

## 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 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** in Secondary Science include **function, vocabulary, discourse, and syntax**.

### As stated in the edTPA handbook:

- Candidates identify a key *language function* and one essential learning task within their learning segment lesson plans that allows students to practice the function (Planning Task 1, Prompts 4a/b).
- Candidates are then asked to identify *vocabulary and one additional language demand* related to the language function and learning task (Planning Task 1, Prompt 4c).
- Finally, candidates must identify and describe the *instructional and/or language supports* they have planned to address the language demands (Planning Task 1, Prompt 4d). *Language 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 **both** discourse and syntax. As candidates decide which additional language demands (i.e., syntax and/or discourse) are relevant to their identified function, they should examine the language understandings and use that are **most relevant** to the learning task they have chosen. Then, teacher candidates should plan to provide appropriate and targeted language supports for students to learn and practice the language demands within the chosen learning task.

**This AL handout provides definitions and a few examples of language demands and supports to help teacher candidates and educator preparation programs understand edTPA Rubrics 4 and 14.** See the edTPA Secondary Science Assessment Handbook glossary and the Understanding Rubric Level Progressions for Secondary Science for additional examples of language demands.

Another valuable resource is the website of [Understanding Language](#), the center that recently merged with SCALE. This website has a number of papers on academic language for all students, archived webinars (listed under "Events"), and periodic MOOC offerings. The most relevant resources for teacher candidates are the teaching resources in English/language arts (with an example based on history/social science texts) and mathematics, with materials forthcoming in science. These teaching resources are explained and annotated to illustrate how to combine academic language development and content pedagogy for all students, including English learners.

## Language Demands

### I. Functions

Definition	Examples (bolded and underlined within learning objectives)
<ul style="list-style-type: none"> <li>Purposes for which language is used</li> <li>Content and language focus of learning tasks often represented by the <b>active verbs within the learning outcomes</b></li> </ul>	<p>Learning Objective:</p> <ul style="list-style-type: none"> <li>Students will be able to <b><u>compare</u></b> the densities of various objects in the classroom.</li> <li>Students will be able to <b><u>explain</u></b> the difference between a food chain and a food web.</li> <li>Students will be able to <b><u>describe</u></b> processes and procedures used in an experiment.</li> </ul>

### II. Vocabulary—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, control, alcohol, balance, cell, producer
General academic vocabulary used across disciplines	compare, contrast, analyze, evaluate, summarize, justify, explain, interpret, classify
Subject-specific words and/or symbols defined for use in the discipline	proton, food web, photosynthesis, density, acceleration due to gravity ( $g$ ), hypothesis, K = potassium, atomic number

### III. Discourse

Definition	Examples
<ul style="list-style-type: none"> <li>How members of the discipline talk, write, and participate in knowledge construction, using the structures of written and oral language</li> <li>Discipline-specific discourse has distinctive features or ways of structuring oral or written language (text structures) or representing knowledge visually.</li> </ul>	<ul style="list-style-type: none"> <li>Completing lab reports</li> <li>Writing analysis &amp; conclusions sections of lab reports</li> <li>Interpreting graphic representations (e.g., graphs, diagrams)</li> <li>Explaining materials lists</li> <li>Analyzing tabular representations</li> </ul>

#### IV. Syntax

Definition	Examples
<ul style="list-style-type: none"> <li>The rules for organizing words or symbols together into phrases, clauses, sentences, or visual representations</li> <li>One of the main functions of syntax is to organize language in order to convey meaning.</li> </ul>	<ul style="list-style-type: none"> <li><b>Mathematical sentences (using words or symbols) including</b> <ul style="list-style-type: none"> <li>Formulas, <math>D = m/V</math> or Density equals mass divided by volume</li> </ul> </li> <li><b>Symbols replacing reactants and products in chemical reactions</b> <ul style="list-style-type: none"> <li>Write the symbolic representation for the combustion of methane.</li> </ul> </li> <li><b>Punnet Squares</b> <ul style="list-style-type: none"> <li>If a heterozygous black-furred male rabbit is crossed with a homozygous recessive white-furred female rabbit, what resultant offspring genotypes could occur?</li> </ul> </li> </ul>

#### Example of Planned Language Supports

To help programs and candidates begin to develop their understanding of language 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 science standard.

**Example standard from NGSS for Chemistry (HS-PS1-5):** Students will *apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which the reaction occurs.*

Identified Language Demands	Planned Language Supports
Explain (Function)	Model an explanation, that includes data gathered from school's ski team, to account for the slope conditions that are best for fast downhill runs while skiing or snowboarding
Molarity, $[R]$ = concentration of reactant in $M$ , temperature in $^{\circ}C$ , reaction rate (Vocabulary and Symbols)	Review symbols and vocabulary from guided notes
Constructing analyses (Discourse)	Provide sentence stems to help students explain the relationship observed for temperature to reaction rate. For example: When the concentration of NaOH (aq) was ___ $M$ the reaction started in ___s and when the concentration of the reactant was ___ $M$ the reaction started in ___s which shows a(n) <u>direct/indirect</u> relationship (circle one of the underlined words). As concentration <u>increases/decreases</u> the reaction rate _____.