Product Evidence Base

Lexia® English Language Development™ Correlational Research

June 2025

Introduction

Lexia Learning has a long history of building digital programs to help students become proficient readers. Included in our portfolio is Lexia® English Language Development™ (Lexia English), an adaptive blended learning program developed to support English Learners in grades K-6. As a blended learning program, Lexia English integrates online activities together with teacher-directed instruction. While students work independently in the online program, teachers are provided with real-time data related to students' program usage and progress, as well as recommendations for student-specific resources for teacher-led instruction. This results in an individualized learning experience designed to increase students' English language proficiency. Included in Lexia English is "Assessment Without Testing" technology which – as an application of Artificial Intelligence – provides teachers with program measures to help plan instruction. This document summarizes correlational evidence from specialized customer evaluations which help establish the validity of Lexia English's program measures and provide evidence of the program's effectiveness as a classroom assessment of English language proficiency.

Effectiveness research focuses on how well a program works in real-world settings. Efficacy research uses experimental designs to control for confounding variables.

Research on the effectiveness of an instructional program considers its benefits in real-world, local settings. The effectiveness of Lexia English is revealed in evaluation reports prepared by the Lexia Research team to address specific needs of school districts. These reports demonstrate how well measures obtained from performance in Lexia English correlate with scores on language proficiency tests. Customized evaluations are negotiated between Lexia and individual districts. These reports analyze data for students who use Lexia English for a full year, demonstrate fidelity of use, and have at least 100 students. Included in many of these reports are correlations between in-program measures and external tests.

Research on *program effectiveness* relates to research on *program efficacy* in that both intend to assess the impact of a program. However, while effectiveness research asks how well a program works in real-world settings, efficacy research utilizes experimental designs and examines how well the program works with controls in place (Rossi et al., 2003). Both types of research are necessary to understand the types of effects a program is likely to have. The Correlation Reports on Lexia English's effectiveness serve to complement the efficacy research summarized in the Lexia English Efficacy Research document.

Key Findings

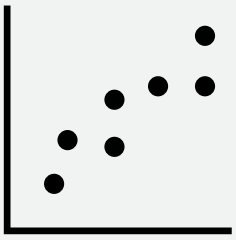
Multiple evaluations of customers' Lexia English implementations show:

- **High to medium correlations between students' progress in Lexia English and summative tests of language proficiency.**

  Correlations range from 0.49 to 0.55. Data include students who used the online portion of Lexia English for at least 20 weeks and met their weekly usage targets for at least 50% of those weeks.

- **Uniformly positive relationships across districts and states.**

  To date, Lexia researchers have conducted 3 custom evaluations with districts in two states. These data from over 2,000 students demonstrate consistent positive relationships between progress in Lexia English and performance on external tests.



English Language Proficiency Accountability Tests

- WIDA ACCESS (GA)
- ELPAC (CA)

Calculating Correlations

Schools and districts who purchase Lexia English often want to know how measures in the program relate to scores on standardized tests of language proficiency. To answer this question, Lexia researchers typically calculate a correlation, a numerical value which reflects the strength of relationship between program measures in Lexia English and student test scores. Positive correlations (ranging from 0 to 1) demonstrate that students who show good progress in Lexia English tend to have high test scores and students with weak progress in Lexia English tend to have low test scores. Correlations closer to 1 indicate a strong relationship; correlations near 0 indicate no relationship and are undesirable.

Across Lexia's research, we categorize correlations into three ranges: high (0.50 to 1.00), medium (0.30 to 0.49), and low (0.10 to 0.29). Correlations of 0.35 and above are considered to be strong evidence of effectiveness when evaluating language and reading assessments or programs (Hemphill, 2003). Table 1 provides average estimates of correlations among measures in Lexia English and scores on standardized tests of language proficiency. The correlations in Table 1 were derived from detailed evaluation reports created by the Lexia Research Team. Each row in the table summarizes results obtained for one test, which may have been administered in one or more locations. The standardized tests used in these correlations are summative tests (Perie, Marion, and Gong, 2009). These summative (or accountability) tests are designed to measure students' attainment of state standards at specific points in time, and they are often accompanied by criterion-referenced levels of proficiency or performance. Links are also provided to either the vendor website or the state website that describes the nature of the test in greater detail.

Table 1.

Correlations among Lexia English Progress Measures and Language Proficiency Tests.

Test	n Reports	Recent Year	Cor.	Sample Size
WIDA Access	2	23-24	0.55	1,679
English Language Proficiency Assessments for California (ELPAC)	1	22-23	0.49	679

The correlations presented in Table 1 are weighted averages of the Pearson correlations between end-of-year level reached by students in Lexia English and their scores on the external test. At the request of customers, the Lexia Research team often calculates correlations by grade and by demographic subgroup. When there are multiple evaluations that involve a single test, we compute one grade-specific weighted correlations for each test using two steps. First, we multiply each grade-specific correlation in a report by the number of students in that grade that contributed to that correlation estimate. Second, we divide by the total number of students in each grade across all evaluations with the same test. The resulting grade-specific correlations for each test are presented in the Appendix. To arrive at one estimate of the average correlation between progress in Lexia English and scores on an external test, we follow a similar procedure to calculate weighted average correlations for each test across grades. The correlations in Table 1 fall in the high range (0.50 to 1.00) or medium range (0.30 to 0.49) and provide evidence for the local effectiveness of Lexia English since these data are collected from different school districts in the United States.

Evidence of Correlations as a Measure of Validity

Lexia English can be used as part of teachers' classroom assessment practices. Classroom assessment consists of formative and summative evaluations of students that occur during the process of instruction. The notion of validity developed for large-scale testing programs is often misaligned with the goal of classroom assessment, which is to understand the role of assessment information in the ongoing learning environment (Brookhart, 2003). According to the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014), validity refers to "the degree to which evidence and theory support the interpretations of test scores for proposed uses of tests" (p. 11). Although large-scale tests and classroom assessments have different goals, some aspects of validity theory can be useful in developing a validity argument (Kane, 2013) for measures obtained from instructional tools like Lexia English that are designed to provide assessment information. Specifically, correlations between end-of-year level reached in Lexia English and scores on external tests presented in Table 1 provide evidence of *concurrent validity* – that is, how well Lexia English measures relate to standardized test scores of language proficiency collected at approximately the same time.

The program measures in Lexia English constitute elements of Assessment Without Testing (AWT). As one component of classroom assessment, these measures provide ongoing information about students' language skills without the need to administer a test. Reliance on formative or summative tests often requires a separate testing event to collect information from students, which may then be used to inform instruction. AWT, on the other hand, provides teachers with information about students' language skills via the online component of Lexia English without the need to interrupt instruction to administer a test. This information can be used by teachers to tailor students' classroom experiences using offline lessons, create small instructional groupings, or identify additional scaffolds to support student learning.

Since its inception, Lexia English has contained elements of Artificial Intelligence, which can be defined as "automation based on associations" (U.S. Department of Education, Office of Educational Technology, 2023). The auto placement and branching features in Lexia English are automatic, personalized components of the program based on students' performance. Auto placement serves as a screening tool, placing students at the appropriate program level based on their language proficiency. Lexia English also includes Instructional branching - an adaptive system that adjusts learning paths based on students' ongoing performance. When students demonstrate understanding, they proceed to the next level; however, if they struggle, they are redirected to an instruction step for additional support.

Lexia English's auto placement and branching features are early applications of Artificial Intelligence in language and literacy instruction.

As part of AWT, teachers are provided with data showing how students are doing in instructional units in the program, broken down by performance domains: Speaking, Listening and Grammar. Teachers can couple this information with data obtained from periodic Presentation of Knowledge (PK) checks – embedded assessment units included in the program - to identify which performance domains were particularly challenging for individual students and adjust instruction accordingly.

The correlations presented in Table 1 provide evidence that progress within Lexia English – as measured by end-of-year level reached in the program – is associated with external tests of language proficiency. Although these correlations do not offer direct insights into how teachers are using this information to guide instruction, they do suggest that there is a positive relationship between instruction that incorporates Lexia English and students' language

proficiency. Future research will further advance a classroom assessment validity argument for Lexia English by providing additional evidence of concurrent validity and gaining greater insight on how teachers are using Lexia English measures to inform classroom instruction.

Appendix: Grade-Specific Correlations

Table A presents grade-specific correlations for each assessment. In cases where multiple evaluations were conducted for customers (i.e., the number of reports is greater than 1), we take the weighted average of the reported correlations for each grade.

Table A.

Grade-Specific Correlations with Common Summative Language Proficiency Tests.

Test	States	n Reports	Recent Year	Grade-Specific Correlation (Total Sample)						
				K	1	2	3	4	5	6
WIDA Access	GA	2	23-24	0.41 (483)	0.57 (616)	0.65 (580)	-	-	-	-
ELPAC	CA	1	22-23	0.41 (88)	0.50 (134)	0.55 (141)	0.36 (142)	0.65 (95)	0.45 (55)	0.72 (24)

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