The argument against Accelerated Reader
Deborah Biggers

The past few years have seen a proliferation of computer-based "literacy programs" that teachers and schools rush to adopt in an effort to "integrate technology." However, I have become concerned of late that integrating packaged technology is taking precedence over maintaining theoretically sound instructional practices. In particular, I am concerned by the apparent erosion of well-supported balanced literacy programs due to the adoption of technology such as Accelerated Reader (AR).

Defining the Zone of Proximal Development
Accelerated Reader, originally published by Advantage Learning Systems (now the School Renaissance Institute), is not the only "computerized reading tool" on the market; however, it is the most widely advertised and used software available. Promotional materials claim that AR is "The World's Most Popular Pre-K–12 Reading Software" (School Renaissance Institute, 2001, p. 12). The program begins with the Standardized Test for Assessment of Reading (STAR), which the company describes as follows:

[STAR is a ] computer-adaptive, norm-referenced reading test. Students choose the best word to complete a sentence, and the software instantly delivers the next question.... In just a few minutes, students complete their tests, and authorized personnel can access confidential testing results and powerful reports that diagnose reading ability and suggest courses of improvement. (Advantage Learning Systems, n.d., p. iv).

In essence, the STAR is a high-tech cloze procedure (Taylor, 1953).

It does not incorporate oral reading comprehension or any teacher observations of reading behaviors, yet it claims to be able to accurately identify student strengths and weaknesses and the necessary courses of action for improvement without this more comprehensive data. Furthermore, it generates a Grade Equivalent score the company claims "can then be used to give a current approximation of a student's zone of proximal development (ZPD)" (Advantage Learning Systems, n.d., p. 123). Here the ZPD is defined as the range of book readability levels suitable for a student based on his or her automaticity with a set number of vocabulary words. Advantage Learning Systems never cites Lev Vygotsky's (1986) work that originated the concept of the ZPD, which he defined as a dynamic continuum of independent and assisted abilities. Moreover, Vygotsky refuted the idea that testing, such as STAR, could determine what a child is capable of doing because it measures only independent performance.

Fostering and evaluating comprehension
The publisher of AR determines readability levels of trade books with an automated Flesch-Kincaid reading index, and schools are required to buy CD-ROMs that include assessments of those titles to be made available to students. This is common among these types of computerized programs, although the readability index may vary by company. Unfortunately, this practice does not take any research on reading interest into account. As Renninger (1992) found, interest in the reading material has a positive impact on comprehension. Students with high interest in a topic are able to read more difficult material than an assessment would otherwise indicate. Conversely, students with
little interest in a topic will demonstrate low comprehension of material that should be at an independent level for them.

Nevertheless, AR, like its counterparts, restricts students to demonstrating their comprehension solely by completing a computer-generated multiple-choice test. The program does not allow for or even suggest written responses, extension activities, or repeated interaction with the text. A solicitation pamphlet entitled *How to Create World Champion Readers* (Advantage Learning Systems, 1993) described 12 strategies of “high performance educators”—none of which suggested any extension activities or alternative assessments beyond encouraging students to “sell” their latest book or favorite book to other students (p. 10). The only thing a child must do to demonstrate comprehension and readiness to progress to the next level of books is score highly on the AR tests.

**Applying motivation theory to practice**

As with similar computerized reading tools, AR’s focus on external motivation and control is strengthened by the reward and competitive point systems built into the program. The company literature refers to pizza lunches, skating parties, stores for students to shop for rewards, recognition buttons, public announcements of awards, and various behavior-related privileges (1993). This creates a rather Skinnerian (Skinner, 1953) system of literacy learning that poses the threat of extinction once the rewards are withdrawn, as well as the threat of satiation as AR is perpetuated year in, year out at every level of schooling. Moreover, research on extrinsic reward systems counterindicates AR methods. Students who are motivated by competitions also show a high degree of reading avoidance, particularly for more difficult reading tasks or reading outside of school requirements (Baker & Wigfield, 1999; Nicholls, Cheung, Lauer, & Patashnick, 1989; Wigfield & Guthrie, 1997). Although Advantage Learning Systems (1993) does recommend creating heterogeneously grouped reading teams to combat the threatening nature of individual competitions, the competitive extrinsic motivator is consistently upheld in the program, and teachers are instructed to publicly post AR points students earn.

Extrinsic motivators, particularly tangible rewards such as those suggested by AR, also reduce internal motivations to read (Cameron & Pierce, 1994; Gambrell & Marinak, 1997; Sweet, 1997). Studies have shown that students become dependent on the rewards for their motivation, need more prodding to read, and read less frequently when the reward is discontinued. However, AR disregards available theory and claims that the point system will “motivate the average and below-average students” and “the students who are already high achievers will continue to excel at ever higher levels because the point system will continue to bring them additional recognition” (Advantage Learning Systems, 1993, p. 5).

Although extrinsic motivators cannot be completely avoided in schools because grades must be assigned to work, the intangible incentives of teacher praise and constructive feedback have proven more motivational than the tangible rewards (Cameron & Pierce, 1994; Dect, 1971; Lepper & Cordova, 1992). Nevertheless, AR’s literature (Advantage Learning Systems, 1993) advises against praising students for effort when their achievement is not significant (i.e., they are not earning enough AR points), thus supporting the ego goal over the mastery goal for the very students who could benefit the most from teacher feedback regarding their efforts.

Moreover, the difficulty/readability level of a book, the number of words it contains, and the student’s test performance on it are the means by which AR points are calculated (Paul, 1996). Therefore, a low-ability student who is working very hard will still not achieve a point score equivalent to her or his high-ability counterpart. Without acknowledging such a student’s effort, it is easy to see why she or he would become discouraged and avoid further engagement with reading. The company’s own study results showed that the top 5% of AR readers read 144 times more than the bottom 5% (Paul, 1996). Hence, the program, despite its “motivating” point system, did not alleviate the disparity in reading practice times.

### The role of instruction in a literacy program

Perhaps the most problematic aspect of AR and other programs like it is that they are presented as a way to differentiate instruction for students. However, AR is not an instructional program—there is no literacy instruction to differentiate in AR. The teacher’s role is defined as follows:

Besides modeling reading behavior, the teacher also takes Status of the Class daily (record keeping) and provides important guidance for book selection. The teacher’s role is critical, both for motivation and for assuring that each student is reading an appropriate book within his/her individual zone of proximal development. (Paul, 1996, p. 12)

There is absolutely no mention of the teacher’s role in providing direct instruction in reading strategies as would be done in balanced reading programs.

Advantage Learning Systems (1993) purported that increased reading practice time (60 minutes recommended) is the key to increased.
The selection of supporting research

At the time of this writing, the Advantage Learning Systems Web site listed 64 “scientific research” reports in support of AR. Of that number, 29 were district or school evaluations of the program’s implementation and 16 were the company’s own evaluations; therefore, there were really only 19 studies listed as “independent.” However, 5 of those were authored or coauthored by K.J. Topping, who coauthored one of the listed articles with T.D. Paul, the spouse of AR’s creator and the company’s chief executive officer, and who has another article cross-referenced with a company report. Of the other 14 studies, 10 are really campus or district implementation reports, with only one of these maintaining a control group and extending the study beyond a year. Two other independent reports cited AR as only one of many components in a comprehensive reading program. The one university study appears linked with Advantage Learning Systems Australia Pty. Ltd. The remaining independent graduate thesis yields questionable results because the treatment group consisted of four classes whose mean pretest score on the STAR was 2.81, while the control group consisted of only two classes whose mean pretest score on the STAR was 4.75. I challenge educators, instead, to read the results and analysis of the National Assessment of Educational Progress reading assessments (Donahue, Voelkl, Campbell, & Mazzio, 1998) and to look at other recognized reading programs. Interestingly, the use of a “computerized reading tool” is never cited as a determining factor in the performance of high-achieving students or schools. What we know about constructing a reputable balanced reading program is competently delineated in the National Council of Teachers of English/International Reading Association Standards for the English Language Arts (1996), the International Reading Association’s Adolescent Literacy: A Position Statement (Moore, Bean, Birdshaw, & Rycik, 1999), the National Research Council’s report on Preventing Reading Difficulties in Young Children (1998), and Langer’s (1999) Beating the Odds. Teaching Middle and High School Students to Read and Write Well. Again, none of these compendiums emphasizes the implementation of a “computerized reading tool.”

Biggers is a reading specialist at Harlandale High School (114 E. Gerald, San Antonio, TX 78214, USA).

REFERENCES


Langer, J.A. (1999). Beating the odds. Teaching middle and high school students to read and write well (CELA Research Rep. No. 12014) [Online]. Albany, NY: National Research Center on English Language Learning and