RISE
RESEARCH ON IMPROVING SYSTEMS OF EDUCATION

Surveys of Enacted Curriculum

Teacher Orientation

July – August 2022

Oxford Policy Management

BLAVATNIK SCHOOL OF GOVERNMENT

UNIVERSITY OF OXFORD

UKaid from the British people

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BILL & MELINDA GATES foundation

Types of Curriculum

Intended Curriculum	Enacted Curriculum	Learned Curriculum	Assessed Curriculum
A set of formal documents which specify what the relevant national education authorities and society expect that students will learn at school.	The actual curricular content that students engage in the classroom	All the changes occurred in the learners due to their school experience.	What is assessed in the curriculum. We can take this as what is tested in examinations like National Common Entrance Examination

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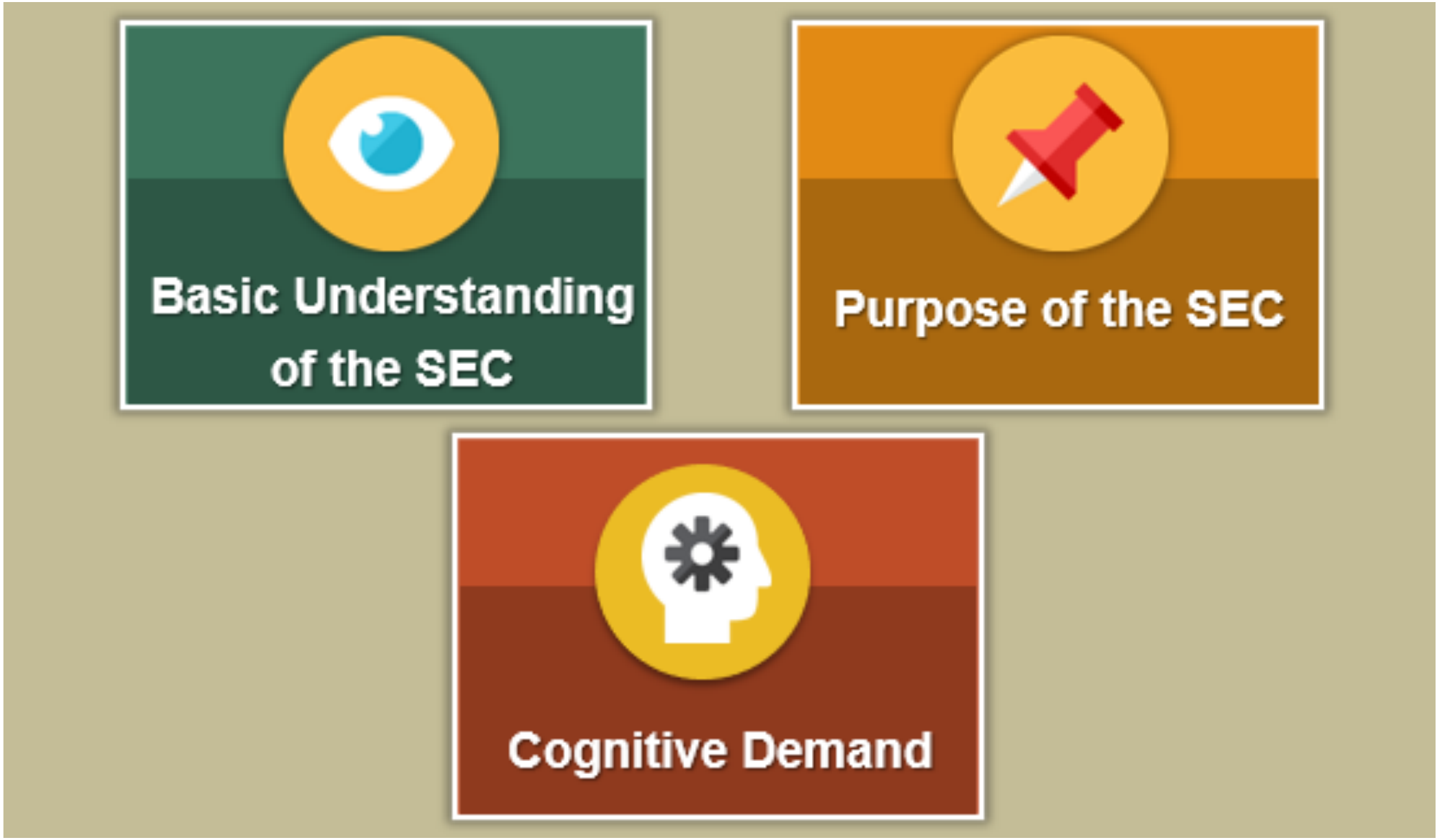
Goals for Teacher Orientation



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What is the SEC?

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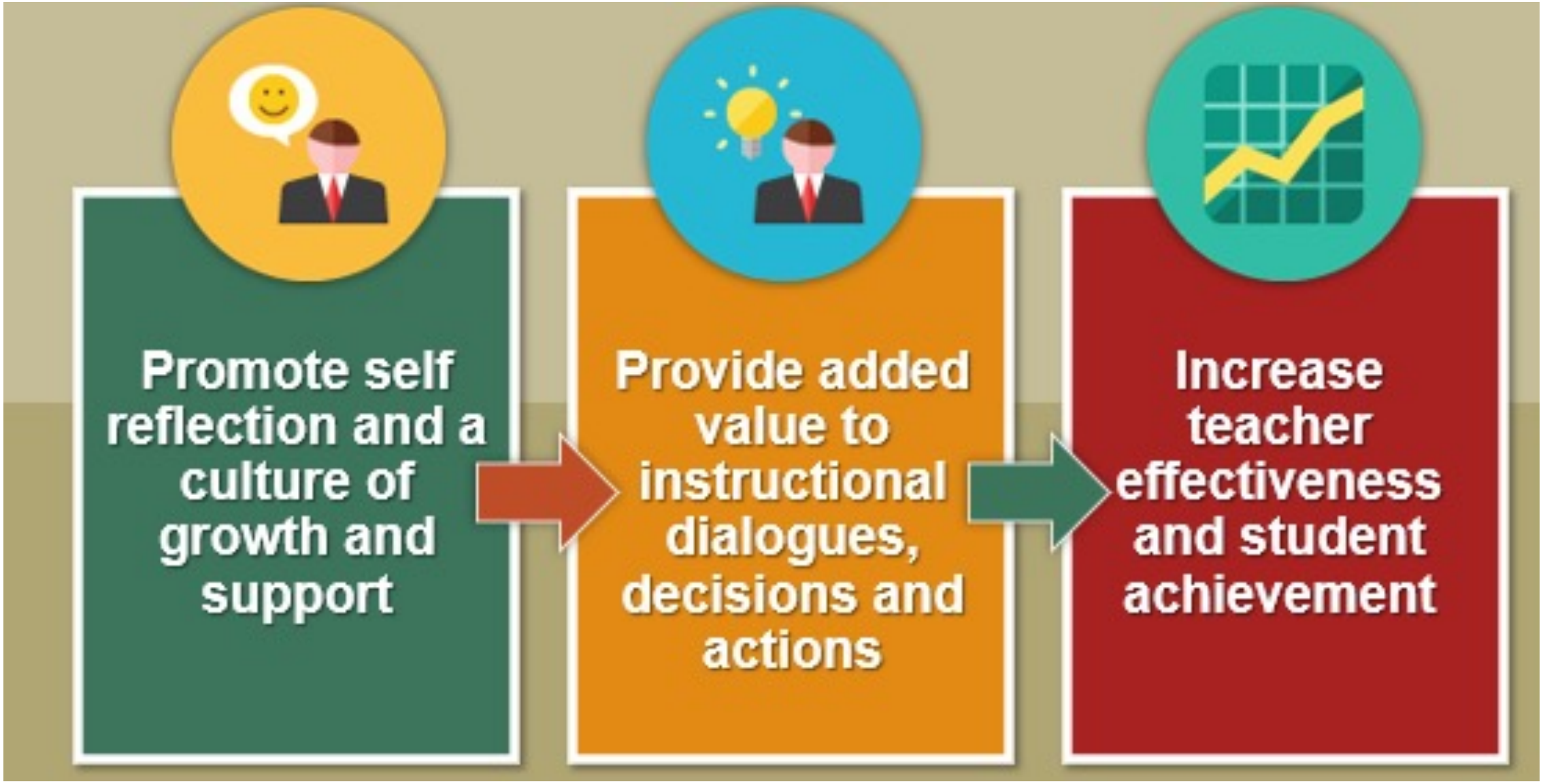
Goals of the SEC



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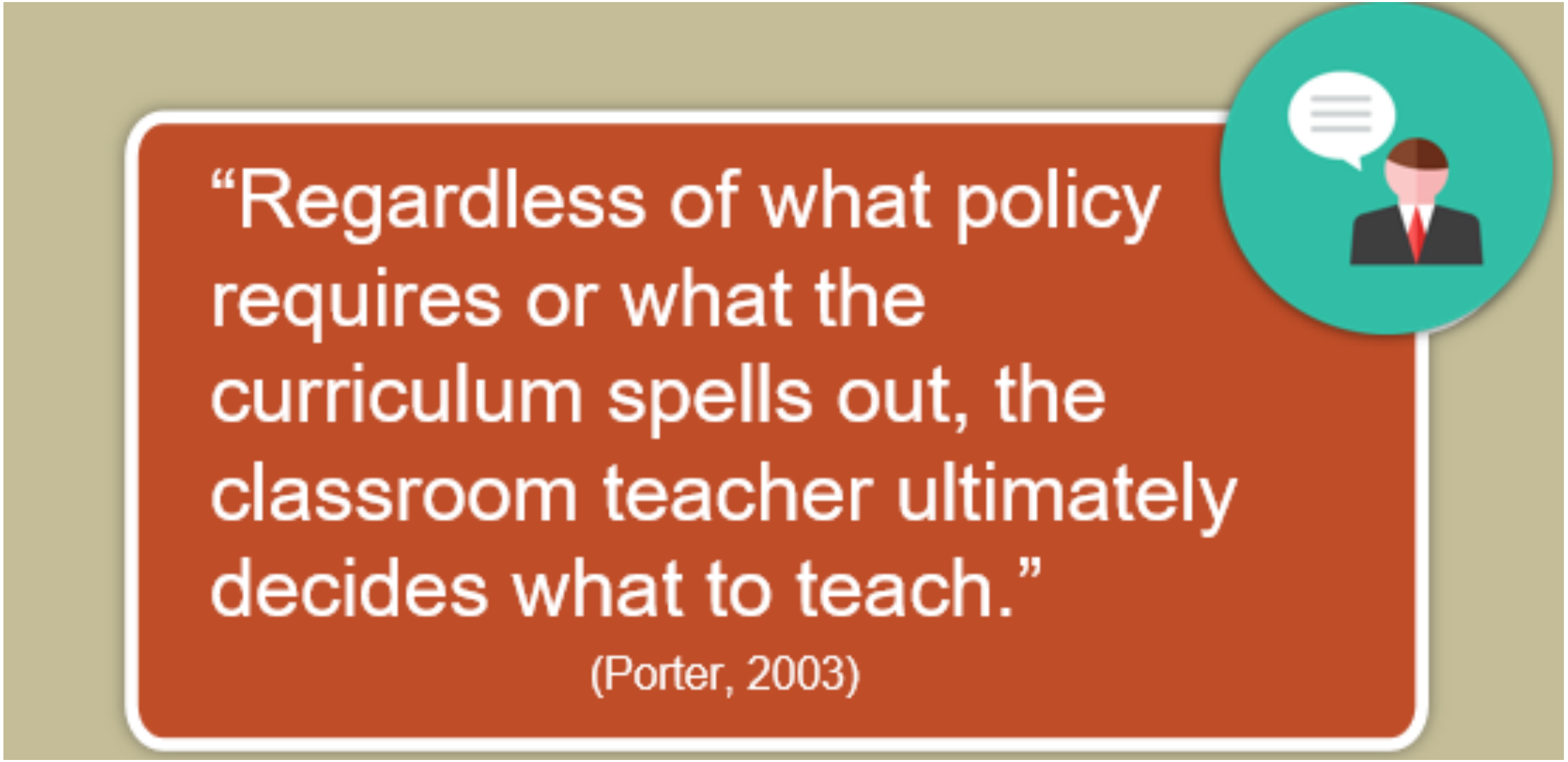
Why the SEC?



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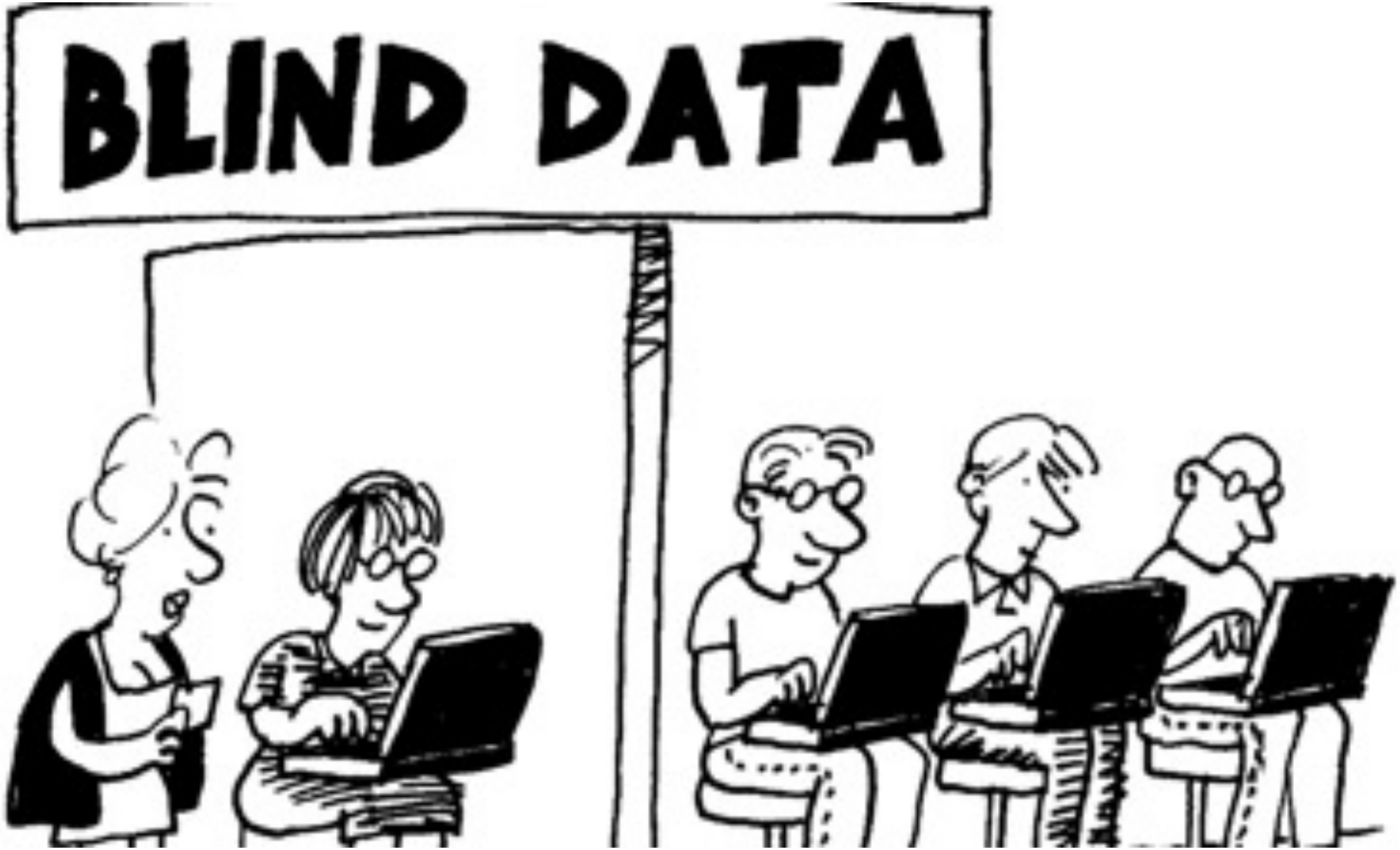
SEC data – fully anonymized!



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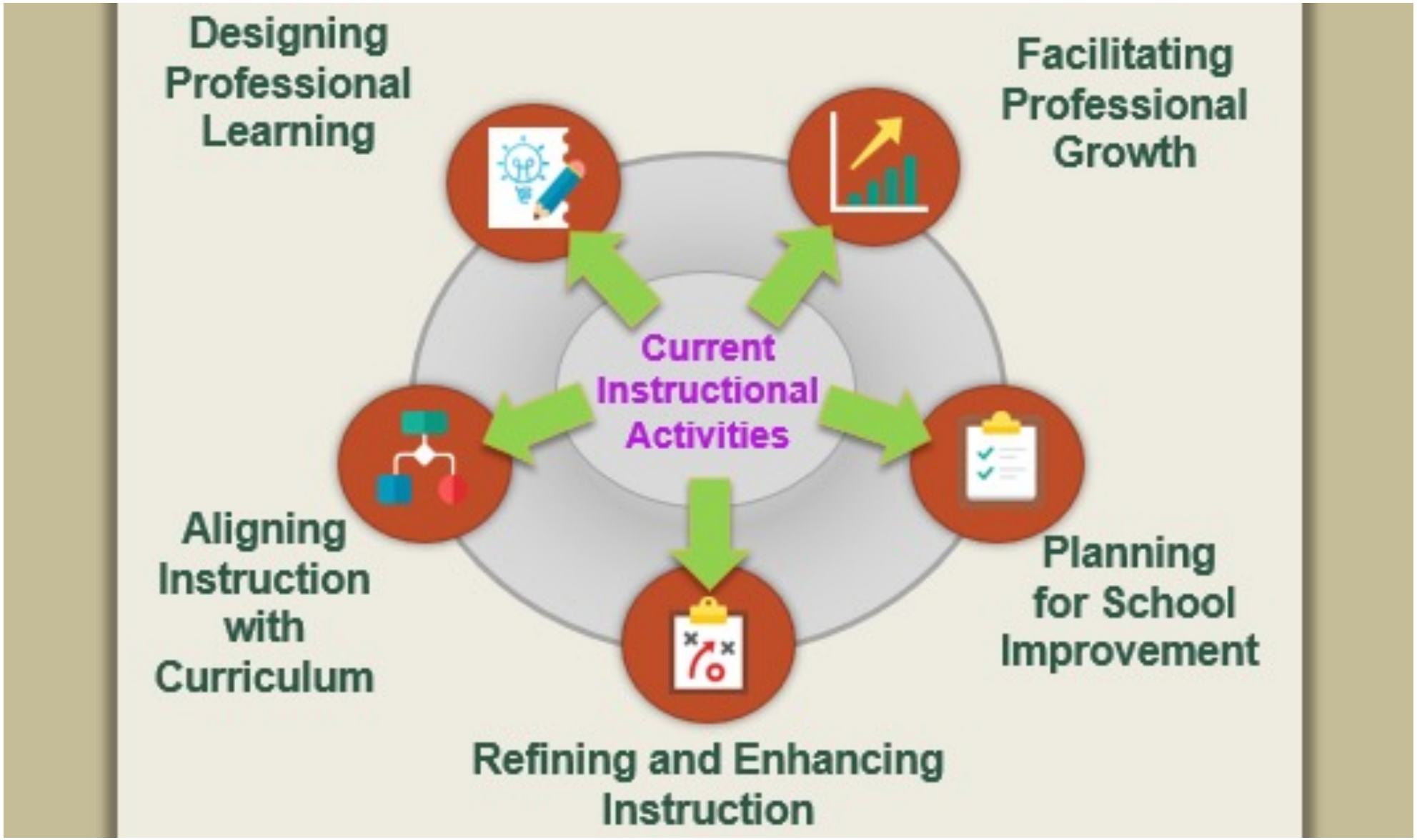
How to use the SEC



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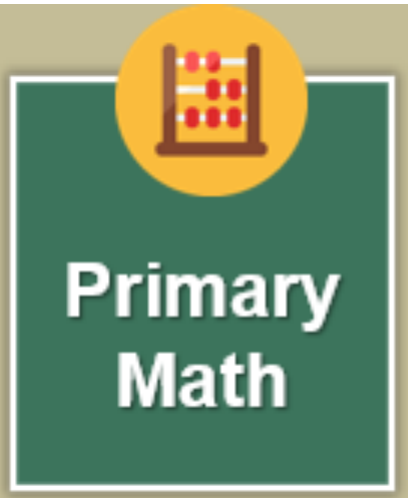
How teachers were selected



Schools	English Language teachers						Mathematics teachers					
	P1	P2	P3	P4	P5	P6	P1	P2	P3	P4	P5	P6
School 1	1	0	0	0	0	0	0	0	0	0	0	1
School 2	0	1	0	0	0	0	0	0	0	0	1	0
School 3	0	0	1	0	0	0	0	0	0	1	0	0
School 4	0	0	0	1	0	0	0	0	1	0	0	0
School 5	0	0	0	0	1	0	0	1	0	0	0	0
School 6	0	0	0	0	0	1	1	0	0	0	0	0

- Oyo state, Jigawa state
- 100 public primary schools, 50 from each state
- Schools were randomly selected
- Two teachers per school – Mathematics & English language

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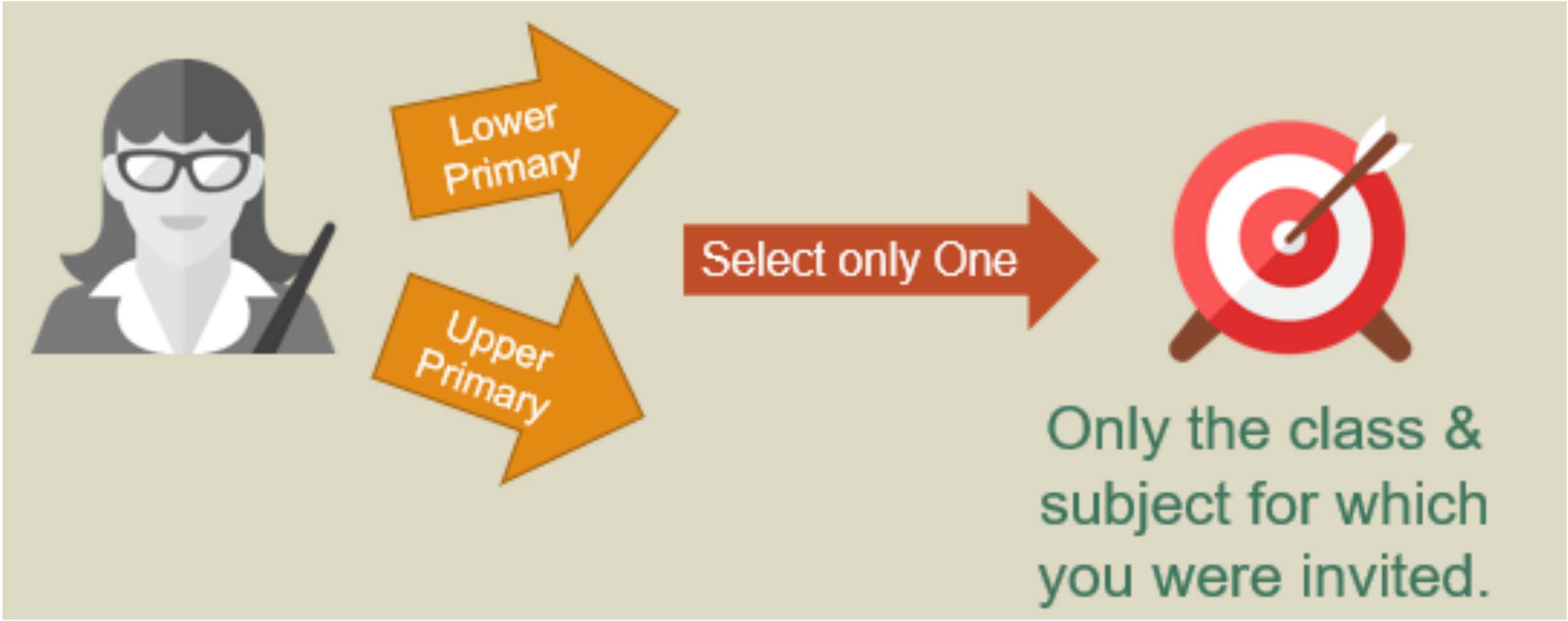
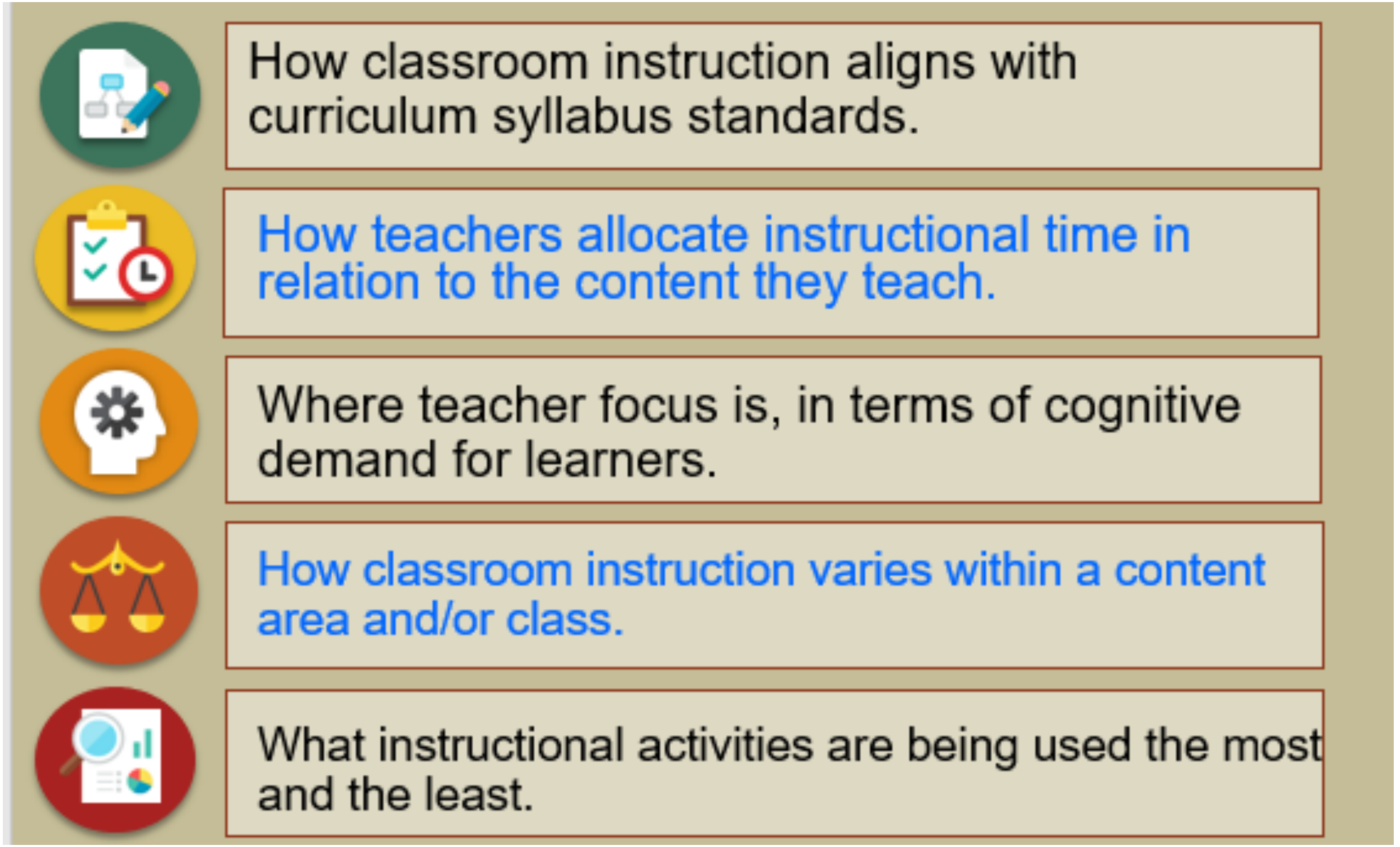
Choosing a Target class



Teachers to select only ONE class to be the target class. All their survey responses will relate to this specific class

Key questions addressed by the SEC



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Cognitive Demand & the SEC

The quality of data we will get from teachers will heavily depend on how well they understand ‘Cognitive Demand’.

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LESSON PLAN

Objectives and Goals

Materials and Equipment

Anticipatory Set

Direct Instruction

Guided Practice

Closure

Independent Practice

Assessment and Follow-Up

What makes these good lesson objectives?

1. Students will be able to categorize types of animals into the correct classes with a graphic organizer after reading an article on animal traits.
2. By the end of the reading lesson, students will be able to identify the rising action, climax, and falling action on a plot diagram.
3. Students will be able to apply their knowledge of the writing process to a peer editing session in which they provide at least five peers with valid feedback.
4. After a lesson on the Pythagorean Theorem, students will be able to correctly solve at least 8 out of 10 geometry problems using the theorem.
5. Students will be able to evaluate their classmates' arguments in a Socratic seminar by taking Cornell notes during each discussion.
6. Students will be able to accurately name the parts of a compass rose after learning a song about the cardinal directions.
7. After a lesson on place value, students will be able to estimate how many lemons they would need to start a lemonade stand during a class discussion.

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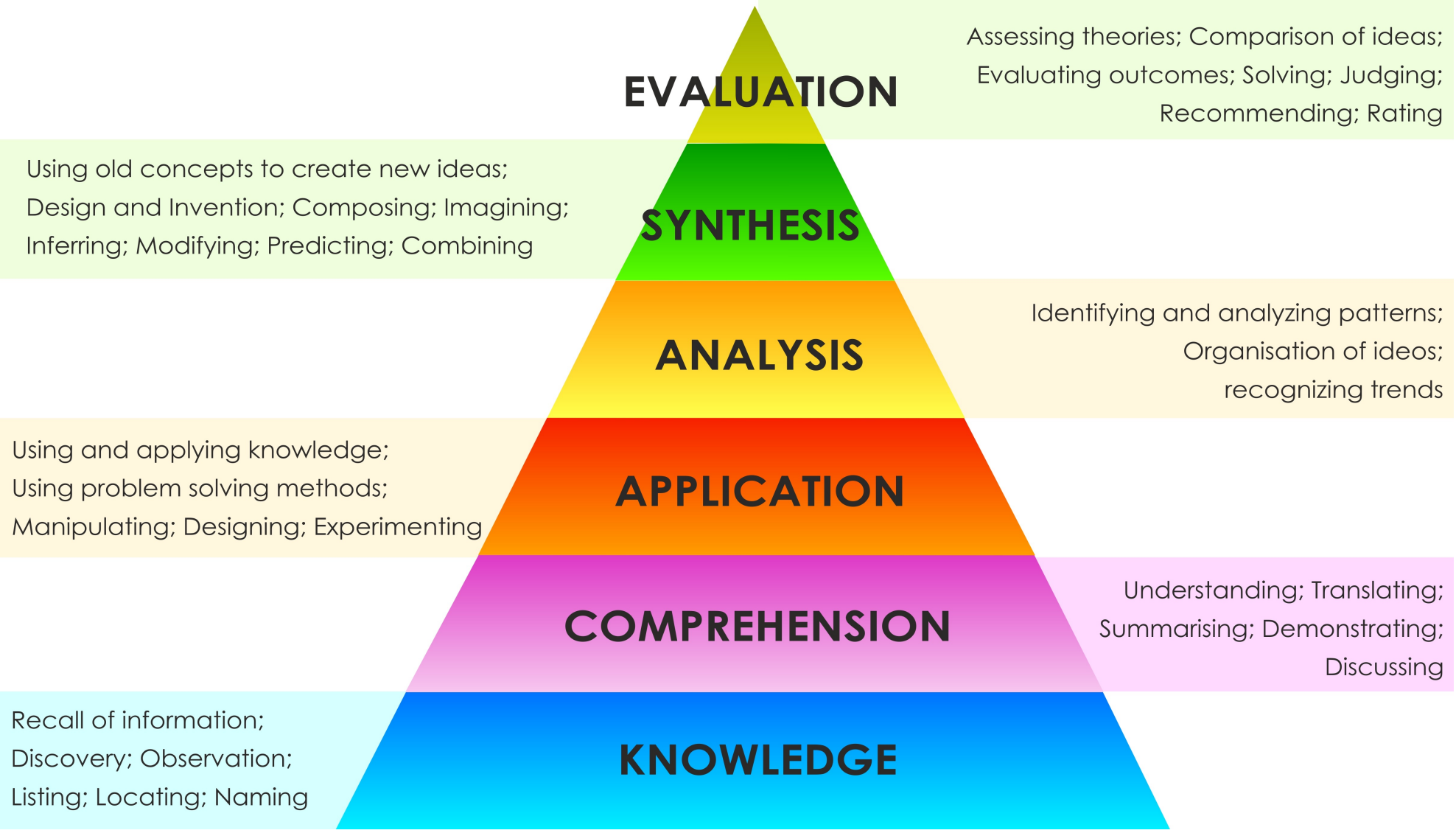
What is cognitive Demand?

Crash course on Bloom's Taxonomy



Find your verb in Bloom's Taxonomy. If it's not there, change your objective. If it is there, see if you can move it up one level of complexity.

Students will be able to categorize types of animals into the correct classes with a graphic organizer after reading a article on animal traits.Student

What is Cognitive Demand?

Bloom's taxonomy	Remember	Understand	Apply	Analyze	Evaluate	Create
WCER SEC	Memorize	Perform procedures	Demonstrate understanding	Analyze	Integrate	
Webb's DoK	Recall	Skill & Concept	Strategic thinking	Extended thinking		

[1] Cognitive demand relates to the type and level of thinking required of the learner in order to sufficiently engage with the task.

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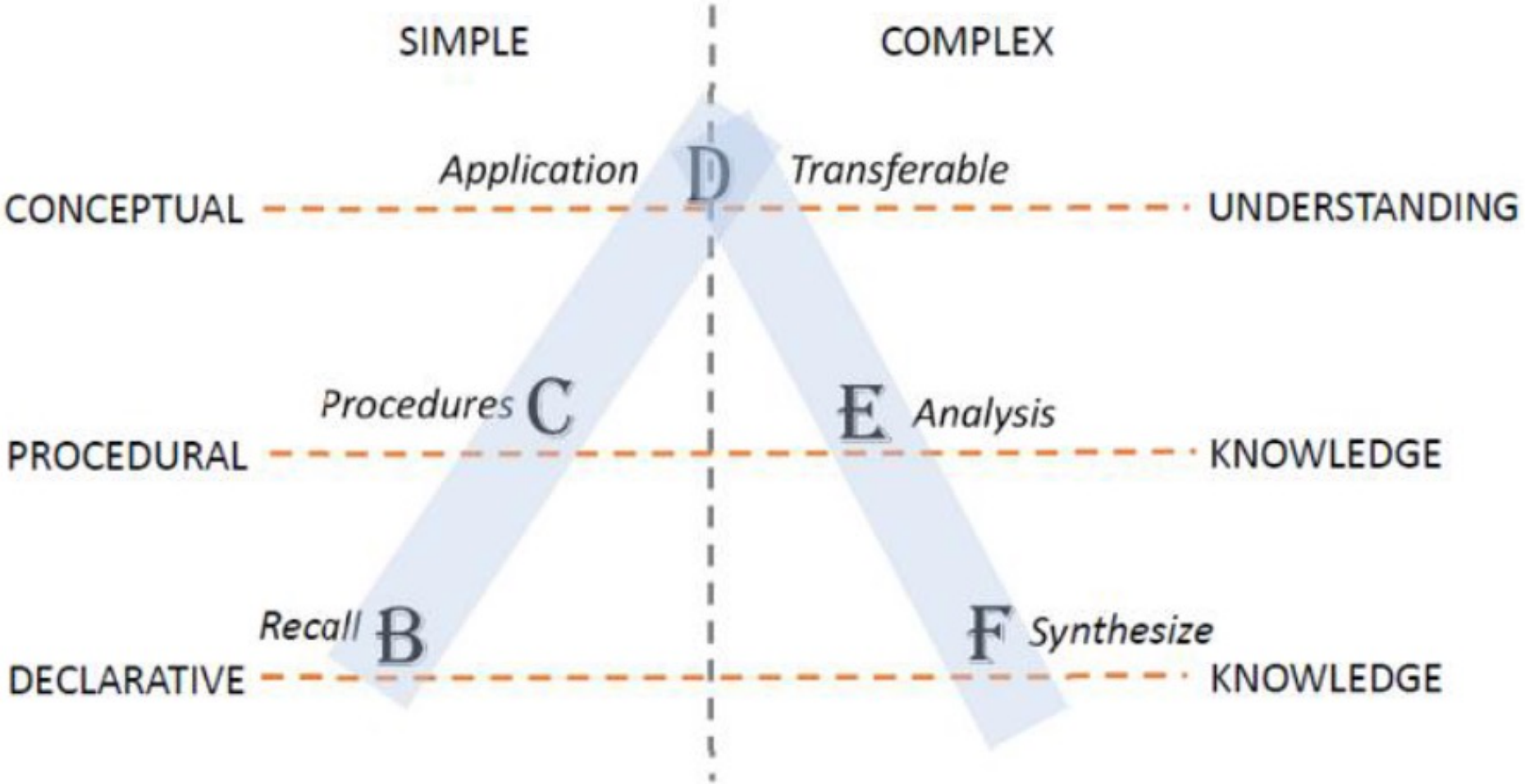
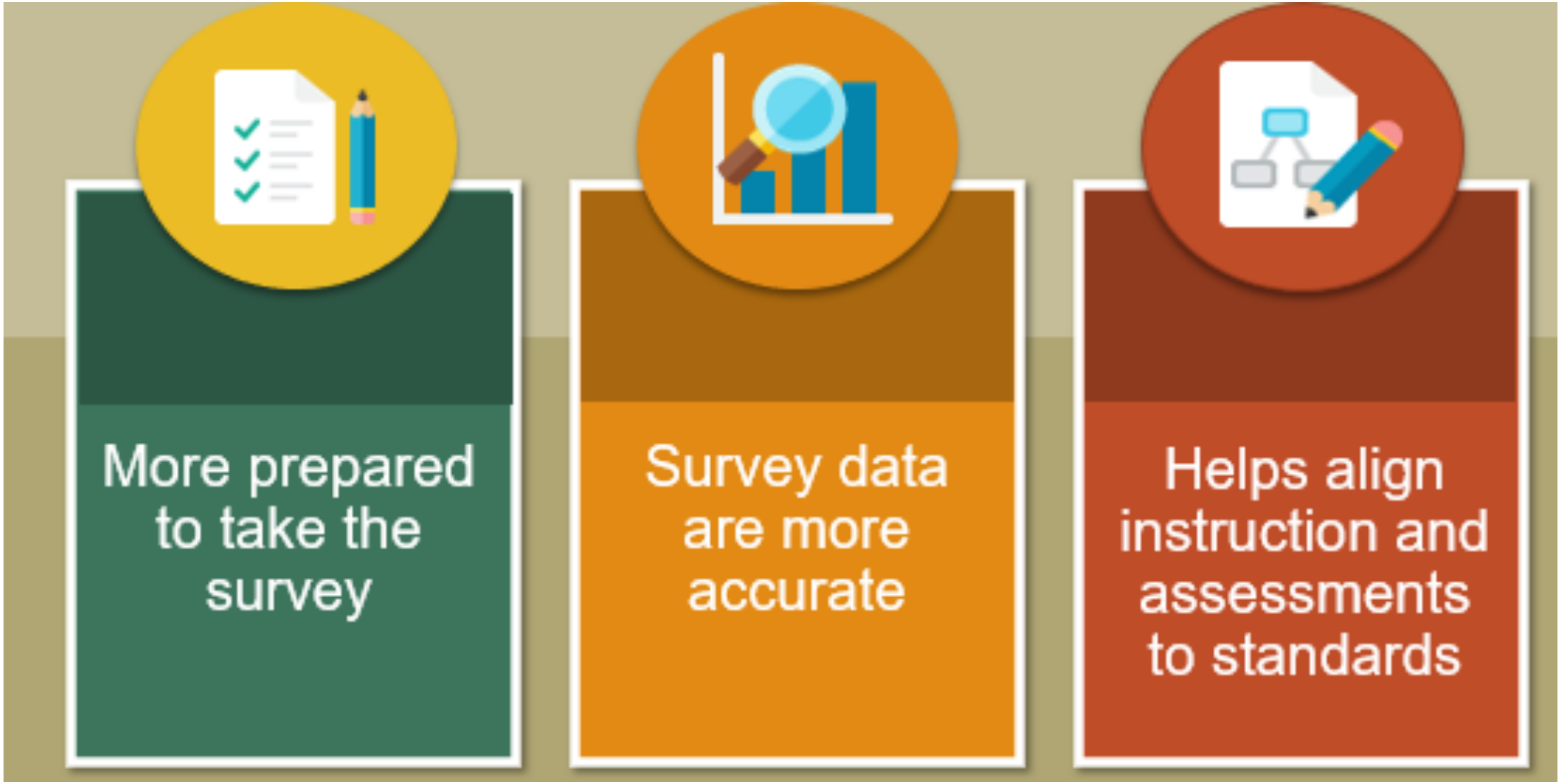
COGNITIVE COMPLEXITY



ACQUIRE -> USE -> EXTEND

Why is it important?



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Cognitive Demand Categories for Mathematics

Memorize Facts, Definitions, Formulas	Perform Procedures	Demonstrate Understanding of Mathematical Ideas	Conjecture, Analyze, Generalize, Prove	Solve Non-Routine Problems / Make Connections
Recite basic mathematical facts	Use numbers to count, order, denote	Communicate mathematical ideas	Determine the truth of a mathematical pattern or proposition	Apply and adapt a variety of appropriate strategies to solve non-routine problems
Recall mathematics terms and definitions	Do computational procedures or algorithms	Use representations to model mathematical ideas	Write formal or informal proofs	Apply mathematics in contexts outside of mathematics
Recall formulas and computational procedures	Follow procedures / instructions	Explain findings and results from data analysis strategies	Recognize, generate or create patterns	Apply to real world situations
	Solve equations/formulas/ routine word problems	Develop/explain relationships between concepts	Find a mathematical rule to generate a pattern or number sequence	Synthesize content and ideas from several sources
	Organize or display data	Show or explain relationships between models, diagrams, and/or other representations	Make and investigate mathematical conjectures	
	Read or produce graphs and tables		Identify faulty arguments or misrepresentations of data	
	Execute geometric constructions		Reason inductively or deductively	

Cognitive Demand Categories for English Language

Memorize / Recall	Perform Procedures / Explain	Generate / Create / Demonstrate	Analyze / Investigate	Evaluate/Integrate
Reproduce sounds or words	Follow instructions	Create / develop connections among text, self, world	Categorize / schematize information	Determine relevance, coherence, internal consistency, logic
Provide facts, terms, definitions, conventions	Give examples	Recognize relationships	Distinguish fact and opinion	Assess adequacy, appropriateness, credibility
Locate literal answers in text	Check consistency	Dramatize	Compare and contrast	Test conclusions, hypotheses
Identify relevant information	Summarize	Order, group, outline, organize ideas	Identify with another's point of view	Synthesize content and ideas from several sources
Describe	Identify purpose, main ideas, organizational patterns	Express new ideas (or express ideas newly)	Make inferences, draw conclusions	Integrate with other topics and subjects
	Gather information	Develop reasonable alternatives	Predict probable consequences	Critique
			Generalize	

Groping for Activities

Primary English

Primary Math

Schools	English Language teachers						Mathematics teachers					
	P1	P2	P3	P4	P5	P6	P1	P2	P3	P4	P5	P6
School 1	1	0	0	0	0	0	0	0	0	0	0	1
School 2	0	1	0	0	0	0	0	0	0	0	1	0
School 3	0	0	1	0	0	0	0	0	0	1	0	0
School 4	0	0	0	1	0	0	0	0	1	0	0	0
School 5	0	0	0	0	1	0	0	1	0	0	0	0
School 6	0	0	0	0	0	1	1	0	0	0	0	0

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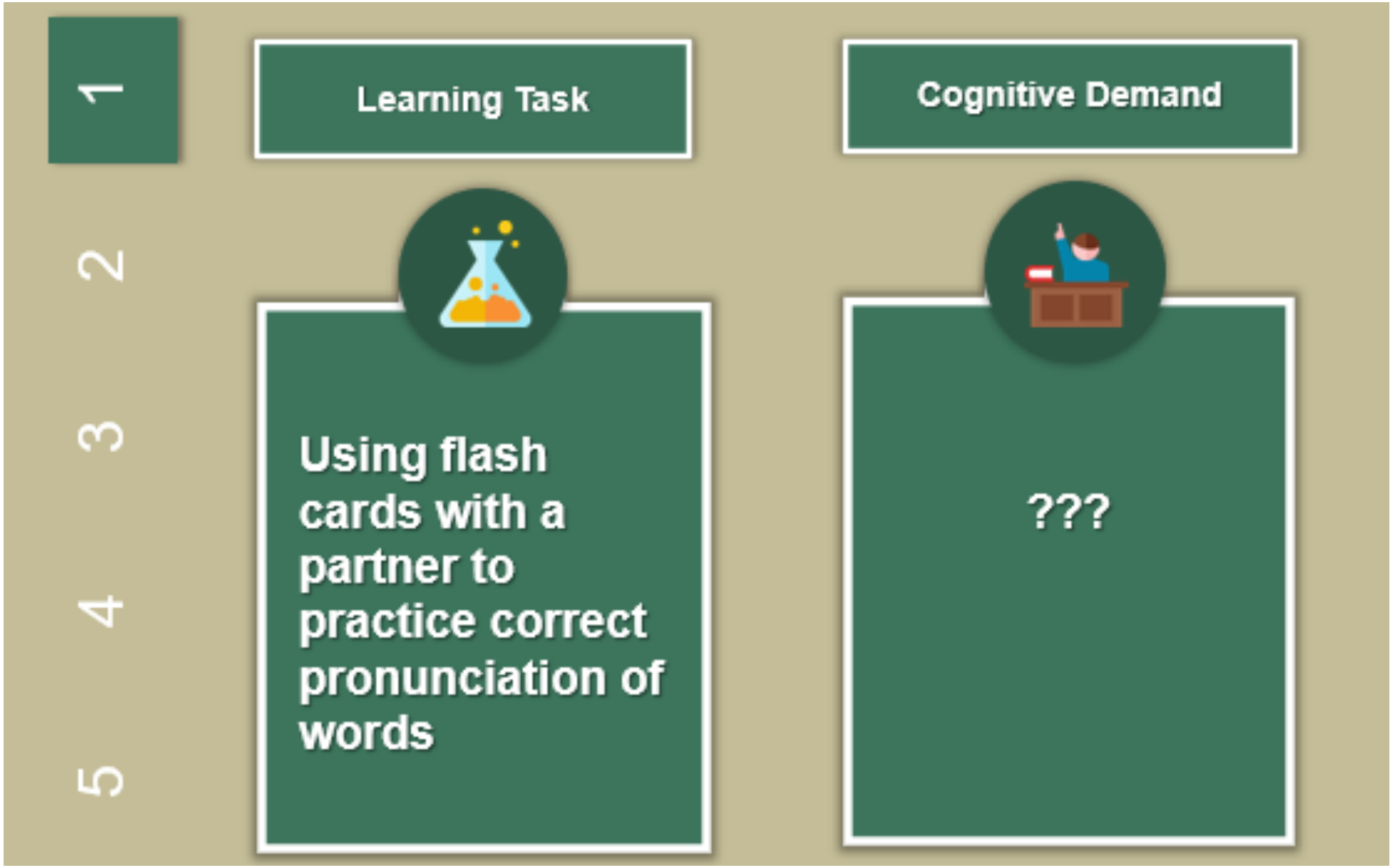
Activity1, Task1: Exploring Cognitive Demand - ELAR



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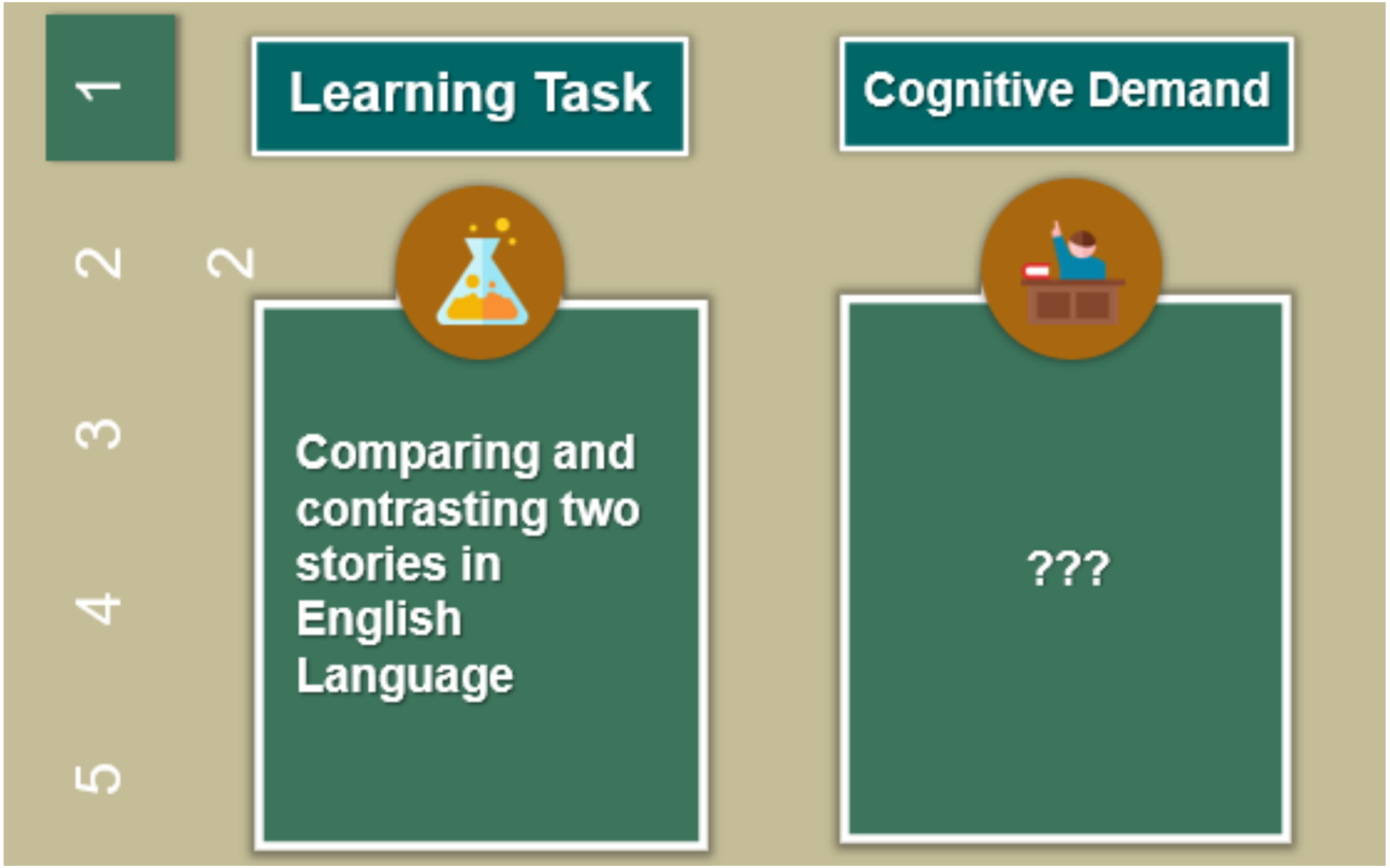
Activity1, Task2: Exploring Cognitive Demand - ELAR



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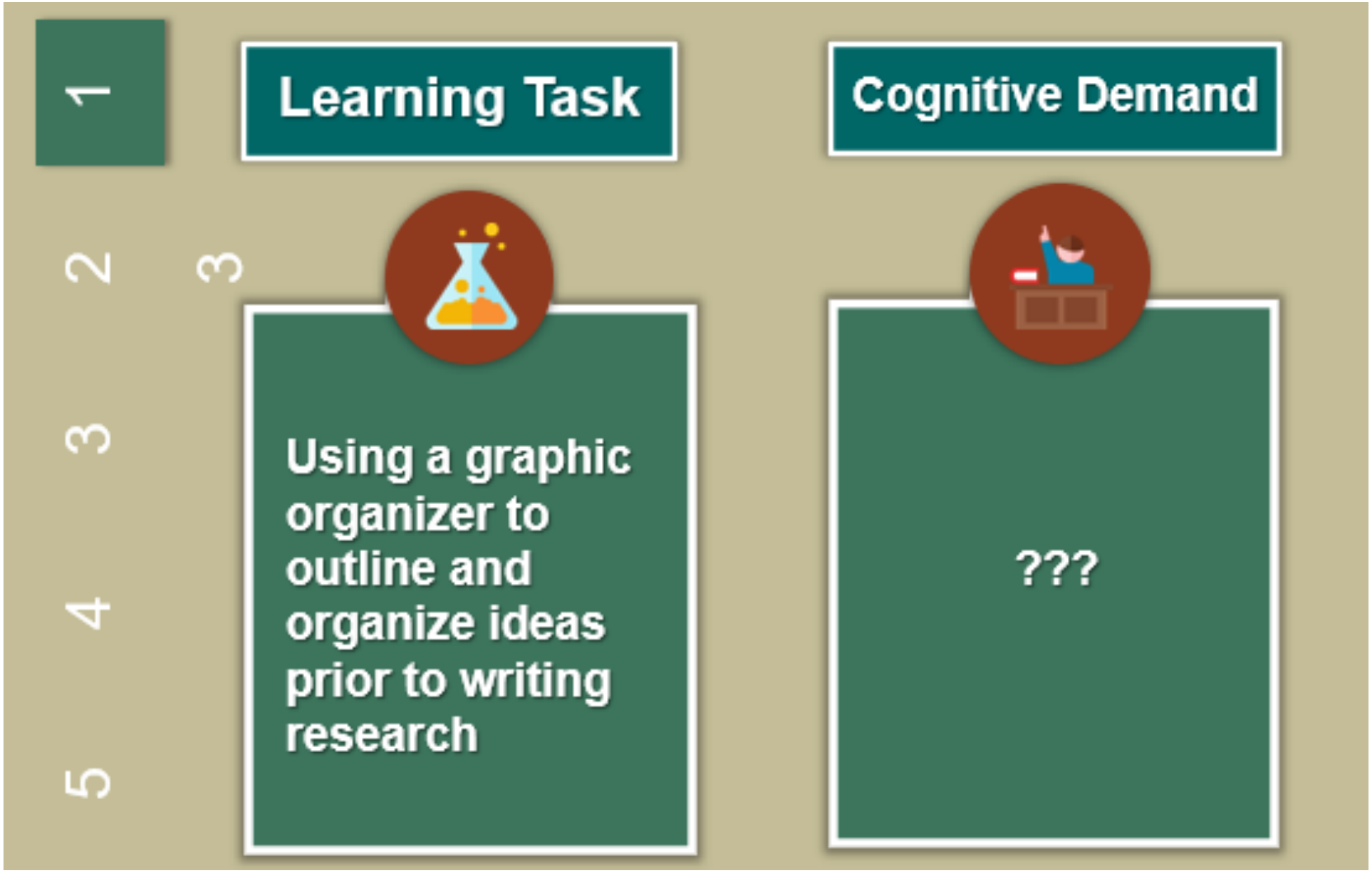
Activity1, Task3: Exploring Cognitive Demand - ELAR



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Activity2: Cognitive Demand Wheel – ELAR (45 mins)

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Activity3: Unwrapping Syllabus Standards – ELAR

- Another activity you can do with teachers is to unwrap some performance objectives in the syllabus standard to determine the cognitive demand or performance expectation for students.

- This can build a common understanding around how syllabus standards are written with an inherent cognitive demand or performance expectation.

- So, how do you figure out what thinking level a standard is targeting?

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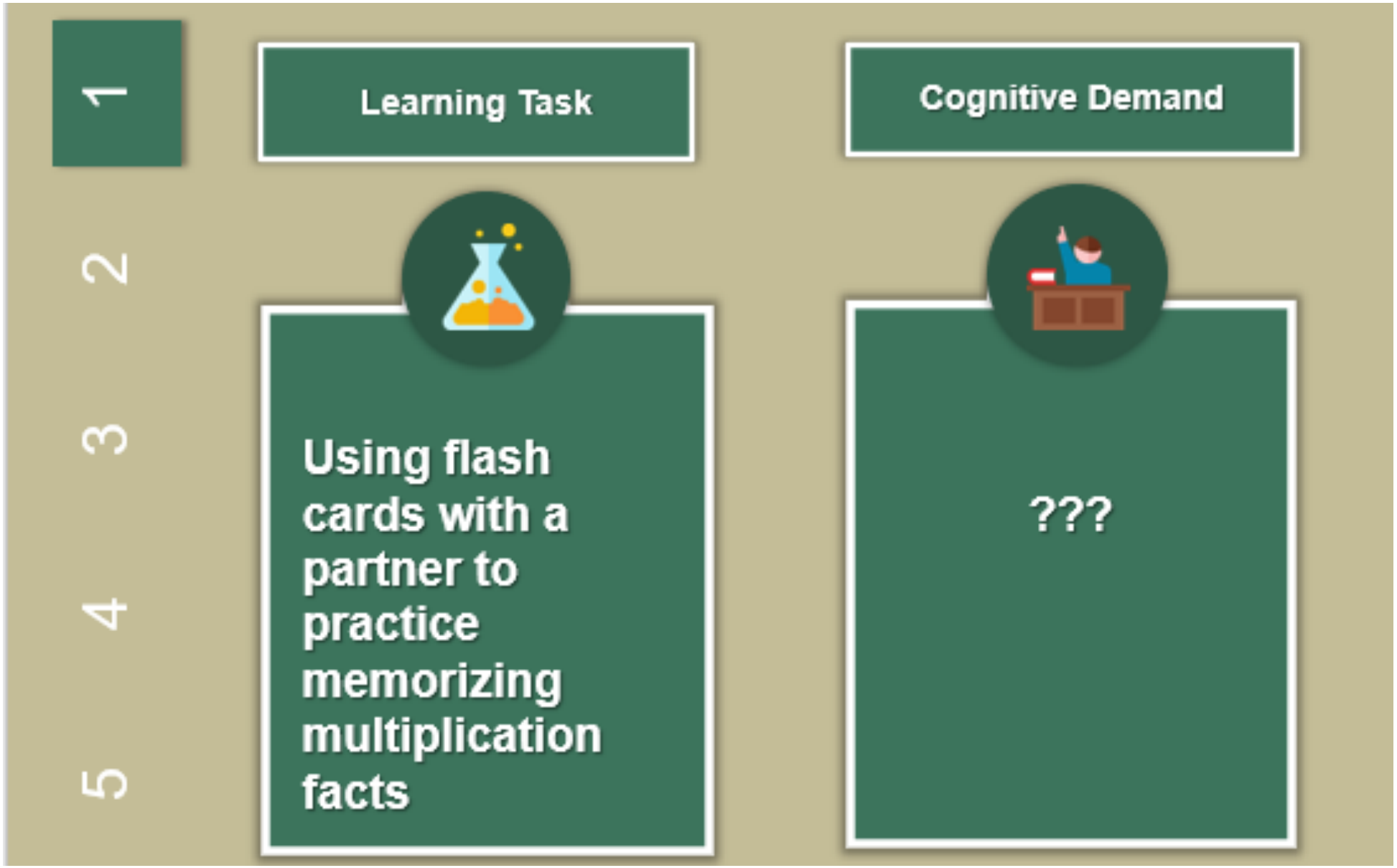
Activity2: Unwrapping Assessment Items – ELAR

- Another activity you can do with teachers is to unwrap some assessment items to determine the cognitive demand or performance expectation for students.

- This can build a common understanding around how assessment items are developed with an inherent cognitive demand or performance expectation.

- So, how do you figure out what thinking level an assessment item is targeting?

Activity1, Task1: Exploring Cognitive Demand - Mathematics



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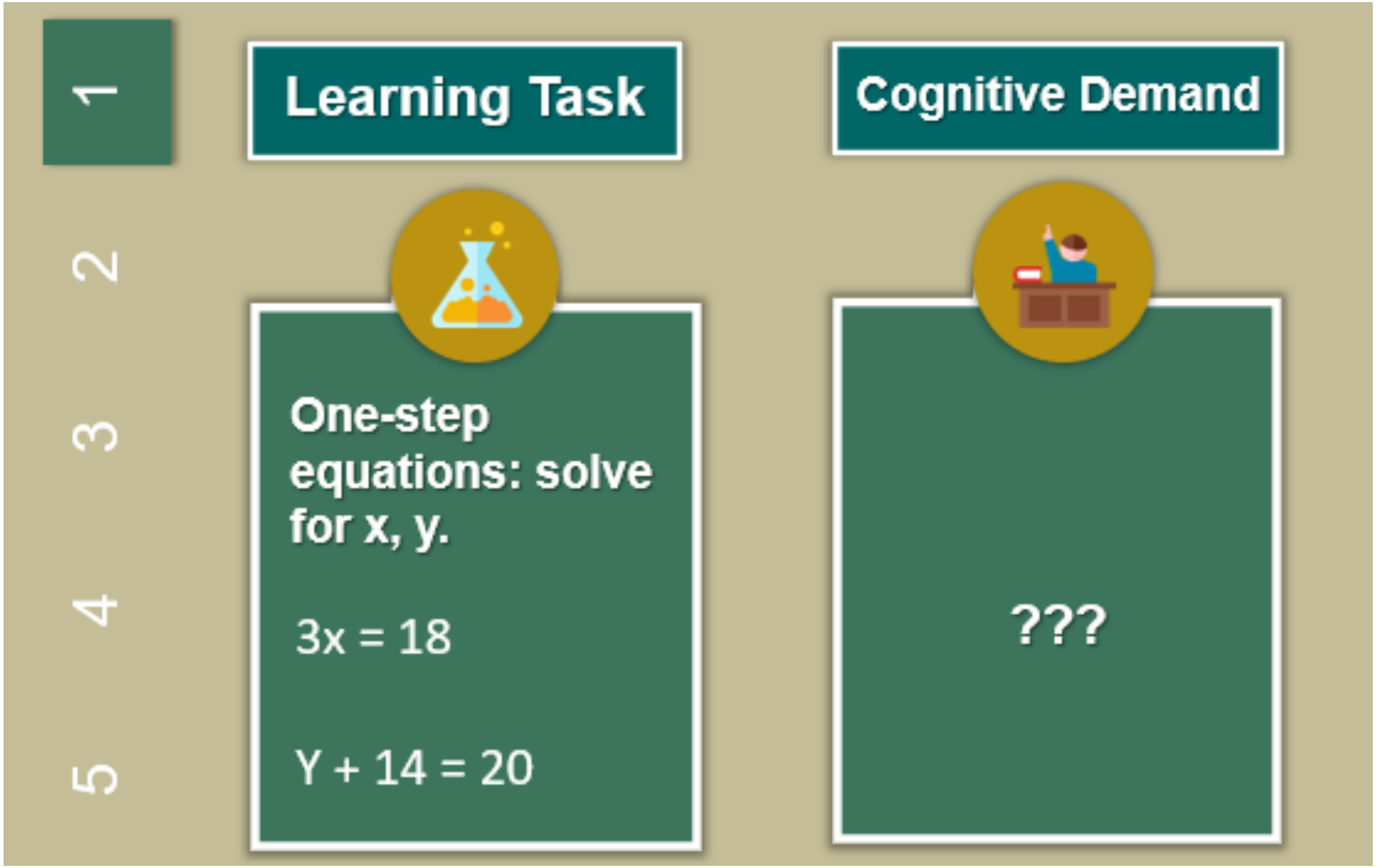
Activity1, Task2: Exploring Cognitive Demand - Mathematics



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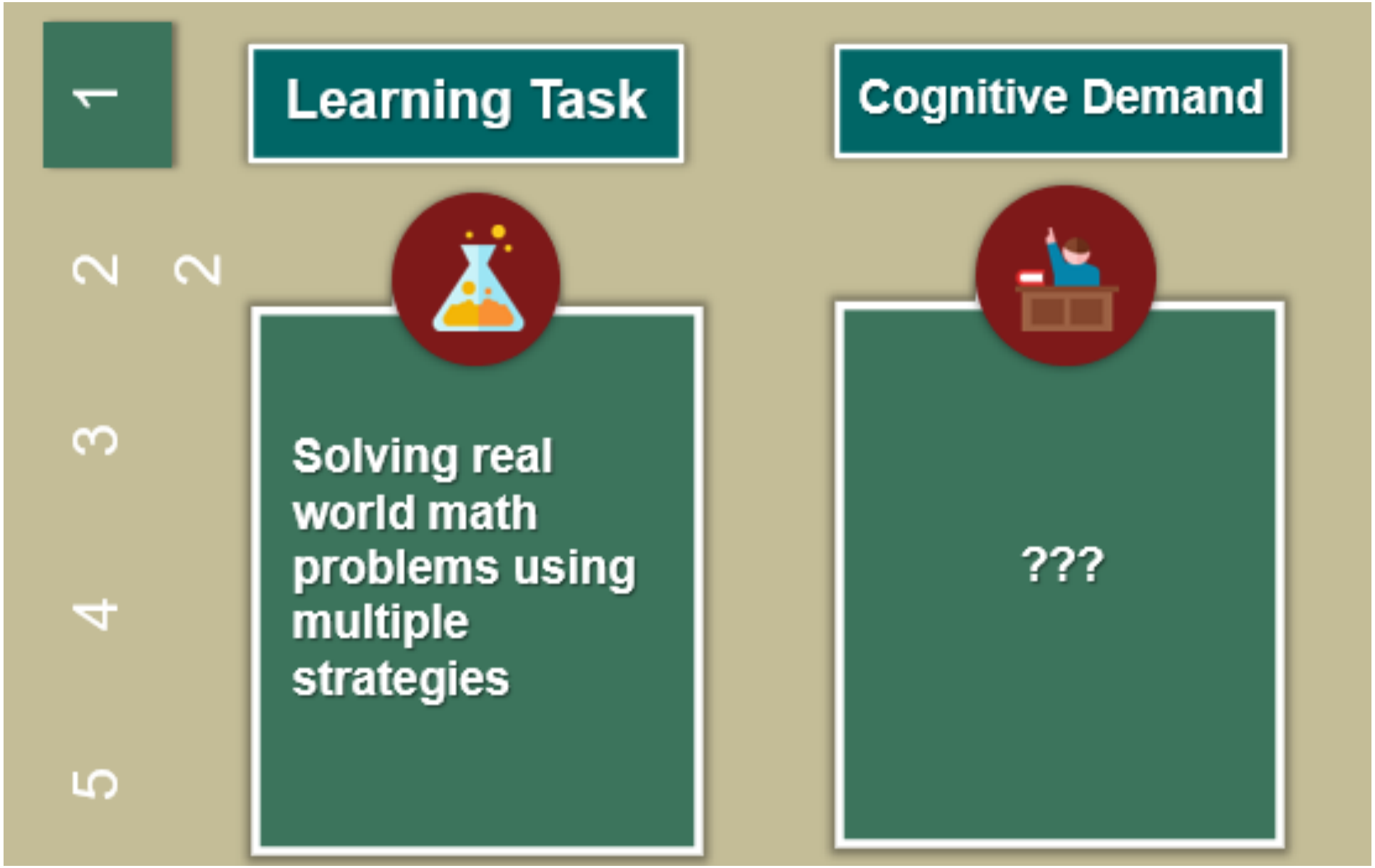
Activity1, Task2: Exploring Cognitive Demand - Mathematics



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Activity2: Cognitive Demand Wheel – Mathematics (45 mins)

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Activity3: Unwrapping Syllabus Standards – Mathematics

- Another activity you can do with teachers is to unwrap some performance objectives in the syllabus standard to determine the cognitive demand or performance expectation for students.

- This can build a common understanding around how syllabus standards are written with an inherent cognitive demand or performance expectation.

- So, how do you figure out what thinking level a standard is targeting?

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Activity2: Unwrapping Assessment Items – Mathematics

- Another activity you can do with teachers is to unwrap some assessment items to determine the cognitive demand or performance expectation for students.
- This can build a common understanding around how assessment items are developed with an inherent cognitive demand or performance expectation.
- So, how do you figure out what thinking level an assessment item is targeting?

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Survey organization

Taxonomy

Taxonomy as a comprehensive coding/classification document that systematically lists/categorizes all relevant subject-specific educational content (to be covered during a learning cycle) under topics and subtopics intended to facilitate the teaching and learning process.

Please read each question and its response choices carefully, and then mark your response by filling in an appropriate response circle. A pen or pencil may be used to complete the survey.

CLASS DESCRIPTION

CD.1 What class/grade do you teach?

①	②	③	④	⑤	⑥
1	2	3	4	5	6

CD.2 How many arms are in the class/grade level that you teach, it

⓪	①	②	③	④
None	1	2	3	4

CD.3 How many students are in the target class?

⓪	20 or fewer	③	41 to 50	⑥	71 to 80
①	11 to 30	④	51 to 60	⑦	more than 80
②	31 to 40	⑤	61 to 70		

CD.4 What percentage of the students in the target class speak the local language? (Mark nearest 10%)

⓪	①	②	③	④	⑤	⑥	⑦	⑧	⑨
Less than 10	10	20	30	40	50	60	70	80	90+ %

CD.5 How many students with significant learning difficulties or intellectual disabilities are in the target class?

⓪	①	②	③	④	⑤	⑥
None	1	2	3	4	5	more than five

CD.6 <u>During a typical week</u>
approximately how many hours will

Time on Topic		**Language Arts & Reading**	*Expectations for Student Performance*				
<none>	**1**	**Phonemic awareness**	**Memorize/ Recall**	**Perform Procedures / Explain**	**Generate/ Create/ Demonstrate**	**Analyze/ Investigate**	**Evaluate**
⓪①②③	101	Phoneme isolation (e.g., the distinct sounds /c/, /a/, and /t/)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	102	Phoneme blending (e.g., c/a/t=cat)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	103	Phoneme segmentation	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	104	Sound patterns	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	105	Rhyme recognition	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	106	Phoneme deletion, substitution, and addition	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	107	Identify Syllables	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
<none>	**2**	**Phonics**	**Memorize/ Recall**	**Perform Procedures / Explain**	**Generate/ Create/ Demonstrate**	**Analyze/ Investigate**	**Evaluate**
⓪①②③	201	Alphabetic principle (includes alphabet recognition and order)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	202	Consonants	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②

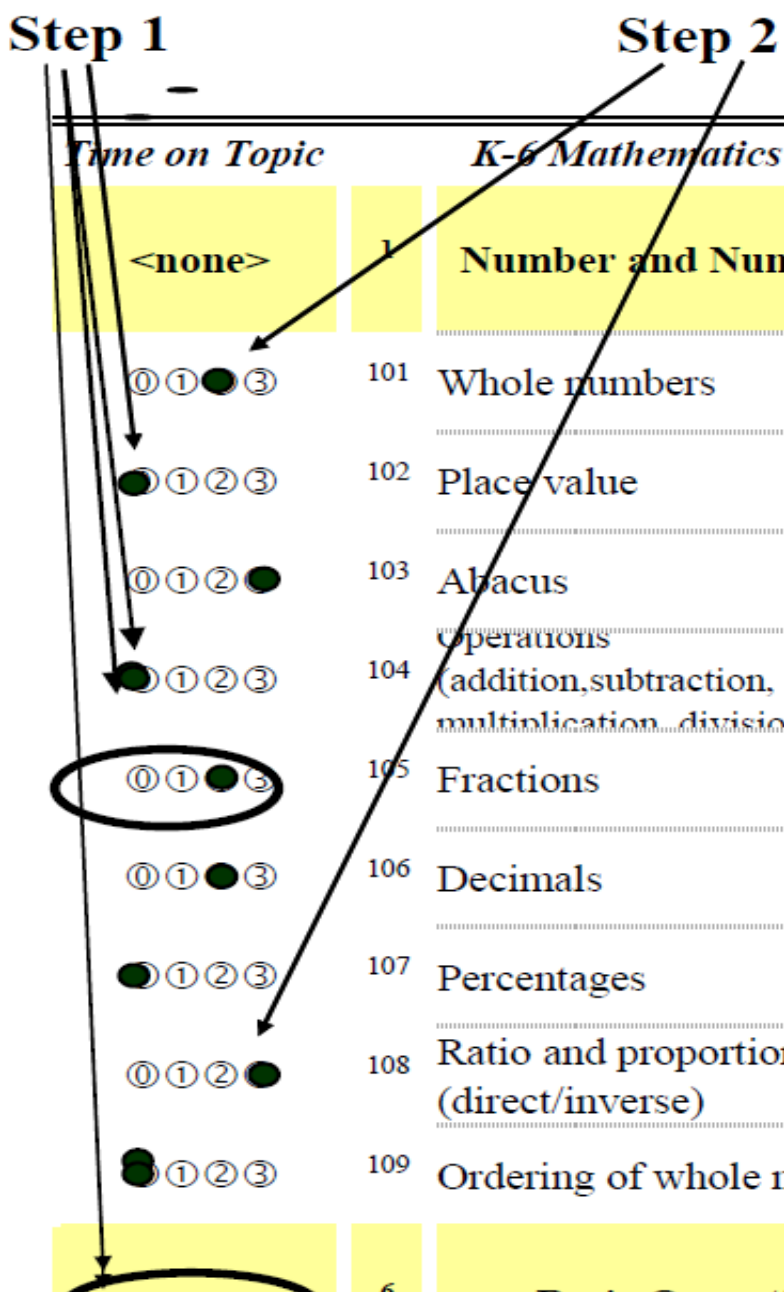
Time on Topic		Primary 1-6 Mathematics Topics	Expectations for Students in Mathematics				
<none>	1	Number Sense/Properties/Relationships	Memorize/ Recall	Perform Procedures	Demonstrate/ Communicate Understanding	Conjecture / Analyze / Generalize	Integrate / Synthesize / Critique
⓪ ① ② ③	101	Whole numbers and integers	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	102	Place value	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	103	Operations (addition, subtraction, multiplication, division)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	104	Fractions	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	105	Decimals	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	106	Percentages	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	107	Ratios and proportions (direct and inverse)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	108	Ordering of whole numbers (with inequality symbols)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	109	Roman Numerals	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	110	Ordering of numbers (Fractions)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	111	Real and/or Rational numbers	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	112	Exponents and scientific notation	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	113	Factors and Multiples	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	114	LCM	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪ ① ② ③	115	HCF	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②

Completing the survey – step 1

Step 1: Indicate topics not covered in this class

Begin by reviewing the entire list of topics identified in the topics column of each table, noting how topics are grouped. After reviewing each topic within a given grouping, if none of the topics listed within that group receive any instructional coverage, circle the "<None>" in the "Time on Topic" column for that group. For any individual topic that is not covered in this mathematics class, fill in the circled "zero" in the "Time on Topic" column. (Not necessary for those groups with "<None>" circled.) Any topics or topic groups so identified will not require further response. [Note, for example, that the class described in the example below did not cover any topics under "Instructional Technology" and so "<None>" is circled.]

<none>	4	Fluency	Memorize/Recall	Perform Procedure/ Explain	Generate/ Create/ Demonstrate	Analyze/ Investigate	Evaluate
⓪①②③	401	Phrasing, intonation, and inflection	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	402	Automaticity of words and phrases (e.g. sight and decodable words)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②③	403	Reading pace and accuracy	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②



Time on Topic		*K-6 Mathematics Topics*	*Expectations for Students in Mathematics*				
<none>	1	**Number and Numeration**	**Memorize / Recall**	**Perform Procedures**	**Demonstrate / Communicate Understanding**	**Conjecture, Analyze/ Generalize**	**Integrate / Synthesize / Critique**
⓪①●③	101	Whole numbers	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
●①②③	102	Place value	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
⓪①②●	103	Abacus	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
●①②③	104	Operations (addition,subtraction, multiplication, division)	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
⓪①●③	105	Fractions	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
⓪①●③	106	Decimals	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
●①②③	107	Percentages	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
⓪①②●	108	Ratio and proportion (direct/inverse)	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
●①②③	109	Ordering of whole numbers	p ① s ②	p ① s ②	p ① ② s	p ① s ②	p ① s ②
<none>	6	**Basic Operations**	**Memorize / Recall**	**Perform Procedures**	**Demonstrate / Communicate Understanding**	**Conjecture, Analyze/ Generalize**	**Integrate / Synthesize / Critique**
⓪①②③	601	Addion of whole numbers	p ①	p ①	p ① s	p ①	p ①

STEP 2: Indicate amount of time spent on each topic covered in this class.

Examine the list of topics a second time. This time note the amount of coverage devoted to each topic by filling in the appropriately numbered circle in the "Time on Topic" column, based upon the following codes:

0 = None, not covered

1 = Slight Coverage (less than one class/lesson)

2 = Moderate Coverage (one to five classes/lessons)

3 = Sustained Coverage (more than five classes/lessons)

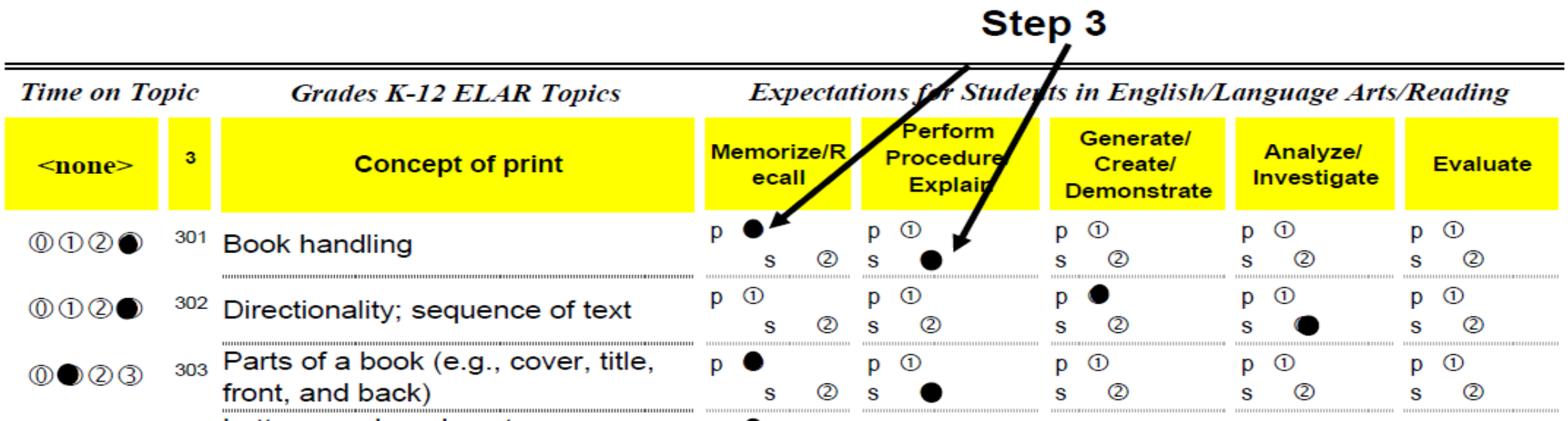
Step 1 **Step 2**

Time on Topic		*Grades K-12 ELAR Topics*	*Expectations for Students in English/Language Arts/Reading*				
<none>	4	Concept of print	Memorize/ Recall	Perform Procedure/ Explain	Generate/ Create/ Demonstrate	Analyze/ Investigate	Evaluate
⓪①②●	301	Book handling	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①●③	302	Directionality; sequence of text	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪●②③	303	Parts of a book (e.g., cover, title, front, and back)	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②
⓪①②●	304	Letter, word, and sentence distinction	p ① s ②	p ① s ②	p ① s ②	p ① s ②	p ① s ②

STEP 3: Indicate relative emphases of each student expectation for every topic taught.

The final step in completing this section of the survey concerns your expectations for what students should be able to do. For each topic listed, please indicate the performance expectations that you consider to be the primary goal of your instruction on that topic, as well as the performance expectation that most supports or helps to scaffold the primary performance expectation.

Primary	Indicate the performance expectation that represents the primary performance goal for instruction on this topic at this grade level for this class of students.
Supporting	Indicate the performance expectation that most supports (provides scaffolding) for achieving the goal indicated by the primary performance expectation



Example: Primary & Supporting - Mathematics

Objective:
Identify the value of the number in the tens place, e.g., the 5 in 53 represents 5 tens or 50.

Primary Expectation: The learners must **Demonstrate Understanding** of the mathematical idea of place value to be able to identify the correct number.

Supporting Expectation: The learners will **perform the procedure** of using place value charts and straws to represent number of days.

RISE
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Example: Primary & Supporting - ELAR

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