

What Works Clearinghouse



Arthur

Program description *Arthur*, a book-based educational television program designed for children ages 4–8, is popular among preschool and kindergarten students. The program is based on the storybooks, by Marc Brown, about Arthur, an 8-year-old aardvark. Each show is 30 minutes in length and includes two stories involving characters dealing with moral issues. The show has been used as a listening comprehension and language development intervention for English language learning students.

Research One study of *Arthur* met the What Works Clearinghouse (WWC) evidence standards.¹ This study, which included 108 kindergarten Spanish-speaking English language learners from six schools in a large urban school district on the East Coast, assessed students based on narrative skill in English—the ability to talk about events in a coherent fashion.

Effectiveness *Arthur* was found to have potentially positive effects on English language development.

	Reading achievement	Mathematics achievement	English language development
Rating of effectiveness	Not reported	Not reported	Potentially positive effects
Improvement index ²	Not reported	Not reported	Average: +11 percentile points Range: –5 to +17 percentile points

1. The evidence presented in this report is based on the available research. Findings and conclusions may change as new research becomes available.
 2. These numbers show the average and the range of improvement indices for all findings across the study.

Additional program information

Developer and contact

WGBH Boston. P.O. Box 200, Boston, MA 02134. Cookie Jar Education, Inc., Carson-Dellosa Publishing Co., Inc., 7027 Albert Pick Road, Greensboro, NC 27409. Web: www.wgbh.org; www.cinar.com. Email: tvdistribution@thecookiejarcompany.com. Telephone: 617-300-5400 (WGBH Boston); 336-632-0084 (Cookie Jar Education, Inc.). A direct link to a description of *Arthur* and related materials is available at <http://pbskids.org/arthur/index.html>.

Scope of use

Public Broadcasting Service (PBS) stations throughout the United States broadcast *Arthur* daily, Monday through Friday. The PBS Kids website provides a number of lesson plans and activities for parents and teachers. According to PBS, there is flexibility in how to use these lessons, and parents and teachers may choose whether to use them. *Arthur* is not specifically

designed for English language learners but, according to the developer, can be used with these students.

Teaching

Arthur, an animated children's series based on a storybook, is intended for use with young children. Each 30-minute episode consists of two stories—each with a plot, conflict, and resolution. The website also offers a link for teachers to send queries about classroom activities.

Cost

All materials for teaching are available as free online downloads from the PBS Kids website.³ The program is broadcast on PBS stations at no cost to viewers. Schools using the program would need access to televisions. *Arthur* videos can be found in bookstores, video stores, or public libraries.

Research

One study (Uchikoshi, 2005) reviewed by the WWC investigated the effects of *Arthur* on English language learners. The study was a randomized controlled trial that met WWC evidence standards.

Participants in the study were 108 English language learning kindergarten students randomly assigned to either the intervention group or a comparison group. Intervention group students were assigned to watch three episodes of *Arthur* a week from

October to May (a total of 54 episodes), while comparison group students were assigned to watch an alternative educational program, *Between the Lions*. *Between the Lions* is a 30-minute, book-based program aired by PBS that focuses on phonics and reading skills but does not have the listening comprehension or language development emphasis of *Arthur*.⁴ To maintain consistency across classrooms, and because of limited classroom time, teachers were directed not to use follow-up activities.

Effectiveness

Findings

The WWC review of English language learners addresses student outcomes in three domains: reading achievement, mathematics achievement, and English language development.

English language development. Uchikoshi reported that

students watching *Arthur* showed greater improvement in narrative skill development than students in the comparison group. Although the individual and average effects (as calculated by the WWC) were not statistically significant, the average effect was large enough to be considered substantively important.⁵

3. Public Broadcasting Service (March, 2006). Lesson plans. Retrieved March 21, 2006 from <http://pbskids.org/arthur/parentsteachers/lesson/index.html>.

4. *Arthur* focuses on narrative skills. Uchikoshi (2005) defines a narrative as at least two sequential independent clauses describing a single past event, and of states that the ability to produce a narrative demonstrates a child's ability to talk about the world (p. 465). *Arthur* purportedly presents a well formed story structure (plot, conflict, and resolution), and the study author investigated whether narrative development is enhanced by watching *Arthur*.

5. The level of statistical significance was calculated by the WWC and corrects for multiple comparisons. For an explanation see the [WWC Tutorial on Mismatch](#). See the [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate statistical significance.

Effectiveness *(continued)*

Rating of effectiveness

The WWC rates interventions as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings (as calculated by the WWC), the size of the differences

between participants in the intervention condition and the comparison condition, and the consistency of the findings across studies (see the [WWC Intervention Rating Scheme](#)).

The WWC found *Arthur* to have potentially positive effects for English language development

Improvement index

For each outcome domain, the WWC computed an improvement index based on the effect size (see the [Technical Details of WWC-Conducted Computations](#)). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, study design, or

analysis. The improvement index can take on values between -50 and +50, with positive numbers denoting favorable results. The average improvement index is +11 percentile points, with a range of -5 to +17 percentile points across findings, for the English language development domain.

Summary

The WWC reviewed one study on *Arthur*, which met WWC evidence standards. The WWC rated the program as having potentially positive effects on English language development.

References

Met WWC evidence standards

Uchikoshi, Y. (2005). Narrative development in bilingual kindergartners: Can *Arthur* help? *Developmental Psychology*, 41(3), 464–478.

For more information about specific studies and WWC calculations, please see the [WWC *Arthur* Technical Appendices](#).