

# Kentucky Summative Assessments



## Grade 10 Reading **Released Items** 2023



RE908427828

Directions: Read the passage “A Bilingual Brain Is Prepped for More Than a Second Language.” Then answer the questions.

## A Bilingual Brain Is Prepped for More Than a Second Language

by Lisa Seachrist Chiu

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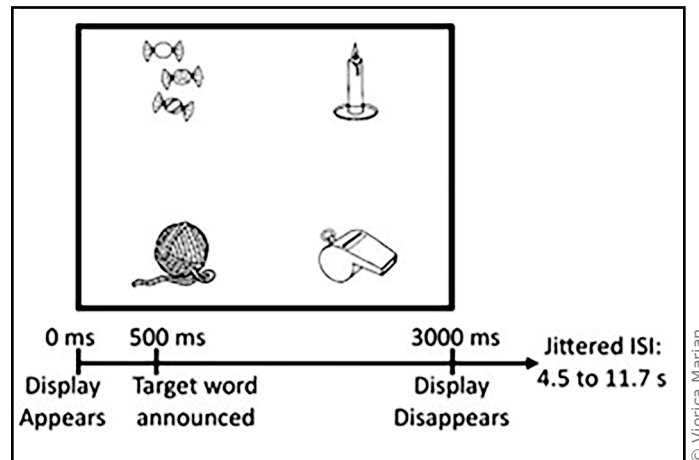


Fig. 1. Structure of Viorica Marian's competitor trials. On this display, the target (candy) is presented along with a phonological competitor (candle) and two unrelated pictures (yarn, whistle).

- 1 Just before winter break, my fifth grader came home from school, opened her mouth and produced what sounded to me like a stuttering mess of gibberish. After complaining that when she spends the entire day immersed in Chinese, she sometimes can't figure out what language to use, she carried on speaking flawless English to me and Chinese to a friend while they did their homework.
- 2 Quite honestly, I had been eagerly anticipating this very day for a long time. Having worked several years to establish the Chinese language immersion elementary school my daughter



attends, I could barely contain my excitement at this demonstration that she truly grasps a second language.

- 3 Early language programs are hot, in no small part because, when it comes to language, kids under the age of 7 are geniuses. Like many parents, I wanted my child to be fluent in as many languages as possible so she can communicate with more people and because it gives her a prime tool to explore different cultures.
- 4 Turns out, it may also benefit her brain.
- 5 With the help of advanced imaging tools that reveal neural processes in specific brain structures, researchers are coalescing around the idea that fluency in more than one language heightens executive function—the ability to regulate and control cognitive processes. It’s a radical shift from just a few decades ago when psychologists routinely warned against raising children who speak two languages, lest they become confused and suffer delays in learning.
- 6 One of the most intriguing aspects about bilingual people is that they are constantly activating both languages in their brains, says Viorica Marian, who studies the cognitive and neurological effects of bilingualism at Northwestern University. So, for example, your brain starts guessing words the minute you hear even a fragment of a word. An English-only speaker might hear the word *can* and his or her brain activates the words *candy* and *candle* as possibilities. Someone who speaks two languages will activate similar sounding words in both languages. The trick is to use the appropriate word.
- 7 To compare how bilingual and monolingual speakers accomplish this task, Marian and her colleagues had subjects perform a language comprehension task while observing what parts of the brain become active using functional magnetic resonance imaging. Volunteers ages 18 to 27 heard a series of words like *cloud* and were shown pictures that included clouds—and similar sounding words like *clown*. The subjects simply had to choose the picture that matched the word.
- 8 Bilingual people were no faster at completing the task than those who only speak one language, Marian and colleagues report in the December *Brain & Language*. However, the monolingual volunteers were forced to activate regions in their brains associated with inhibition and executive control when completing this routine task. Bilingual volunteers, because their brains are always filtering out words from another language, had very little activation in these brain regions. Those who spoke only one language were working harder.
- 9 In effect, routinely filtering out words from another language and using the appropriate language is such a potent workout for the brain that other tasks involving executive function are relatively easy.
- 10 That extra brain exercise may be crucial as we age. Studies around the world show that bilingual people start showing the symptoms of Alzheimer’s disease about 5 years later than monolingual people. Most recently, Evy Woumans, Wouter Duyck and colleagues at the University of Ghent in

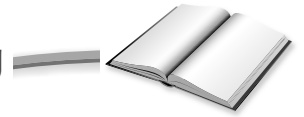


Belgium reported in *Bilingualism: Language and Cognition* that bilingual Alzheimer's patients developed significant symptoms on average 4.6 years later than monolingual Alzheimer's patients and received their diagnoses 4.8 years later than monolingual people. It's important to note that Alzheimer's disease is not developing later in bilingual people—the numbers reflect that this group is dealing much better with the damage caused by the disease.

- 11 And, it turns out, language may have a stronger effect than education, socioeconomic status and participating in mentally taxing hobbies like playing music. Researchers at the University of Hyderabad, India, and the University of Edinburgh in Scotland demonstrated a similar bilingual advantage in the development of Alzheimer's symptoms among subjects who were illiterate.
- 12 So, why would being bilingual have a greater effect than, say, playing the piano? The answer may lie in the fact that we are constantly using language. Anything that is hard to do is good for the brain: solving math problems, playing chess, playing music. But engaging in any of those activities employs language because it requires thought. In effect, if you are bilingual, you are thinking twice.
- 13 So, maybe placing my child in a language immersion school will have lifelong benefits I never imagined.
- 14 And, while I speak only one language, research is also telling me that it's not too late to step up: A study published this month found that adults who took six months of Spanish language classes had improved executive function compared with those who didn't study language.

"A Bilingual Brain Is Prepped for More Than a Second Language" by Lisa Seachrist Chiu, from *Science News*, Dec. 31, 2014. © 2014 Society for Science & the Public.

Art: Reprinted from *Brain and Language*, Viorica Marian, Sarah Chabal, James Bartolotti, Kailyn Bradley, Arturo E. Hernandez, "Differential Recruitment of Executive Control Regions during Phonological Competition in Monolinguals and Bilinguals," Fig. 1, Copyright 2014, with permission from Elsevier.



1

RE922546365\_4

Which inference is **best** supported by paragraphs 1 and 2?

- A** The daughter wished at first that she did not have to learn Chinese.
- B** The daughter was demonstrating her command of the Chinese language.
- C** The mother had been worried that her daughter would never learn to speak Chinese.
- D** The mother had been waiting for proof that her daughter was becoming fluent in Chinese.



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922546365

Book Question Number: 1

Standard: RI.9-10, RI.9-10.1

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,282	49%	0.49	4%	27%	20%	49%
Gender							
Female	24,077	50%	0.50	3%	27%	20%	50%
Male	25,202	48%	0.48	5%	27%	20%	48%
Ethnicity							
African American	5,355	44%	0.44	5%	31%	21%	44%
American Indian or Alaska Native	69	41%	0.41	10%	32%	17%	41%
Asian	921	54%	0.54	2%	27%	16%	54%
Hispanic or Latino	4,389	43%	0.43	5%	33%	19%	43%
Native Hawaiian or Pacific Islander	77	47%	0.47	6%	25%	22%	47%
White (non-Hispanic)	36,217	50%	0.50	4%	26%	20%	50%
Two or more races	2,249	49%	0.49	4%	28%	19%	49%
Migrant							
Migrant	220	41%	0.41	6%	35%	17%	41%
English Learner							
English Learner	1,943	27%	0.27	8%	43%	21%	27%
Economically Disadvantaged							
Economically Disadvantaged	27,726	45%	0.45	5%	29%	21%	45%
Students with Disabilities							
Students with Disabilities	5,066	35%	0.35	7%	36%	21%	35%



2

RE922550083\_2

How does the statement from paragraph 3, “when it comes to language, kids under the age of 7 are geniuses,” affect the meaning and tone of the article?

- A** It suggests that young children have a substantially higher IQ than adults.
- B** It refers to the natural ability of young children to learn new languages.
- C** It points out the confidence young children have in their abilities.
- D** It implies that young children learn well in all subjects.



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922550083

Book Question Number: 2

Standard: RI.9-10, RI.9-10.4

Item Type: MC

Key: B

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,274	81%	0.81	6%	81%	8%	5%
Gender							
Female	24,071	83%	0.83	6%	83%	8%	4%
Male	25,200	78%	0.78	6%	78%	9%	6%
Ethnicity							
African American	5,354	74%	0.74	10%	74%	11%	5%
American Indian or Alaska Native	69	70%	0.70	9%	70%	10%	12%
Asian	921	90%	0.90	4%	90%	5%	2%
Hispanic or Latino	4,386	76%	0.76	8%	76%	10%	6%
Native Hawaiian or Pacific Islander	77	71%	0.71	13%	71%	10%	5%
White (non-Hispanic)	36,216	82%	0.82	5%	82%	8%	5%
Two or more races	2,246	81%	0.81	6%	81%	8%	5%
Migrant							
Migrant	219	67%	0.67	16%	67%	11%	5%
English Learner							
English Learner	1,940	65%	0.65	16%	65%	13%	6%
Economically Disadvantaged							
Economically Disadvantaged	27,718	76%	0.76	8%	76%	10%	6%
Students with Disabilities							
Students with Disabilities	5,063	62%	0.62	14%	62%	16%	8%





3

RE922546745\_4,3

Which claims from the passage **best** support the argument that bilingualism benefits the brain? Select **two** correct answers.

- A** “One of the most intriguing aspects about bilingual people is that they are constantly activating both languages in their brains. . . .” (paragraph 6)
- B** “Bilingual people were no faster at completing the task than those who only speak one language. . . .” (paragraph 8)
- C** “In effect, routinely filtering out words from another language and using the appropriate language is such a potent workout for the brain that other tasks involving executive function are relatively easy.” (paragraph 9)
- D** “Studies around the world show that bilingual people start showing the symptoms of Alzheimer’s disease about 5 years later than monolingual people.” (paragraph 10)
- E** “So, maybe placing my child in a language immersion school will have lifelong benefits I never imagined.” (paragraph 13)



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922546745

Book Question Number: 3

Standard: RI.9-10, RI.9-10.8

Item Type: MS

Key: C,D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	48,686	63.7%	1.27	8%	57%	35%
Gender						
Female	23,854	64.6%	1.29	7%	57%	36%
Male	24,829	62.9%	1.26	8%	58%	34%
Ethnicity						
African American	5,234	54.9%	1.10	12%	67%	21%
American Indian or Alaska Native	68	57.4%	1.15	13%	59%	28%
Asian	918	70.5%	1.41	4%	50%	45%
Hispanic or Latino	4,271	59.0%	1.18	10%	62%	28%
Native Hawaiian or Pacific Islander	75	54.7%	1.09	9%	72%	19%
White (non-Hispanic)	35,896	65.6%	1.31	7%	55%	38%
Two or more races	2,219	62.1%	1.24	8%	60%	32%
Migrant						
Migrant	207	50.2%	1.00	15%	69%	16%
English Learner						
English Learner	1,807	46.5%	0.93	18%	71%	11%
Economically Disadvantaged						
Economically Disadvantaged	27,277	59.8%	1.20	9%	62%	29%
Students with Disabilities						
Students with Disabilities	4,893	50.4%	1.01	15%	68%	16%



4

RE922548977\_2

Which **best** describes a pattern in the way the author introduces and explains ideas in paragraphs 6 through 12?

- A** The author contrasts the findings of each study with the following study.
- B** The author describes a study, then interprets the results in simple language.
- C** The author provides an account of various studies, giving less detail each time.
- D** The author alternates between describing a study and giving related examples from real life.



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922548977

Book Question Number: 4

Standard: RI.9-10, RI.9-10.3

Item Type: MC

Key: B

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,264	32%	0.32	18%	32%	10%	40%
Gender							
Female	24,067	32%	0.32	18%	32%	8%	43%
Male	25,194	33%	0.33	19%	33%	11%	37%
Ethnicity							
African American	5,349	28%	0.28	17%	28%	12%	43%
American Indian or Alaska Native	69	36%	0.36	14%	36%	13%	36%
Asian	921	37%	0.37	15%	37%	8%	39%
Hispanic or Latino	4,386	31%	0.31	20%	31%	9%	40%
Native Hawaiian or Pacific Islander	77	26%	0.26	16%	26%	6%	52%
White (non-Hispanic)	36,209	33%	0.33	18%	33%	9%	39%
Two or more races	2,248	30%	0.30	19%	30%	11%	40%
Migrant							
Migrant	219	31%	0.31	20%	31%	12%	37%
English Learner							
English Learner	1,940	31%	0.31	16%	31%	14%	38%
Economically Disadvantaged							
Economically Disadvantaged	27,712	30%	0.30	19%	30%	11%	40%
Students with Disabilities							
Students with Disabilities	5,064	31%	0.31	19%	31%	15%	34%



5

RE922550848\_3

How does the information in paragraphs 10 and 11 contribute to the author's overall claim?

- A** By minimizing the impact of education and other activities on Alzheimer's patients
- B** By proposing a combination of arts, education, and language learning to treat Alzheimer's
- C** By placing language learning as a major defense against the onset of Alzheimer's symptoms
- D** By pointing out that Alzheimer's develops as early in bilingual people as in nonbilingual people



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922550848

Book Question Number: 5

Standard: RI.9-10, RI.9-10.5

Item Type: MC

Key: C

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,263	58%	0.58	10%	18%	58%	15%
Gender							
Female	24,067	60%	0.60	9%	16%	60%	15%
Male	25,193	56%	0.56	10%	20%	56%	14%
Ethnicity							
African American	5,346	42%	0.42	14%	22%	42%	22%
American Indian or Alaska Native	69	57%	0.57	9%	19%	57%	16%
Asian	921	69%	0.69	6%	14%	69%	11%
Hispanic or Latino	4,388	50%	0.50	12%	20%	50%	19%
Native Hawaiian or Pacific Islander	77	39%	0.39	12%	23%	39%	26%
White (non-Hispanic)	36,209	61%	0.61	9%	17%	61%	13%
Two or more races	2,248	55%	0.55	10%	19%	55%	16%
Migrant							
Migrant	220	30%	0.30	13%	28%	30%	30%
English Learner							
English Learner	1,940	29%	0.29	20%	28%	29%	24%
Economically Disadvantaged							
Economically Disadvantaged	27,712	51%	0.51	12%	20%	51%	17%
Students with Disabilities							
Students with Disabilities	5,063	38%	0.38	17%	25%	38%	20%



6

RE922551276\_4

Which information about Viorica Marian's research study is emphasized in the illustration but **not** in the article itself?

- A** What types of objects the subjects were asked to identify
- B** How long it took the subjects to identify the correct picture
- C** Which pictures shown in the study had names that sounded similar
- D** How much time the subjects were given to identify the correct picture



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922551276

Book Question Number: 6

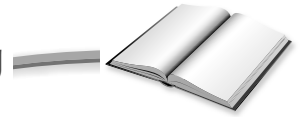
Standard: RI.9-10, RI.9-10.7

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,249	31%	0.31	17%	32%	20%	31%
Gender							
Female	24,064	32%	0.32	16%	33%	19%	32%
Male	25,182	31%	0.31	17%	32%	20%	31%
Ethnicity							
African American	5,345	28%	0.28	19%	29%	24%	28%
American Indian or Alaska Native	69	28%	0.28	10%	33%	29%	28%
Asian	921	38%	0.38	14%	31%	17%	38%
Hispanic or Latino	4,386	30%	0.30	17%	31%	22%	30%
Native Hawaiian or Pacific Islander	77	26%	0.26	23%	31%	19%	26%
White (non-Hispanic)	36,200	32%	0.32	16%	33%	19%	32%
Two or more races	2,246	32%	0.32	18%	31%	20%	32%
Migrant							
Migrant	220	28%	0.28	20%	25%	27%	28%
English Learner							
English Learner	1,937	26%	0.26	21%	25%	28%	26%
Economically Disadvantaged							
Economically Disadvantaged	27,700	30%	0.30	18%	31%	22%	30%
Students with Disabilities							
Students with Disabilities	5,054	27%	0.27	20%	27%	26%	27%





7

RE922549706\_4

Which **best** describes how paragraph 14 extends the author's claim that learning a second language is beneficial?

- A** By arguing that there are many ways to improve brain function
- B** By proving that it does not take very long to learn a second language
- C** By demonstrating that adults learn language more slowly than children
- D** By showing that even monolingual adults can benefit from language study



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922549706

Book Question Number: 7

Standard: RI.9-10, RI.9-10.5

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,263	62%	0.62	12%	17%	9%	62%
Gender							
Female	24,067	66%	0.66	11%	16%	7%	66%
Male	25,193	58%	0.58	14%	18%	11%	58%
Ethnicity							
African American	5,350	49%	0.49	15%	23%	13%	49%
American Indian or Alaska Native	69	57%	0.57	12%	17%	14%	57%
Asian	921	74%	0.74	8%	14%	4%	74%
Hispanic or Latino	4,388	55%	0.55	13%	21%	10%	55%
Native Hawaiian or Pacific Islander	77	52%	0.52	13%	18%	17%	52%
White (non-Hispanic)	36,207	64%	0.64	12%	16%	9%	64%
Two or more races	2,246	59%	0.59	13%	17%	11%	59%
Migrant							
Migrant	220	42%	0.42	15%	25%	18%	42%
English Learner							
English Learner	1,940	37%	0.37	16%	28%	19%	37%
Economically Disadvantaged							
Economically Disadvantaged	27,711	56%	0.56	14%	19%	12%	56%
Students with Disabilities							
Students with Disabilities	5,064	41%	0.41	18%	21%	20%	41%



8

RE922550610\_2

Which **best** describes why the author introduces and closes the article with details about herself and her daughter?

- A** To explain how she became interested in children's bilingual education
- B** To generate interest by connecting a personal situation to the research
- C** To express her pride in the fact that her daughter is more intelligent than the average student
- D** To show by example how strongly she believes in the benefits of parents being engaged in their children's education



# Released Item Performance

## Kentucky Summative Assessments

Spring 2023

Grade 10

Reading

Item: RE922550610

Book Question Number: 8

Standard: RI.9-10, RI.9-10.6

Item Type: MC

Key: B

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,266	57%	0.57	15%	57%	8%	21%
Gender							
Female	24,069	63%	0.63	12%	63%	6%	19%
Male	25,194	51%	0.51	17%	51%	10%	22%
Ethnicity							
African American	5,349	48%	0.48	18%	48%	11%	23%
American Indian or Alaska Native	69	57%	0.57	14%	57%	4%	25%
Asian	921	68%	0.68	12%	68%	3%	17%
Hispanic or Latino	4,389	49%	0.49	18%	49%	9%	24%
Native Hawaiian or Pacific Islander	77	51%	0.51	19%	51%	12%	18%
White (non-Hispanic)	36,209	59%	0.59	14%	59%	7%	20%
Two or more races	2,247	56%	0.56	16%	56%	9%	20%
Migrant							
Migrant	219	35%	0.35	23%	35%	14%	28%
English Learner							
English Learner	1,941	26%	0.26	26%	26%	16%	32%
Economically Disadvantaged							
Economically Disadvantaged	27,712	51%	0.51	16%	51%	10%	23%
Students with Disabilities							
Students with Disabilities	5,064	33%	0.33	22%	33%	18%	28%





*Investing in Kentucky's Future, One Student at a Time*