence that demonstrates performance below 3:

- Evidence of feedback is general, unrelated to the assessed learning objectives, developmentally inappropriate, inaccurate, or missing for one or more focus students.

What distinguishes a Level 2 from a Level 3: At Level 2,

- Although the feedback is related to the assessed learning objectives, it is also vague and does not identify specific strengths or needs for improvement. At Level 2, general feedback includes identifying what each focus student did or did not do successfully with little detail, e.g., checkmarks for correct responses, points deducted, and comments such as, "Watch out for negative signs!" that are not linked to a specific strength or need. General feedback does not address the specific error or correct solution (e.g., "Check your work" or "Yes!").

What distinguishes a Level 1 from a Level 2: There are **two different ways** that evidence is scored at Level 1:

1. Feedback is not related to the learning objectives. Feedback that is limited to a single statement or mark, such as identifying the total percent correct (86%), an overall letter grade (B), or one comment like "Nice work!" with no other accompanying comments or grading details does not meet the Level 2 requirement and should be scored at a Level 1. These examples of a single piece of feedback do not provide **any** general feedback to focus students that is related to the learning objectives.
2. Feedback is not developmentally appropriate.

Automatic Score of 1 is given when:

- Feedback includes content inaccuracies that will misdirect the focus student(s).
- There is no evidence of feedback for the analyzed assessment for one or more focus students. This includes when there is only a description of feedback rather than actual feedback (video, audio or written) presented to the focus student(s).

Above 3

Evidence that demonstrates performance above Level 3:

- Feedback is specific, related to assessed learning objectives, and addresses students' strengths AND needs.

What distinguishes a Level 4 from a Level 3: At Level 4,

- Specific feedback addresses both strengths and needs. For example, "You did a great job setting up the equation that fits the situation and solving correctly (STRENGTH). Make sure to check your answer is in simplest form and makes sense in the problem" (NEED). Each student work sample must contain both strengths AND needs to score at this level. Strengths on one paper and needs on another does not meet the criteria for a level 4. (In the event that the feedback on two of the focus

students has both strengths and needs, and the third student scored high enough that only strengths are appropriate, it can be scored at a level 4.)

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- The feedback for at least one focus student includes:
    - A strategy to address a specific learning need, including the need for a greater challenge. For example, "You got the right answer. Make sure you slow down and show all of your work." OR
    - A meaningful connection to experience or prior learning. For example, the candidate refers back to a prior math lesson: "I want you to visualize the new situation as you did in the problem you solved yesterday, to be able to compare the two different scenarios. Then sketch the situation and label all the angles and sides before you work on solving it. This will help you see the problem as you solve it."

Rubric 13: Student Understanding and Use of Feedback

How does the candidate support focus students to understand and use the feedback to guide their further learning?

Level 1	Level 2	Level 3	Level 4	Level 5
Opportunities for understanding or using feedback are not described. **OR** Candidate **provides limited or no feedback to inform student learning**.	Candidate **provides vague description of how focus students will understand or use feedback**.	Candidate **describes** how focus students will understand or use feedback **related to the learning objectives**.	Candidate describes how **s/he will support** focus students to understand **and** use feedback **on their strengths OR weaknesses** related to the learning objectives.	Candidate describes how s/he will support focus students to understand and use feedback on their strengths **AND** weaknesses related to the learning objectives.

Understanding Rubric Level Progressions: Rubric 13

The Guiding Question

The Guiding Question addresses how the candidate explains how they will help focus students understand and use the feedback provided in order to improve their learning.

Key Concepts of Rubric:

- N/A

Primary Sources of Evidence:

Assessment Commentary **Prompt 2c**

Evidence of Oral or Written Feedback

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at <u>Level 3</u>:

- Candidate describes **how** the focus students will understand **OR** use feedback related to the learning objectives. This description needs to relate to the feedback given to one or more of the focus students.
- The description should be specific enough that you understand what the candidate and/or students are going to do. Otherwise, it is vague and the evidence should be scored at Level 2.
    - Example for **understanding** feedback: Candidate reviews work with whole class focusing on common mistakes that explicitly includes content that one or more focus students were given feedback on.
    - Example for **using** feedback: Candidate asks focus students to revise work using feedback given and resubmit revised work.

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- Opportunities for understanding or using feedback are superficially described or absent.

What distinguishes a Level 2 from a Level 3: At Level 2,

- The description of how focus students will understand or use feedback is very general or superficial. Details about **how** the focus students will understand or use the feedback are missing. For example, "The focus students will get their work back. The feedback will tell them what they did right and wrong when solving the problem.

They will solve another problem next week," or, e.g., description discusses whole class understanding or use of feedback without explicit attention to feedback given to one or more focus students.

- The use of feedback is not clearly related to the assessed learning objectives.

What distinguishes a Level 1 from a Level 2: At Level 1,

- Opportunities for understanding or using feedback are not described OR
- There is NO evidence of feedback for two or more focus students.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- Support for the focus students to understand AND use feedback is described in enough detail to understand how the focus students will develop in areas identified for growth and/or continue to deepen areas of strength.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The candidate describes planned or implemented support for the focus students to understand and use feedback on their strengths OR weaknesses to further develop their learning in relation to the learning objectives. For example, a candidate may work with focus students in a small group and reteach several concepts they struggled with on their assessment (as noted by feedback given), using a graphic organizer to further develop understanding of each concept (such as a T-chart or concept map). Next, students would be given an opportunity to revise their responses involving those concepts, using the graphic organizer to support their revisions. This example shows how a candidate can help focus students understand their feedback in relation to misunderstandings and support them in using that feedback to enhance learning in relation to objectives assessed. This type of planned support could take place with the whole class as long as explicit attention to one or more of the focus student's strengths or weaknesses is addressed in relation to the feedback given.

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- The candidate describes planned or implemented support for the focus students to understand and use feedback on their strengths AND weaknesses related to the learning objectives.

Rubric 14: Analyzing Students' Language Use and Mathematics Learning

How does the candidate analyze students' use of language to develop content understanding?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate identifies student language use that is superficially related or unrelated to the language demands (function, vocabulary/symbols, and additional demands). **OR** **Candidate's description or explanation of language use is not consistent with the evidence submitted.**	**Candidate describes how students use only one language demand (vocabulary/symbols; function; mathematical precision; written, visual, or verbal communication; grammatical structures).**	Candidate **explains** and provides **evidence of students' use of** • **the language function** **AND** • **one or more additional language demands** (vocabulary/symbols; mathematical precision; written, visual, or verbal communication; grammatical structures).	Candidate explains and provides evidence of students' use of • the language function, • **vocabulary/symbols**, **AND** • additional language demand(s) (mathematical precision; written, visual, or verbal communication; grammatical structures) **in ways that develop content understandings**.	**Level 4 plus:** **Candidate explains and provides evidence of language use and content learning for students with varied needs.**

Understanding Rubric Level Progressions: Rubric 14

The Guiding Question

The Guiding Question addresses how the candidate explains students' use of the identified language demands and how that use demonstrates and develops mathematical understanding.

Key Concepts of Rubric:

Use the terms below and their definitions from the glossary as well as the Academic Language Appendix to further clarify concepts on Rubric 14.

- Language demands[16]
- Language functions
    - Some specific mathematics verbs do not qualify as language functions because they focus on a mathematical action, not a language-based action. Examples of invalid language functions include solve problems, simplify the expressions, calculate the answers, and estimate the answers.
- Vocabulary/symbols
- Written, visual, or verbal communication
- Grammatical structures
- Language development supports

Primary Sources of Evidence:

Assessment Commentary **Prompt 3**

Evidence of Student Language Use (student work samples and/or video evidence)

Scoring Decision Rules

Multiple Criteria	▪ N/A for this rubric
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- The candidate explains and identifies evidence that students used or attempted to use the language function AND one additional language demand (vocabulary/symbols; mathematical precision; grammatical structures; or written,

[16] Links to terms from the Secondary Mathematics Glossary are included for quick access to the definitions. To navigate to the glossary definition, click the hyperlinked word(s). To navigate back to the page origin, use the "Previous View" command (or ALT+Left Arrow).

visual, or verbal communication). Note: The language demands discussed in the Assessment Commentary do not have to be the same as those discussed in Task 1.

- It is not sufficient for the candidate to reference an artifact and make a general statement, for example, "As seen in the work samples, the student used the vocabulary/symbols in their work." The candidate must **explain** how the students used the identified language and reference or identify an example of that use from the artifact, e.g., "Students 1 and 2 used the vocabulary/symbols and also identified what they did mathematically to go from one step to the next (the component of explanations identified) in their explanations. Student 3 used a mixture of vocabulary/symbols and everyday language in the explanation (e.g., this thing here, when referring to the exponent), but included both components of explanation."

Below 3

Evidence that demonstrates performance <u>below 3</u>:

- The candidate's identification of student's language use is not aligned with the language demands or limited to one language demand.

What distinguishes a Level 2 from a Level 3: At Level 2,

- The candidate's description and/or evidence of students' language use is limited to only one language demand (vocabulary/symbols; function; mathematical precision; grammatical structures; or written, visual, or verbal communication).

What distinguishes a Level 1 from a Level 2: At Level 1,

- The candidate identifies language use that is unrelated or not clearly related to the language demands (function, vocabulary/symbols, and additional demands) addressed in the Assessment commentary.
- Candidate's description or explanation of language use is not consistent with the evidence provided.

Above 3

Evidence that demonstrates performance <u>above Level 3</u>:

- Candidate identifies specific evidence of student use of the language function and vocabulary/symbols along with at least one other language demand (grammatical structures; written, visual, or verbal communication; or mathematical precision).
- Candidate explains how evidence of student language represents their development of content understandings, which may include growth and/or struggles with both understanding and expressing content understandings.
- Candidate explains and provides evidence of language use and content learning for students with distinct language needs.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The candidate identifies and explains evidence that students are able to use the language function, vocabulary/symbols AND associated language demands (grammatical structures; written, visual, or verbal communication; and/or mathematical precision). The explanation uses specific evidence from the video and/or work samples.
- The candidate's analysis includes how evidence of student language use demonstrates growth and/or struggles in developing content understandings. For example, the candidate notes that, "All students could give a complete explanation using some commonly used vocabulary words, like variables, systems of equations,

solution correctly in the context of their explanations (4:35, 5:07). Most of the students could produce detailed explanations (the language function) in terms of general concepts and procedures for graphing to find the solutions for a system of equations. However, several students' explanations were incomplete (e.g., at 5:45, not explaining how to create the graph from the equation in standard form), suggesting that some students still need support to develop in the area of mathematical precision."

What distinguishes a Level 5 from a Level 4: At Level 5, the candidate meets all of Level 4 AND

- Explains and provides evidence that students with distinct language needs are using the language for content learning.

Rubric 15: Using Assessment to Inform Instruction

How does the candidate use the analysis of what students know and are able to do to plan next steps in instruction?

Level 1	Level 2	Level 3	Level 4	Level 5
Next steps **do not follow** from the analysis. **OR** Next steps are **not relevant to the learning objectives** assessed. **OR** Next steps are **not described in sufficient detail** to understand them.	Next steps primarily **focus on changes to teaching practice that are superficially related to student learning needs, for example, repeating instruction, pacing, or classroom management issues**.	Next steps **propose general support that improves student learning related to assessed learning objectives**. Next steps are **loosely connected with research and/or theory**.	Next steps **provide targeted support to individuals or groups to improve their learning relative to** • conceptual understanding, • procedural fluency, **AND/OR** • mathematical reasoning and/or problem-solving skills. Next steps are **connected** with research and/or theory.	Next steps provide targeted support to individuals **AND** groups to improve their learning relative to • conceptual understanding, • procedural fluency, **AND/OR** • mathematical reasoning and/or problem-solving skills. Next steps are **justified with principles from** research and/or theory.

Understanding Rubric Level Progressions: Rubric 15

The Guiding Question

The Guiding Question addresses how the candidate uses conclusions from the analysis of student work and research or theory to propose the next steps of instruction. Next steps should be related to the standards/objectives assessed and based on the assessment that was analyzed. They also should address the whole class, groups with similar needs, and/or individual students.

Key Concepts of Rubric:

- N/A

Primary Source of Evidence:

Assessment Commentary **Prompt 4**

Scoring Decision Rules

Multiple Criteria	▪ Criterion 1 (primary): Next steps for instruction ▪ Criterion 2: Connections to research/theory ▪ Place greater weight or consideration on criterion 1 (next steps for instruction).
AUTOMATIC 1	▪ None

Unpacking Rubric Levels

Level 3

Evidence that demonstrates performance at Level 3:

- **Primary Criterion:** The next steps focus on support for specific changes to student learning for the whole class, not specifically targeted for individual students. The support addresses learning related to the learning objectives that were assessed.
- **Secondary Criterion:** The candidate refers to research or theory when describing the next steps. The connections between the research/theory and the next steps are vague/not clearly made.
- If evidence meets the primary criterion at Level 3, the rubric is scored at Level 3 **regardless of the evidence for the secondary criterion**.
- If evidence meets the primary criterion at Level 4, and candidate has NO connection to research/theory, the rubric is scored at Level 3.

Below 3

Evidence that demonstrates performance below 3:

- The next steps are not directly focused on student learning needs that were identified in the analysis of the assessment.
- Candidate does not explain how next steps are related to student learning.

What distinguishes a Level 2 from a Level 3: At Level 2,

- The next steps are related to the analysis of student learning and the learning objectives assessed.
- The next steps address improvements in teaching practice that mainly focus on how the candidate structures or organizes learning tasks which offer limited support without addressing changes and have a superficial connection to student learning. There is little detail on the changes in relation to the assessed student learning. Examples include repeating instruction or focusing on improving conditions for learning such as pacing or classroom management, with no clear connections to how changes address the student learning needs identified.

What distinguishes a Level 1 from a Level 2: There are **three different ways** that evidence is scored at Level 1:

1. Next steps **do not follow from** the analysis.
2. Next steps are **unrelated to the learning objectives** assessed.
3. Next steps are **not described in sufficient detail** to understand them, e.g., "more practice" or "go over the test."

Above 3

Evidence that demonstrates performance above Level 3:

- Next steps are based on the assessment results and provide scaffolded or structured support that is directly focused on specific student learning needs related to conceptual understanding, procedural fluency, AND/OR problem-solving/reasoning skills.
- Next steps are supported by research and/or theory.

What distinguishes a Level 4 from a Level 3: At Level 4,

- The next steps are clearly aimed at supporting specific student needs for either individuals (2 or more students) or groups with similar needs related to one or more of the three areas of mathematical learning (conceptual understanding, procedural fluency, mathematical reasoning and/or problem-solving skills). Candidate should be explicit about how next steps will strategically support individuals or groups and explain how that support will address each individual or group's needs in relation to the area of mathematical learning.
- The candidate discusses how the research or theory is related to the next steps in ways that make some level of sense given their students and central focus. They may cite the research or theory in their discussion, or they may refer to the ideas from the research. Either is acceptable, as long as they clearly connect the research/theory to their next steps.
- Scoring decision rules: To score at Level 4, the candidate must meet the primary criterion at Level 4 and make at least a fleeting, relevant reference to research or theory (meet the second criterion at least at Level 3).

What distinguishes a Level 5 from a Level 4: At Level 5,

- The next steps are clearly aimed at supporting specific student needs for **both** individuals and groups with similar needs related to one or more of the three areas of mathematical learning (conceptual understanding, procedural fluency, mathematical reasoning and/or problem-solving skills). Candidate should be explicit about how next steps will strategically support individuals and groups and explain how that support will address each individual's and group's needs in relation to the areas of mathematical learning.
- The candidate explains how principles of research or theory support the proposed changes, with clear connections between the principles and the next steps. The explanations are explicit, well-articulated, and demonstrate a thorough understanding of the research or theoretical principles involved.

Secondary Mathematics Evidence Chart

Your evidence must be submitted to the electronic portfolio management system used by your teacher preparation program. Your submission must conform to the artifact and commentary specifications for each task. This section provides instructions for all evidence types as well as a description of supported file types for evidence submission, number of files, response lengths, and other information regarding format specifications. Note that your evidence cannot contain hyperlinked content. Any web content you wish to include as part of your evidence must be submitted as a document file, which must conform to the file format and response length requirements. If you have materials that must be translated into English as per the *edTPA Submission Requirements*, those translations should be added to the original materials as part of the same file or, if applicable, to the end of the commentary template. There is no page limit for required translations into English.

Planning Task 1: Artifacts and Commentary Specifications

What to Submit	Supported File Types	Min # of Files	Max # of Files	Response Length	Additional Information
Part A: Context for Learning Information (template provided)	.doc; .docx; .odt; .pdf	1	1	**No more than 4 pages,** including prompts	▪ Use Arial 11-point type. ▪ Single space with 1-inch margins on all sides.
Part B: Lesson Plans for Learning Segment	.doc; .docx; .odt; .pdf	1	1	No more than 4 pages per lesson	▪ Submit 3–5 lesson plans in 1 file. ▪ Within the file, label each lesson plan (Lesson 1, Lesson 2, etc.). ▪ All rationale or explanation for plans should be written in the Planning Commentary and removed from lesson plans.
Part C: Instructional Materials	.doc; .docx; .odt; .pdf	1	1	**No more than 5 pages** of **KEY** instructional materials per lesson plan	▪ Submit all materials in 1 file. ▪ Within the file, label materials by corresponding lesson (Lesson 1 Instructional Materials, Lesson 2 Instructional Materials, etc.). ▪ Order materials as they are used in the learning segment.
Part D: Assessments	.doc; .docx; .odt; .pdf	1	1	No limit	▪ Submit assessments in 1 file. ▪ Within the file, label assessments by corresponding lesson (Lesson 1 Assessments, Lesson 2 Assessments, etc.). ▪ Order assessments as they are used in the learning segment.
Part E: Planning Commentary (template provided)	.doc; .docx; .odt; .pdf	1	1	**No more than 9 pages** of commentary, including prompts	▪ Use Arial 11-point type. ▪ Single space with 1-inch margins on all sides. ▪ Respond to prompts before teaching the learning segment.

Instruction Task 2: Artifacts and Commentary Specifications

What to Submit	Supported File Types	Min # of Files	Max # of Files	Response Length	Additional Information
Part A: Video Clips [17]	asf, qt, mov, mpg, mpeg, avi, wmv, mp4, m4v	1	2	**No more than 15 minutes total** running time (but not less than 3 minutes)	▪ Before you record your video, obtain permission from the parents/guardians of your students and from adults who appear on the video. ▪ Refer to Instruction Task 2, What Do I Need to Do? for video clip content and requirements. ▪ When naming each clip file, include the number of the lesson shown in the video clip.

Part B: Instruction Commentary (template provided)	.doc; .docx; .odt; .pdf	1	1	**No more than 6 pages** of commentary, including prompts
				
				If needed, **no more than 2 additional pages** of supporting documentation
					▪ Use Arial 11-point type.
					▪ Single space with 1-inch margins on all sides.
					
					IMPORTANT:
					▪ Insert documentation at the end of the commentary file if
					  ▪ you or the students are using graphics, texts, or images that are not clearly visible in the video
					  ▪ you chose to submit a transcript for occasionally inaudible portions of the video
					▪ If submitting documentation, include the video clip number, lesson number, and explanatory text (e.g., "Clip 1, lesson 2, text from a whiteboard that is not visible in the video," "Clip 2, lesson 4, transcription of a student response that is inaudible").

[17] **Video file size requirements:** The target file size is 200–300 MB or less. The Pearson ePortfolio System file size limit is 500 MB. Please note that each integrated platform provider portfolio system may have additional constraints or requirements regarding video formats and file sizes. You may need to use video tools to compress or transcode your video into smaller file sizes to facilitate uploading of the video. Refer to Recommended Video Formats and Settings on www.edtpa.com for the current requirements.

Assessment Task 3: Artifacts and Commentary Specifications

What to Submit	Supported File Types	Min # of Files	Max # of Files	Response Length	Additional Information
Part A: Student Work Samples[18]	**For written work samples:** .doc; .docx; .odt; .pdf **For audio work samples:** asf, wmv, qt, mov, mpg, avi, mp3, wav, mp4, wma **For video work samples:** asf, qt, mov, mpg, mpeg, avi, wmv, mp4, m4v	3	3	No page limit for written work samples **No more than 5 minutes per focus student** for video or audio student work samples	▪ Use correction fluid, tape, or a felt-tip marker to mask or remove students' names, your name, and the name of the school before copying/scanning any work samples. If your students' writing is illegible, write a transcription directly on the work sample. ▪ On each work sample, indicate the student number (Student 1 Work Sample, Student 2 Work Sample, or Student 3 Work Sample). If more than one focus student appears in a video or audio work sample, upload the same work sample separately for each focus student who is seen/heard and label appropriately. Describe how to recognize each of the focus students in the clip and provide the label associated with the clip in prompt 1d of the Assessment Commentary. ▪ When naming each work sample file, include the student number. ▪ If you submit a student work sample or feedback as a video or audio clip and comments made by you or your focus student(s) cannot be clearly heard, do one of the following: 1) attach a transcription of the inaudible comments (no more than 2 additional pages) to the end of the Assessment Commentary; 2) embed quotes with time-stamp references in the commentary response; or 3) insert captions in the video (captions for this purpose will be considered permissible editing).

(Continued on next page)

[18] **Video file size requirements:** The target file size is 200–300 MB or less. The Pearson ePortfolio System file size limit is 500 MB. Please note that each integrated platform provider portfolio system may have additional constraints or requirements regarding video formats and file sizes. You may need to use video tools to compress or transcode your video into smaller file sizes to facilitate uploading of the video. Refer to Recommended Video Formats and Settings on www.edtpa.com for the current requirements.

Assessment Task 3: Artifacts and Commentary Specifications (continued)

What to Submit	Supported File Types	Min # of Files	Max # of Files	Response Length	Additional Information
Part B: Evidence of Feedback[19] And, if included, video evidence of academic language use	**For written feedback not written on the work samples:** .doc; .docx; .odt; .pdf **For audio feedback:** asf, wmv, qt, mov, mpg, avi, mp3, wav, mp4, wma **For video clips (feedback and/or language use):** asf, qt, mov, mpg, mpeg, avi, wmv, mp4, m4v	0	4	No page limit for written feedback **No more than 3 minutes per focus student** for video or audio feedback **No more than 5 minutes** for video evidence of student language use	▪ Document the location of your evidence of feedback in the Assessment Commentary. ▪ If feedback is not included as part of the student work samples or recorded on the video clip(s) from Instruction Task 2, submit only **1** file for each focus student—a document, video file, **OR** audio file—and label the file with the corresponding student number (Student 1 Feedback, Student 2 Feedback, or Student 3 Feedback). ▪ If more than one focus student appears in a video or audio clip of feedback, upload the same clip separately for each focus student who is seen/heard and label appropriately. ▪ When naming each feedback file, include the student number. ▪ If you submit a student work sample or feedback as a video or audio clip and comments made by you or your focus student(s) cannot be clearly heard, do one of the following: 1) attach a transcription of the inaudible comments (**no more than 2 additional pages**) to the end of the Assessment Commentary; 2) embed quotes with time-stamp references in the commentary response; or 3) insert captions in the video (captions for this purpose will be considered permissible editing). ▪ For Academic Language – If you choose to submit a video clip of student language use, it should be **no more than 5 minutes**. You may identify a portion of a clip provided for Instruction Task 2 or submit an entirely new clip.

(Continued on next page)

[19] **Video file size requirements:** The target file size is 200–300 MB or less. The Pearson ePortfolio System file size limit is 500 MB. Please note that each integrated platform provider portfolio system may have additional constraints or requirements regarding video formats and file sizes. You may need to use video tools to compress or transcode your video into smaller file sizes to facilitate uploading of the video. Refer to Recommended Video Formats and Settings on www.edtpa.com for the current requirements.

Assessment Task 3: Artifacts and Commentary Specifications (continued)

What to Submit	Supported File Types	Min # of Files	Max # of Files	Response Length	Additional Information
Part C: Assessment Commentary (template provided)	.doc; .docx; .odt; .pdf	1	1	**No more than 10 pages** of commentary, including prompts Plus ■ **no more than 5 additional pages** for the chosen assessment, ■ if necessary, **no more than 2 additional total pages** of transcriptions of video/audio evidence for a work sample and feedback, and/or video evidence of language use	■ Use Arial 11-point type. ■ Single space with 1-inch margins on all sides. **IMPORTANT:** Insert a copy of the chosen assessment, including directions/prompts provided to students.
Part D: Evaluation Criteria	.doc; .docx; .odt; .pdf	1	1	No limit	

Secondary Mathematics Glossary

Source citations for glossary entries are provided as footnotes in this section.

academic language: Oral and written language used for meaning making. AL is the "language of the discipline" used to engage students in learning and includes the means by which students develop and express content understandings. When completing their edTPA, candidates must consider the AL (i.e., **language demands**) present throughout the learning segment in order to support student learning and language development. The **language demands** include **language functions; vocabulary/symbols; grammatical structures;** and **written, visual,** or **verbal communication**.

- **language demand:**[20] Specific ways that academic language (function; vocabulary/symbols; grammatical structures; and written, visual, or verbal communication) is used by students to participate in learning tasks through reading, writing, listening, and/or speaking to demonstrate their disciplinary understanding and language development.
- **language development:** The process through which learners come to understand and communicate language. It is with and through language that students learn, think, and express information, ideas, perspectives, and questions orally and in writing. In Mathematics, language development supports children's ability to learn to identify and understand the symbolic nature of numerals. Mathematical language is the means through which children can communicate meaning and mathematical ideas and ensure it is presented in a structured way. Whether written or spoken, children should be able to present their mathematical thinking, reasoning, and understanding of mathematical concepts through the use of math vocabulary.[21]
- **language functions:** The literacy-based skill that is being used for the learning task, typically represented by active verbs within the learning outcomes. The content and language focus of the learning task, represented by the active verbs within the learning outcomes. Common language functions in mathematics include **describing** mathematical phenomena, **predicting** from models and data, **comparing** based on common attributes, **summarizing** mathematical information, **recording** multiple ways to solve problems, **justifying** conclusions, **evaluating** data and mathematical representations, **classifying** based on attributes, **explaining** how or why certain strategies work, **drawing conclusions** based on data, **representing** mathematical information, and so on. Some specific mathematics verbs are non-examples of language functions because they focus on a mathematical action, not a language-based action. Examples of mathematical functions that ARE NOT language functions include **solve** problems, **simplify** the expressions, **calculate** the answers, and **estimate** the answers.

[20] O'Hara, S., Pritchard, R., & Zwiers, J. (2012). Identifying academic language demands in support of the common core standards. ASCD Express, 7(17).

[21] https://www.kennedykrieger.org/stories/linking-research-classrooms-blog/how-do-language-skills-impact-math-learning

- **vocabulary/symbols:** Words and phrases with subject-specific meanings that differ from meanings used in everyday life; general academic vocabulary used across disciplines; subject-specific words and/or symbols defined for use in the discipline.[22]
- **written, visual, or verbal communication:** How members of the discipline talk, write, and participate in knowledge construction, using the structures of written and oral language; discipline-specific written, visual, or verbal communication has distinctive features or ways of structuring oral or written language (text structures) or representing knowledge visually.[23]
- **grammatical structures (syntax):** The rules for organizing words or symbols together into phrases, clauses, sentences, or visual representations; to organize language in order to convey meaning.[24]
- **language development supports:** The scaffolds, representations, and pedagogical strategies teachers provide to help learners understand, use, and practice the concepts and language they need to learn within disciplines (Santos, Darling-Hammond, Cheuk, 2012).[25] The language development supports planned within the lessons in edTPA should directly support learners to understand and use identified language demands (vocabulary/symbols; language function; grammatical structures; and written, visual, or verbal communication) to deepen content understandings.

aligned: Consistently addressing the same/similar learning outcomes for students.

artifacts: Authentic work completed by you and your students including lesson plans, copies of instructional and assessment materials, video clips of your teaching, and student work samples. Artifacts are submitted as part of your evidence.

assessment (formal or informal): "[R]efer[s] to all those activities undertaken by teachers and by their students . . . that provide information to be used as feedback to modify the teaching and learning activities"[26] for both students and teachers. Assessments provide evidence of students' prior knowledge, thinking, or learning in order to evaluate what students understand and how they are thinking at a given point in time for the purpose of promoting student learning. Informal assessments may include such things as student questions and responses during instruction and teacher observations of students as they work or perform. Formal assessments may include such things as quizzes, homework assignments, journals, projects, and performance tasks.

assets (knowledge of students):

- **personal:** Refers to specific background information that students bring to the learning environment. Students may bring interests, knowledge, mathematical dispositions, everyday experiences, family backgrounds, and so on, which a teacher can draw upon to support learning.

---

[22] Quinn, H., Lee, O., & Valdés, G. (2012). Language demands and opportunities in relation to next generation science standards for English language learners: What teachers need to know.

[23] Quinn, H., Lee, O., & Valdés, G. (2012). Language demands and opportunities in relation to next generation science standards for English language learners: What teachers need to know.

[24] Zwiers, J. (2008). *Building academic language: Essential practices for content classrooms*. San Francisco, CA: Jossey-Bass.

[25] Santos, M., Darling-Hammond, L., & Cheuk, T. (2012). Teacher development to support English language learners in the context of common core state standards. Stanford University Understanding Language.

[26] Black, P., & Wiliam, D. (1998). Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan, 80*(2), 139–148.

- **community:** Refers to common backgrounds and experiences that students bring from the community where they live, such as resources, local landmarks, community events, practices, and so on, that a teacher can draw upon to support learning.

central focus: A description of the important understandings and core concepts that you want students to develop within the learning segment. The central focus should go beyond a list of facts and procedures, align with content standards and learning objectives, and address the subject-specific components in the learning segment. For example, the subject-specific components for secondary mathematics are: conceptual understanding, procedural fluency, **AND** mathematical reasoning and/or problem-solving skills. A central focus for the learning segment might be relationships between symbolic expressions and graphs of lines. The learning segment would focus on conceptual understanding of linear functions, slope, and intercepts, and the associated procedures and mathematical reasoning and/or problem-solving skills.

commentary: Submitted as part of each task and, along with artifacts, make up your evidence. The commentaries should be written to explain the rationale behind your teaching decisions and to analyze and reflect on what you have learned about your teaching practice and your students' learning.

conceptual understanding: "Students demonstrate *conceptual understanding* in mathematics . . . when they recognize, label, and generate examples of concepts; use and interrelate models, diagrams, manipulatives, and varied representations of concepts; identify and apply principles; know and apply facts and definitions; compare, contrast, and integrate related concepts and principles; recognize, interpret, and apply the signs, symbols, and terms used to represent concepts."[27]

deficit thinking: Revealed when candidates explain low academic performance based primarily on students' backgrounds, the challenges they face outside of school or from lack of family support. When this leads to a pattern of low expectations, not taking responsibility for providing appropriate support, or not acknowledging any student strengths, this is a deficit view.

developmentally inappropriate feedback: Feedback addressing concepts, skills, or procedures well above or below the content assessed (without clearly identified need) OR feedback that is not appropriate for the developmental level of the student (e.g., lengthy written explanations for English learners or feedback to a student with an explanation that references a concept later in the curriculum).

engaging students in learning: Using instructional and motivational strategies that promote students' active involvement in learning tasks that increase their knowledge, skills, and abilities related to specific learning objectives. Engagement in learning contrasts with student participation in learning tasks that are not well designed and/or implemented and do not increase student learning.

evaluation criteria: Performance indicators or dimensions that are used to assess evidence of student learning. They indicate the qualities by which levels of performance can be differentiated and that anchor judgments about the learner's degree of success on an assessment. Evaluation criteria can be represented in various ways, such as a rubric, a

[27] National Assessment of Educational Progress (NAEP). 1990–2003 Framework, Mathematical Abilities. Retrieved from: http://nces.ed.gov/nationsreportcard/mathematics/abilities.asp

point system for different levels of performance, or rules for awarding full versus partial credit. Evaluation criteria may examine correctness/accuracy, cognitive complexity, sophistication or elaboration of responses, or quality of explanations.

evidence: Consists of **artifacts** that document how you planned and implemented instruction **AND commentaries** that explain your plans and what is seen in the videorecording(s) or examine what you learned about your teaching practice and your students' learning. Evidence should demonstrate your ability to design lesson plans with instructional supports that deepen student learning, use knowledge of your students to inform instruction, foster a positive learning environment that promotes student learning, monitor and assess student progress toward learning objectives, and analyze your teaching effectiveness. Your evidence must be submitted electronically using the electronic portfolio management system used by your teacher preparation program.

learning environment: The designed physical and emotional context, established and maintained throughout the learning segment to support a positive and productive learning experience for students.

learning objectives: Student learning outcomes to be achieved by the end of the lesson or learning segment.

learning segment: A set of 3–5 lessons that build one upon another toward a central focus, with a clearly defined beginning and end.

learning task: Includes activities, discussions, or other modes of participation that engage students to develop, practice, and apply skills and knowledge related to a specific learning goal. Learning tasks may be scaffolded to connect prior knowledge to new knowledge and often include formative assessment. A sample mathematical learning task for algebra II might be to give students an equation $ax^2 + bx + c$. Show them how to use graphic calculators to find a graph for $y = 2x^2 + 3x + 5$. Then ask them to plug in different values for a, b, and c, selecting positive and negative rational numbers, and record conjectures about how the value of each affects the graph.

mathematical reasoning: "[T]he capacity to think logically about the relationships among concepts and situations. Such reasoning is correct and valid, stems from careful consideration of alternatives, and includes knowledge of how to justify the conclusions. . . . One uses it to navigate through the many facts, procedures, concepts, and solution methods and to see that they all fit together in some way, that they make sense."[28]

meaning making: The process by which learners make connections with prior knowledge and experiences (i.e., interpreting texts; composing texts; engaging in research; participating in discussions; speaking with others; and listening to, viewing, and giving presentations) and actively construct knowledge by engaging with content in a meaningful and relevant way.

patterns of learning: Includes **both** quantitative and qualitative patterns (or consistencies) for different groups of students or individuals. Quantitative patterns indicate in a numerical way the information understood from the assessment (e.g., 10 out of 15 students or 20% of the students). Qualitative patterns include descriptions of understandings,

[28] National Research Council. (2001). Adaptive reasoning. In *Adding it up: Helping children learn mathematics* (p. 151). Washington, DC: National Academy Press.

misunderstandings, and/or partial understandings that could explain the quantitative patterns (e.g., "given that most students were able to . . . it seems that they understand").

planned supports: Instructional strategies, learning tasks and materials, and other resources deliberately designed to facilitate student learning of the central focus.

prior academic learning and/or prerequisite skills: Includes students' content knowledge and skills as well as academic experiences developed prior to the learning segment.

problem-solving skills: Skills to "engag[e] in a task for which the solution method is not known in advance."[29]

procedural fluency: Procedural fluency is a critical component of mathematical proficiency. Procedural fluency is the ability to apply procedures accurately, efficiently, and flexibly; to transfer procedures to different problems and contexts; to build or modify procedures from other procedures; and to recognize when one strategy or procedure is more appropriate to apply than another. To develop procedural fluency, students need experience in integrating concepts and procedures and building on familiar procedures as they create their own informal strategies and procedures. Students need opportunities to justify both informal strategies and commonly used procedures mathematically, to support and justify their choices of appropriate procedures, and to strengthen their understanding and skill through distributed practice.[30]

rapport: A close and harmonious relationship in which the people or groups understand each other's feelings or ideas and communicate well with each other.

representation: The term representation refers both to process and to product—in other words, to the act of capturing a mathematical concept or relationship in some form and to the form itself. . . . Moreover, the term applies to processes and products that are observable externally as well as to those that occur "internally," in the minds of people doing mathematics. All these meanings of representation are important to consider in school mathematics. (From National Council of Teachers of Mathematics [2000]. *Principles and Standards for School Mathematics,* p. 67)

respect: A positive feeling of esteem or deference for a person and specific actions and conduct representative of that esteem. Respect can be a specific feeling of regard for the actual qualities of the one respected. It can also be conduct in accord with a specific ethic of respect. Rude conduct is usually considered to indicate a lack of respect, ***disrespect***, whereas actions that honor somebody or something indicate respect. Note that respectful actions and conduct may be context dependent.

rubrics: Subject-specific evaluation criteria used to score your performance on edTPA. These rubrics are included in the handbook following the directions for each task. The descriptors in the five-level rubrics address a wide range of performance, beginning with the knowledge and skills of a novice not ready to teach (Level 1) and extending to the advanced practices of a highly accomplished beginner (Level 5).

---

[29] National Council of Teachers of Mathematics (NCTM). (2000). *Principles and standards for school mathematics* (p. 52). Reston, VA: NCTM.

[30] From "Procedural Fluency in Mathematics". Downloaded from www.nctm.org on February 9, 2016.

significant content inaccuracies: Content flaws in commentary explanations, lesson plans, or instructional materials; within processes or examples used during the lesson; or in feedback that will lead to student misunderstandings, the need for reteaching, and/or interfere with student learning.

variety of learners: Students in your class who may require different strategies or support. These students include but are not limited to students with IEPs or 504 plans, English learners, struggling readers, underperforming students or those with gaps in academic knowledge, and/or gifted students.

Appendix: Academic Language

Language Demands

I. Functions

Definition	Examples (bolded and underlined within learning objectives)
▪ Purposes for which language is used. ▪ Content and language focus of learning tasks often represented by the **active verbs within the learning outcomes**.	Learning Objectives: ▪ Students will be able to **compare** the lengths of various objects in the classroom. ▪ Students will be able to **explain** what strategy(ies) they used to solve a problem. ▪ Students will be able to **describe** the specific attributes of a parallelogram.

II. Vocabulary/Symbols— Includes words, phrases, and symbols used within disciplines

Definition	Examples
Words and phrases with subject-specific meanings that differ from meanings used in everyday life	table, ruler, square, face, chord, digit, times, set
General academic vocabulary used across disciplines	compare, analyze, evaluate, describe, sequence, classify
Subject-specific vocabulary/symbols defined for use in the discipline	exponent, numerator, denominator, equilateral, multiple, ÷, ≥, × (symbols)

III. Written, Visual, or Verbal Communication

Definition	Examples
▪ How members of the discipline talk, write, and participate in knowledge construction, using the structures of written and oral language ▪ Discipline-specific written, visual, or verbal communication has distinctive features or ways of structuring oral or written language (text structures) or representing knowledge visually.	▪ Constructing an argument (two-column proof) ▪ Interpreting graphic representations (e.g., graphs, diagrams) ▪ Making and supporting a conjecture

IV. Grammatical Structures (Syntax)

Definition	Examples
▪ The rules for organizing words or symbols together into phrases, clauses, sentences, or visual representations ▪ One of the main functions of grammatical structures is to organize language in order to convey meaning.	▪ **Mathematical sentences (using words or symbols) including** ○ $6 \geq 4$ ○ There are 5 times as many apples as oranges. ▪ **Long or elaborate noun phrases** ○ Write an inequality that, when solved, will give the amount of sales Mandy needs to cover her planned expenses. ▪ **Conditional sentences** ○ If 50% of a number is 25, what is 75% of the number?

V. Mathematical Precision

Definition	Examples
▪ Being precise and accurate with definitions and symbols in labeling, measurement, and numerical answers	▪ Correctly labeling the axes of a graph ▪ Specifying units of measure during calculations ▪ Calculating accurately and expressing numeric answers with appropriate precision for context of problem

Example of Planned Language Development Supports

To help programs and candidates begin to develop their understanding of language development supports, **start by examining a key standard or learning objective.**

The chart below identifies sample language demands with related examples of supports based on one selected learning objective in mathematics.

Example learning objective: Students will ***interpret*** a ***word problem*** to find the ***part*** or ***whole*** prior to setting up and solving the problem.

Identified Language Demands	Planned Language Development Supports
Interpret (Function)	Model interpreting a word problem
Part, whole (Vocabulary)	Review vocabulary and word chart and discuss meanings in the context of the word problems modeled
Word problem (Grammatical Structures)	Break down sentences within word problems with the whole class to identify essential information and paths to solution