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Making a difference in reading skills: K–2 students in inner-New York City schools

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Summary

AWARD Reading is a year-long K–3 literacy program that integrates printed books with interactive technology. This research intervention compared the effectiveness of the AWARD Reading Program with a traditional basal reading program. The students were in K–2 classes of four low socio-economic schools in inner–New York City, and had varying levels of English language ability.

The research was designed to determine if the benefits of the AWARD program could be realised after only one year of use. Four modes of delivery were used.

Research results indicate that AWARD Reading Program increased the literacy skills of early primary students in inner-urban, low socio-economic schools regardless of the instructional mode used, and regardless of students' ethnicity, entrance reading level or gender.

Note: Although the AWARD reading program, under the name Sunshine Books and Sunshine Online, is being implemented in many Australian schools, this article outlines the research trial that took place in the US in 2008–09. A similar research trial in Australia has yet to take place, however anecdotal reports from Australian teachers are included below.

Target student group

The research took place in four Title 1 low socio-economic schools in inner-urban New York City. The students included native English speakers, English language learners and students with special learning needs.

Note: Title 1 schools are schools that receive financial assistance from the government because of the number or percentage of students from low-income families.

Method

AWARD Reading K–3 is a literacy program that integrates printed books with technology. Three hundred graded texts – including fiction, nonfiction and phonics-focused texts – form the fundamental component of a broad range of shared and guided-reading activities that use both computer-based interactive technology and print materials. Activities include systematic phonics instruction, letter and word recognition, vocabulary development, independent reading and listening comprehension. The program infuses all dimensions of reading ability simultaneously.

At grades K–1, the materials include 'read-to' and 'read-with' books, rhymes, songs and play books. At grades 2–3 there are word cards, literacy task cards and activity books.



Each year-long program contains teacher guides with sequential weekly lesson plans and suggestions for whole-group and small-group activities, as well as for independent individual practice. The materials are designed for urban and English-language learner (ELL) populations. The program also includes information about diagnostic and formative assessment.

Research questions

American educators Cathy Block and John Mangieri were concerned about the quality and nature of teaching programs for student in inner-urban US schools. They believed that literacy levels were affected by the increasing number of parents who had poor literacy skills, by the increasing incidence of virtual, non-word-based experiences, and by a range of other factors. Block and Mangieri posed the question: To what degree could the AWARD program boost students' literacy levels regardless of their ethnicity and socio-economic status?

The objectives of their research were to answer these three questions:

1. In low socio-economic urban schools, will the AWARD Reading Program deliver significantly higher student outcomes than traditional basal reading programs?
2. Will English-language learners (ELLs) in the same schools increase their literacy skills more through the AWARD Reading Program than their peers instructed through push-in, pull-out, after-school, during-school or remedial programs that use traditional ELL reading methods?
3. If the AWARD Reading Program significantly increases the literacy skills of low socio-economic students and ELL populations, which is the best method of delivering the program? Is it pull-in, push-out, regular classroom use or after-school application?

Note: 'Push-in' is when two conditions occur, eg ELLs receive literacy instruction alongside their non-ELL classmates. 'Pull-out', is when students are withdrawn from the classroom for their literacy instruction.

What happened?

The program was delivered during the 2008–2009 US school year. Students and teachers in years K–2 in four low socio-economic New York City schools were randomly assigned intervention using the AWARD Reading Program, or non-intervention using traditional basal reading programs approved for use by New York City schools. The study initially involved a total of 1068 students in 42 classes across four schools.

The student population of each group included randomly assigned but evenly distributed numbers of experimental and control students. Twenty six students did not complete the



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research, for a range of reasons, leaving a total of 1042 students across the 42 classes. There were 514 students in the control group and 528 students in the experimental group.

In School One, 133 students were involved in the study; 113 of them spoke English as their first language. In School Two, 76 students were involved and all of them were English-language learners. In School Three, 330 students were involved, and all were enrolled in programs such as Special Education, Language Delay or Learning Disabilities. In School Four, there were 503 subjects.

In addition, the AWARD program was to be delivered in four ways: as the main classroom model; as a pull-in supplemental literacy program; as a push-out supplemental literacy program; or as an after-school program.

Teachers were given 20 hours training before implementing the model. 'Experimental' and 'Control' group teachers taught literacy for the same amount of time each day. Support was provided as needed throughout the research investigation, with researchers visiting each site to ensure research processes for both groups were standardised.

Results

In summary, the researchers found that the AWARD Reading Program boosted students' literacy levels regardless of the mode of delivery, and regardless of students' ethnicity, beginning reading level or gender.

The students' performance was measured against comparable students who did not receive the AWARD Reading Program. Students in both groups were given a comprehensive battery of literacy assessments at the beginning and end of the investigation. These assessments were already used as a part of the New York City Department of Education evaluative process for literacy. The assessments were EClas, MClas and Teachers' College Evaluations, and included the following subtests: rhyme recognition and generation; letter recognition; vocabulary development; listening comprehension; and independent reading levels. Some details are provided below.



Research question 1

In low socio-economic urban schools, will the AWARD Reading Program deliver significantly higher student outcomes than traditional basal reading programs?

The answer to this question was 'yes'.

- **Letter recognition:** No significant differences were found between students in the experimental and control groups. It should be noted that this result was not negative. Control and experimental group students demonstrated mastery, with both groups scoring means of 50 out of a possible 52 correct items in this measure of capital and lower-case letter knowledge.
- **Rhyme recognition and generation:** Experimental subjects significantly outperformed control subjects on their ability to generate rhyming words. Using Cohen's d effect size criteria, the effect size was 1.91, which is extremely large. (Most intervention typically falls within the .01–.25 range. Any effect size that is within the .7 –1.0 range is deemed to be large.)
- **Vocabulary development:** Experimental subjects significantly outperformed control subjects. The effect size was better than just large: $d = 1.38$.
- **Independent reading level:** Data for independent reading levels was only available for Schools 3 and 4. DIBELS Benchmark Interval data was obtained. Experimental subjects in both schools significantly outperformed control subjects. Differences between these means were statistically significant and – because of the exceptionally large effect size between the two groups – educationally significant. The majority of control subjects ended one full year of traditional reading instruction reading at approximately the 20th percentile level, which is below grade-level expectations. After a year of AWARD Reading Program instruction, experimental subjects ended the year at about the 75th percentile, which is on or slightly above grade level.
- **Listening comprehension:** The experimental group significantly outperformed the control group. As was also the case for the rhyme recognition and generation and vocabulary development tests, the experimental subjects scored more than twice as high as comparable control group subjects.



Research question 2

Will English-language learners (ELLs) in the same schools increase their literacy skills more through the AWARD Reading Program than their peers instructed through push-in, pull-out, after-school, during-school or remedial programs that use traditional ELL reading methods?

The answer was 'yes'.

- **Rhyme recognition and generation:** Experimental subjects significantly outperformed control subjects. Experimental ELLs had scores more than twice as large (using Cohen's criteria) as their control group counterparts.
- **Vocabulary development:** No significant differences were found between the experimental and control groups.
- **Independent reading level:** No significant differences were found between the experimental and control groups.
- **Listening comprehension:** Experimental subjects significantly outperformed control subjects. ELLs in the experimental group had scores more than twice as large as their control group counterparts.

Research question 3

If the AWARD Reading Program significantly increases the literacy skills of low socio-economic students and ELL populations, which is the best method of delivering the program? Is it pull-in, push-out, regular classroom use or after-school application?

The answer was 'no', that is, no single method was better than any other. The instructional mode used to deliver the AWARD Reading Program did not lessen its effectiveness. AWARD Reading was highly effective when used in all the modes.

Lessons learned

While many factors could be responsible for the positive response to the AWARD Reading Program, two aspects of the program stood out. First, AWARD's blending of technology and print created a high level of interest with students as they engaged in technology-based literacy activities. This carried over into their print experiences, small-group learning and independent literacy activities. This finding is important, because such a program can reduce the trend of students having negative attitudes towards reading.

Secondly, the scaffolded instruction provides a clear and sound framework for students to learn crucial literacy skills, and opportunities to apply and practise those skills so that they can use them later.



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Limitations

This study was based on a representative sample of students enrolled in the targeted New York City schools. Because the students represented a cross-section of urban children, ethnic groups and races, the data can be validly extrapolated beyond its cultural, social and historical context. However, the data cannot be extrapolated for suburban, rural, gifted or high socio-economic students.

The data in the study was based on a one-year intervention period. The effects of extending the usage of the AWARD Reading Program for a longer period of time were not examined.

Because of New York City Department of Education regulations, pre- and post-assessments in this research investigation were limited to those measures already being used by the schools.

Next steps

There are three areas that would benefit from additional study. First, AWARD Reading Program has proven that it increases the literacy skills of students in early elementary (primary) grades. Will the use of its framework and contents produce comparable results in grades 4–8?

Given the high level of achievement in the area of reading, it would be valuable to find if there is a similar high level of performance in writing when AWARD Reading is used.

Research has shown that many struggling readers are tactile learners. AWARD Reading has demonstrated its success with all types of K–2 learners. Will the use of the AWARD program via a tactile mode produce comparable results for struggling readers in upper elementary (primary) grades who read at the reading levels represented by this program?

Replication in Australia

‘Our Foundation (Prep) students are excited as soon as we say ‘Sunshine Online’.
One hundred Foundation students engaged and ready to learn speaks for itself!’
(Teacher, Manor Lakes P–12 College, Victoria)

As in the United States, Australian classrooms continue to grow in their use of technology. Interactive whiteboards, laptops and hand-held tablets are now commonplace in Australian classrooms and Australian teachers are also appreciative of the value of quality digital content, and of its capacity to engage students and enhance learning.



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Australian teachers have been using the Australian version of the AWARD program for some years as Sunshine Books, with the electronic content on CD-ROM. Since the 2011 launch of the [Sunshine Online website](#), a growing number of primary schools are accessing the digital content via the Internet.

Sunshine Online has the same digital content as AWARD Reading, with adjustments in narration and spelling. The structure has also changed to better reflect an Australian teaching approach. The AWARD content is organised by grade level, whereas the Australian content is organised in reading stages: Emergent, Early and Fluent.

Although there has been no formal evaluation of the success of the programs in Australian schools, since 2005, other evaluations of the AWARD Reading/Sunshine Books programs have been conducted in New Zealand and in the United States, with positive results for students (Elley 2005; Block & Campbell 2007).

All studies have focused on the integrated use of print and technology for literacy instruction. It is reasonable to consider that the results seen in the AWARD Reading research with New York City students – and in other evaluations – could also be achieved with Australian children using Sunshine Books and Sunshine Online.

Anecdotal evidence supports this view.

Nicole, a Year 1–2 composite classroom teacher using Sunshine Books and Sunshine Online at Donburn PS in suburban Melbourne, was extremely enthusiastic about the program.

The school had been successfully using the print materials and CD-Rom for almost ten years and they thought Sunshine Online may not be necessary. Their interest was piqued however, when they accessed the Sunshine Online school trial option. They were impressed with the materials and with how they help teachers integrate print and technology in an engaging way.

Nicole reports that Sunshine Online together with the matching print books - big and small - is a regular and welcome component of her two-hour daily literacy block.

‘In a classroom with 5 computers for 20 students the program works very well. As well as the interactive whiteboard for whole class work – I am able to use the print materials for large shared book reading and the smaller print books for small group work while some students work individually online.’



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She describes the students as enthusiastic about the program.

‘They really like the materials – the stories and the activities – they have a different slant that the students really like. It’s also the presentation – they are colourful and attractive and easy to use, so much so that the students are keen to continue the activities at home. Like most young people they are comfortable with technology and the program’s navigation is user friendly, even for such young students. They go home and log on themselves and if they get lost they are easily able to find their way back.’

Nicole finds the levelled materials meet the varying needs of students in her class, making use of Learning Spaces 2 (for 5-7 year olds) and 3 (for 7-10 year olds).

‘Even our reluctant readers enjoy using the program. They feel confident that they can find activities at their level.’

Comments from other schools echo Nicole’s positive experience.

‘The combination of visuals, audio and games makes learning inclusive for all children, including children with additional needs. The engaging activities disguise the real learning that takes place.’

(Teacher, Manor Lakes P–12 College, Victoria)

‘We love using Sunshine Online. The graphics are very engaging for our Foundation (Prep) children. We like how the levelling is appropriate for our benchmark testing. The stories are very engaging and there are lots of them to choose from. The children absolutely love this resource!’

(Teacher, St Mary’s Primary School, Colac, Victoria)

‘Our children are making significant gains in their reading skills since we purchased the program, beyond our expectations. The structure of the program makes narrative text types so much more accessible for children with autism; the instant feedback and animations are instantly rewarding and engaging.’

(Teacher, Belvoir Special School, Victoria)

Note: The online delivery of the program’s digital content in Australia through the Sunshine Online website may mean that some remote schools have problems with slow or unreliable Internet connections.



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Research base

There was a dramatic demographic shift in education in the United States in 2008. For the first time, the majority of students attended mostly low socio-economically based urban schools (Florida 2008).


Research indicates that many students are being raised by parents who have difficulty reading and writing English (ACT 2008). Compared with previous generations, the parents have had fewer first-hand experiences with concepts and objects that exist within 25 kilometres of their homes (Carlo, August, McLaughlin et al. 2004; Damon 2008). Urban students will also have had more virtual, non-word-based experiences than print-based experiences (Hart & Risley 1995). They will have learned significantly fewer words before they begin school than students raised in suburban areas (White, Graves & Slater 1990), and may have had fewer books in their homes, less reading time and fewer game-based experiences than more affluent students.


As Block and Mangieri report, new literacy programs are required because of these dramatic changes. Once low socio-economically based ELL and urban students enter their Foundation year, their literacy deficits are likely to increase unless these differences in their development are addressed. Programs must be developed that consider the differing capacity of urban and suburban students to acquire literacy competency. Unless such programs are used, the differences will escalate throughout students' school years.

The research information in this report has been adapted from *A research investigation to assess the AWARD Reading Program's effectiveness in developing literacy achievement for kindergarten to grade 2 students* (Block & Mangieri 2009).

Further reading and links

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Contacts

For more details, contact [Sunshine Online website](#) .