

Identifying and Addressing Language Demands Critical for Supporting Academic Achievement

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Overview

Language for Achievement:

- Some context
- Key question
- What we are examining
- *Language for Achievement* Taxonomy
 - Language demands
 - Language complexity
- Template for analysis and examples
- Critical considerations
- Implications

Some context

- National movement toward more rigorous and higher achievement expectations
- College and career preparedness
- “Appropriate,” “expected,” and “accepted” forms of communication

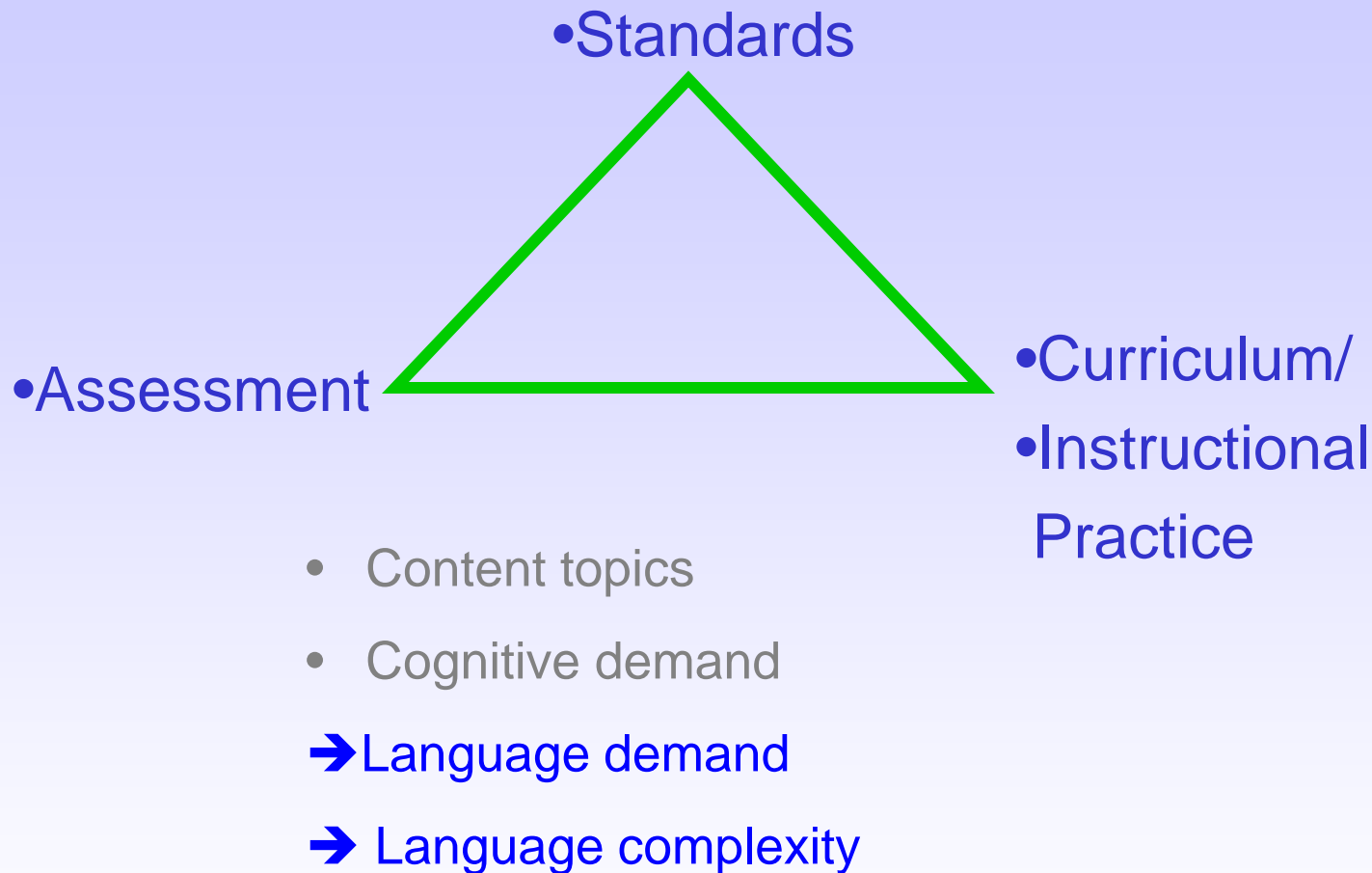
Key question

- How can we talk about the language students need to achieve?
 - Language needed by students to
 - *access* content
 - *meaningfully engage* with content
 - *achieve* content

Key question (continued)

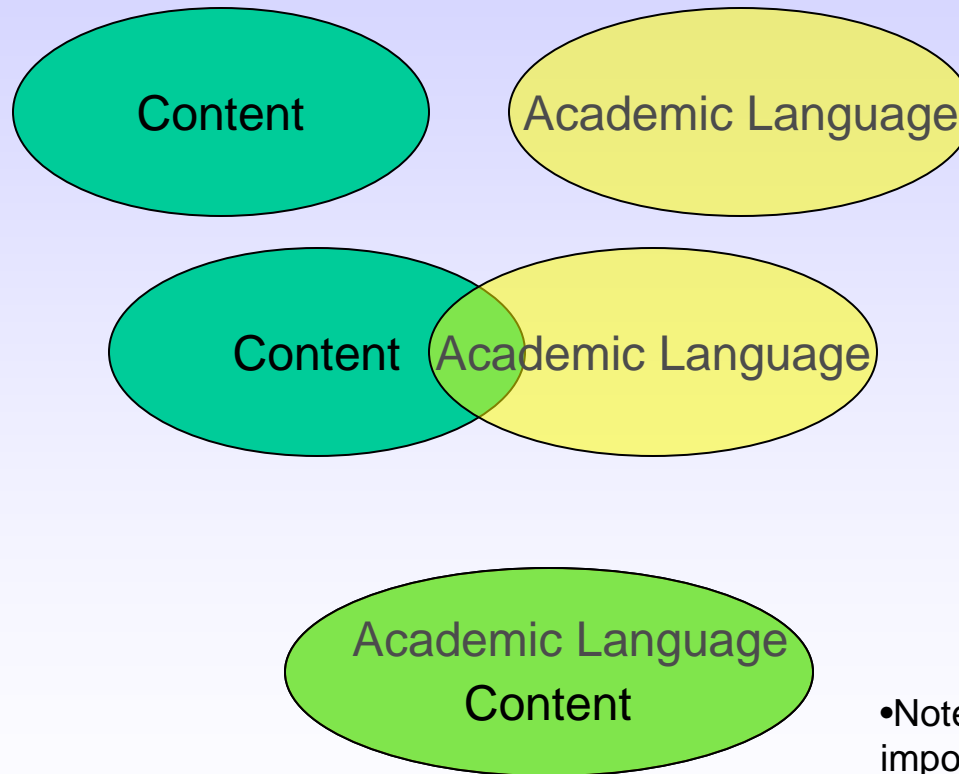
- How can we talk about the language students need to achieve?
 - Language needed by teachers to
 - *explicitly identify* critical language needed by students
 - *intentionally* and *systematically* plan and address/integrate critical language in instruction
 - *appropriately coordinate* how critical language is taught

We are ensuring...



...in a manner supportive of
English language learners

We are addressing the relationship...



•Note: We recognize the importance of linguistic skills and socio-functional language; however, the focus is on academic English language.

Academic Language

- The language (e.g., lexicon, grammar, discourse features and functions) that students need to access, meaningfully engage with, and achieve rigorous academic content as they prepare for college and careers.

Academic Language: Key Components

1. Lexicon/Morphology
(Vocabulary)
2. Grammar/Syntax
(Phrase and sentence structure)
3. Discourse/Language Functions
4. Text Structure/Genre

Important notes:

- There is not necessarily a one-to-one correspondence between a cognitive demand and an academic language demand (cognition \neq language)
- Distinctions should be made between **receptive** and **productive** language demands

Language for Achievement: Overview

Situational and socio-cultural contexts

Spoken and Written Academic Text

Text Structure



Functions



Grammar



Vocabulary



Instructional

Academic Language

Classroom Discourse



Functions



Grammar



Vocabulary

Language for Achievement: Language Demands Taxonomy

Language Demands—Academic English Language Functions

Academic English Language Function		Operational Definition—The language needed to engage with and achieve in the content (standard or item) consists of the use of:	Academic English Language Function		Operational Definition—The language needed to engage with and achieve in the content (standard or item) consists of the use of:				
A	Identification	a word or phrase to name an object, action, event, idea, fact, problem, need, or process.	Generalization		phrases or sentences to express an opinion, principle, trend, or conclusion that is based on facts, statistics, or other information, and/or to extend that opinion/principle/etc. to other relevant situations/context/ets.				
	Labeling	a word or phrase to name an object, action, event, or idea.							
	Enumeration	words or phrases to name distinct objects, actions, events, or ideas in a series, set, or in steps.	K		Inferring	words, phrases, or sentences to express understanding of implied/implicit based on available information. Discourse markers include inferential logical connectors such as <i>although, while, thus, therefore.</i>			
B	Classification	words, phrases, or sentences to assign/associate an object, action, event, or idea to the category or type to which it belongs.			Prediction	words, phrases, or sentences to express an idea or notion about a future action or event based on available information. Discourse markers include adverbials such as <i>maybe, perhaps, obviously, evidently.</i>			
	Sequencing	words, phrases, or sentences to express the order of information (e.g., a series of objects, actions, events, ideas). Discourse markers include adverbials such as <i>first, next, then, finally.</i>			Hypothesizing		Organization	words, phrases, or sentences to express relationships between/among objects, actions, events, or ideas, or the structure or arrangement of information. Discourse markers include coordinating conjunctions such as <i>and, but, yet, or,</i> and adverbials such as <i>first, next, then, finally.</i>	
C	Comparison/ Contrast	words, phrases, or sentences to express similarities and/or differences, or to distinguish between two or more objects, actions, events, or ideas. Discourse markers include coordinating conjunctions <i>and, but, yet, or,</i> and adverbials such as <i>similarly, likewise, in contrast, instead, despite this.</i>	L				Argumentation	phrases or sentences to present a point of view with the intent of communicating or supporting a particular position or conviction. Discourse structures include expressions such as <i>in my opinion, it seems to me,</i> and adverbials such as <i>since, because, although, however.</i>	
					D	Inquiring	words, phrases, or sentences to solicit information (e.g., <i>yes-no</i> questions, <i>wh</i> -questions, statements used as questions).	Persuasion	
E	Description	word, phrase, or sentence to express or observe the attributes or properties of an object, action, event, idea, or solution.	Negotiation		M	Synthesizing			
F	Definition	word, phrase, or sentence to express the meaning of a given word, phrase, or expression.						G	Explanation
H	Retelling	phrases or sentences to relate or repeat information. Discourse markers include coordinating conjunctions such as <i>and, but,</i> and adverbials such as <i>first, next, then, finally.</i>	N	Critiquing					
	Summarization	phrases or sentences to express important facts or ideas and relevant details about one or more objects, actions, events, ideas, or processes. Discourse structures include: beginning with an introductory sentence that specifies purpose or topic.						O	Evaluation
I	Interpretation	phrases, sentences, or symbols to express understanding of the intended or alternate meaning of information.	P	Symbolization & Representation					
J	Analyzing	phrases or sentences to indicate parts of a whole and/or the relationship between/among parts of an action, event, idea, or process. Relationship verbs such as <i>contain, entail, consist of,</i> partitives such as <i>a part of, a segment of,</i> and quantifiers such as <i>some, a good number of, almost all, a few, hardly any</i> often are used.						Z	No Academic Language Function

Language Complexity: Vocabulary and Grammar

Lower Complexity	Higher Complexity
<ul style="list-style-type: none"> • Semantically simple words and phrases • Common, high-frequency words and phrases • Simple, high-frequency morphological structures (e.g., common affixes, common compound words) • Short, simple sentences with limited modifying words or phrases • SVO sentence structure; simple verb and noun phrase constructions • Simple, familiar modals (e.g., can) • Simple wh- and yes/no questions • Direct (quoted) speech • Verbs in present tense, simple past tense, and future with going to and will • Simple, high-frequency noun, adjective, and adverb constructions 	<ul style="list-style-type: none"> • Semantically complex words and phrases (e.g., multiple-meaning words, idioms, figurative language) • Specialized or technical words and phrases • Complex, higher level morphological structures (e.g., higher level affixes and compound words) • Compound and complex sentences; longer sentences with modifying words, phrases, and clauses • High level phrase and clause constructions (e.g., passive constructions, gerunds and infinitives as subjects and objects, conditional constructions) • Multiple-meaning modals, past forms of modals • Complex wh- and yes/no question constructions, tag questions • Indirect (reported) speech • Present, past, and future progressive and perfect verb structures • Complex, higher level noun, adjective, and adverb constructions

Language Complexity: Functions

Lower Complexity	Higher Complexity
<ul style="list-style-type: none"> • Length ranges from a word to paragraphs • No/little variation in words and/or phrases in sentences/paragraphs; consistent use of language • Repetition of key words/phrases/sentences <i>reinforces</i> information • Language is used to present critical/central details • No/little abstraction; language reflects more literal/concrete information; illustrative language is used; language is used to define/explain abstract information • Graphics and/or relevant text features reinforce critical information/details • Mostly common/familiar words/phrases; no/few uncommon words/phrases, compound words, gerunds, figurative language, and/or idioms • Language is organized/structured • Mostly simple sentence construction • No/little passive voice • Little variation in tense • Mostly one idea/detail per sentence • Mostly familiar construction (e.g., 's for possessive; s and es for plural) • Mostly familiar text features (e.g., bulleted lists, bold face) 	<ul style="list-style-type: none"> • Length ranges from a word to paragraphs • Some variation in words and/or phrases in sentences/paragraphs • Repetition of key words/phrases/sentences <i>introduces new</i> or <i>extends</i> information • Language is used to present critical/central details, but non-essential detail also is presented • Some abstraction; language <i>may or may not</i> be used to define/explain abstract information; illustrative language <i>may or may not</i> be used; technical words/phrases are used • Graphics and/or relevant text features <i>may or may not</i> reinforce critical information/details • Some common/familiar words/phrases; some uncommon words/phrases, compound words, gerunds, figurative language, and/or idioms • Language <i>may or may not</i> be organized/structured • Varied sentence construction, including complex sentence construction • Some passive voice • Variation in tense • Multiple ideas/details per sentence • Some less familiar/irregular construction • Some less familiar text features (e.g., pronunciation keys, text boxes)

Language Complexity: Spoken and Written Texts

Lower Complexity	Higher Complexity
<ul style="list-style-type: none"> • Short texts, or longer texts chunked into short sections (words, phrases, single sentences, short paragraphs) • No or little variation of words/phrases in sentences/paragraphs • Repetition of key words/phrases reinforces information • One idea/detail per sentence; only critical/central ideas included • No or little abstraction; mostly literal/concrete information; abstract information is defined or explained • Visual aids, graphics, and/or text features reinforce critical information/details • Common text features (e.g. bulleted lists, boldface font) 	<ul style="list-style-type: none"> • Long texts (long lists of words/phrases, a series of sentences, long paragraphs, multiple-paragraph texts) • Variation of words/phrases in sentences/paragraphs • Repetition of key words/phrases introduces new information or extends information • Multiple ideas/details per sentence; non-essential ideas included • Some or much abstraction that is not explicitly defined or explained • Visual aids, graphics, and/or text features may not reinforce critical information/details • Higher level text features (e.g., pronunciation keys, text boxes)

Sato, Lagunoff, & Worth (2008)

Language Complexity: Classroom Discourse

Lower Complexity	Higher Complexity
<ul style="list-style-type: none"> • Semantically simple words and phrases • Common, high-frequency words and phrases • Simple, high-frequency morphological structures (e.g., common affixes, common compound words) • Short, simple sentences with limited modifying words or phrases • SVO sentence structure; simple verb and noun phrase constructions • Simple, familiar modals (e.g., can) • Simple wh- and yes/no questions • Direct (quoted) speech • Verbs in present tense, simple past tense, and future with going to and will • Simple, high-frequency noun, adjective, and adverb constructions <p>Note: To the extent that spoken “texts” (planned, connected utterances) are used in classroom discourse, elements of lower complexity spoken text, as defined previously, apply here.</p>	<ul style="list-style-type: none"> • Semantically complex words and phrases (e.g., multiple-meaning words, idioms, figurative language) • Specialized or technical words and phrases • Complex, higher level morphological structures (e.g., higher level affixes and compound words) • Compound and complex sentences; longer sentences with modifying words, phrases, and clauses • High level phrase and clause constructions (e.g., passive constructions, gerunds and infinitives as subjects and objects, conditional constructions) • Multiple-meaning modals, past forms of modals • Complex wh- and yes/no question constructions, tag questions • Indirect (reported) speech • Present, past, and future progressive and perfect verb structures • Complex, higher level noun, adjective, and adverb constructions <p>Note: To the extent that spoken “texts” (planned, connected utterances) are used in classroom discourse, elements of higher complexity spoken text, as defined previously, apply here.</p>

Sato, Lagunoff, & Worth (2008)

Cognition—Language Distinction: Example

(Released Grade 8 Algebra NAEP 2007)

Sarah has a part-time job at Better Burgers restaurant and is paid \$5.50 for each hour she works.

She has made the chart below to reflect her earnings but needs your help to complete it.

Fill in the missing entries in the chart.

Hours worked	Money earned (in dollars)
1	\$5.50
4	
	\$38.50
$7 \frac{3}{4}$	\$42.63

If Sarah works h hours, then in terms of h , how much will she earn?

Cognition—Language Distinction: Example

(Continued)

Cognitive Demand	Language Demand	
	Receptive Language	Productive Language
Cognitive skills include: Comprehension Analysis Number sense Computation	Language functions include: Labeling Classification Sequencing Organization Inquiring Description Symbolization and Representation	Language functions include: Symbolization and Representation

It is important to consider the differences between cognitive and language demands—there typically is not a one-to-one correspondence (e.g., analysis as a cognitive demand does not always only require the language of analysis). It also is important to consider differences between receptive and productive language demands

Template for analysis: Cognitive and language demands

Cognitive Demand	Language Demand	
	Receptive Language	Productive Language
Cognitive skills	Key vocabulary/words	Key vocabulary/words
	Syntax/grammar	Syntax/grammar
	Language functions	Language functions
	Language complexity	Language complexity

Additional knowledge and skills needed:

- Other knowledge (e.g., situational, socio-cultural)
- Other language (e.g., situational, socio-functional, linguistic skills)

Grade 8 Algebra Task Example (continued)

Cognitive Demand	Language Demand	
	Receptive Language	Productive Language
Cognitive skills include: <ul style="list-style-type: none"> • Comprehension • Analysis • Number sense • Computation 	Key vocabulary/words <ul style="list-style-type: none"> • Paid • For each • Chart • Complete • Fill in • Missing • In terms of • How much 	Key vocabulary/words <ul style="list-style-type: none"> • NA

Additional knowledge and skills needed:

- Other knowledge (e.g., socio-cultural)
- Other language (e.g., socio-functional, linguistic skills)

Grade 8 Algebra Task Example (continued)

Cognitive Demand	Language Demand	
	Receptive Language	Productive Language
Cognitive skills include: <ul style="list-style-type: none"> • Comprehension • Analysis • Number sense • Computation 	Syntax/grammar <ul style="list-style-type: none"> • Compound sentences • Passive construction • Irregular verbs • Conditional phrases 	Syntax/grammar <ul style="list-style-type: none"> • NA

Additional knowledge and skills needed:

- Other knowledge (e.g., socio-cultural)
- Other language (e.g., socio-functional, linguistic skills)

Grade 8 Algebra Task Example (continued)

Cognitive Demand	Language Demand	
	Receptive Language	Productive Language
Cognitive skills include: <ul style="list-style-type: none"> • Comprehension • Analysis • Number sense • Computation 	Language functions include: <ul style="list-style-type: none"> • Labeling • Classification • Sequencing • Organization • Inquiring • Description • Symbolization and Representation 	Language functions include: <ul style="list-style-type: none"> • Symbolization and Representation

Additional knowledge and skills needed:

- Other knowledge (e.g., socio-cultural)
- Other language (e.g., socio-functional, linguistic skills)

Grade 8 Algebra Task Example (continued)

Cognitive Demand	Language Demand	
	Receptive Language	Productive Language
Cognitive skills include: <ul style="list-style-type: none"> • Comprehension • Analysis • Number sense • Computation 	Language complexity: <ul style="list-style-type: none"> • High density (e.g., length ranges from a number to a short paragraph; some variation in words/phrases used; symbols/variables used) • Complex construction (e.g., some uncommon words/phrases; varied sentence construction including complex sentence construction; some passive voice; multiple ideas/details per sentence) 	Language complexity: <ul style="list-style-type: none"> • Low density (e.g., no/little variation in length or amount/type of information) • Simple construction (e.g., no/little variation in construction; common construction/symbols)

Additional knowledge and skills needed:

- Other knowledge (e.g., socio-cultural)
- Other language (e.g., socio-functional, linguistic skills)

Critical considerations

- Important to appropriately distinguish *cognitive* and *language* demands
 - There is not always one-to-one correspondence between cognitive and language requirements
- Language that supports achievement in schools (PreK-12)—academic language, in our current accountability context—is still an emerging area of our field.
 - There is not (yet) an agreed-upon scope and sequence for academic language or understanding of how it develops within the PreK-12 context
 - State standards and assessment documents may not (yet) necessarily reflect the most current research on academic language
 - There is limited empirical evidence related to the relationship (e.g., correlational, causal) between specific academic language functions or sets of functions and achievement of specific content

Implications

We need to make the *intended* and *appropriate* scope, sequence, and relationship across language demands clear in order to help support our students' progress toward language and content proficiency in school.

- Standards:
 - Establish a reasonable academic *language progression* and identify gaps in academic language knowledge and skills—for a content area & cross content areas; for a grade & across grades
- Assessment:
 - Evaluate language demands/complexity in tests and test items
 - Intentionally incorporate into classroom/formative assessments
- Instruction:
 - Evaluate language demands in lessons, units, materials
 - Systematically incorporate into classroom practice
- Professional development:
 - Coordinate the discussion about and the practices supporting students' development of language for achievement—across teachers, classrooms, academic disciplines

If you have questions or would like additional information, please contact:

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