

OVERVIEW OF ACCELERATED READER PROGRAM

VOLKAN CICEK¹ & NUMAN KANAR²

¹Assistant Professor, Ishik University, Erbil, Iraq

²Ishik University, Erbil, Iraq

ABSTRACT

In this study, Accelerated Reader (A/R) program is reviewed. A/R is a computer program that helps teachers manage and monitor children's independent reading practice. A/R program is intended to encourage recreational reading and a lifelong love for reading. As a result of reading more often, students typically become stronger readers.

Aspects of A/R program that are discussed in this study are methods, content, and assessments of A/R program; related terminology; implementation of A/R program, coordination of various parties for successful implementation such as the principal, library coordinator and librarians, English teacher, classroom teacher, homeroom teacher, computer teacher and computer laboratory assistants, other teachers, student, and parents; other A/R related programs such as STAR and A/R Math programs, the way how A/R program in general affects the curriculum and the schedule in schools in which A/R program is implemented, e.g. Drop Everything and Read (DEAR) period.

KEYWORDS: Homeroom, Zone of Proximal Development, Scaled Score, Percentile Rank, Grade Equivalent

INTRODUCTION

Accelerated Reader (AR) is a computer program that helps teachers manage and monitor children's independent reading practice. AR is intended to encourage recreational reading and a lifelong love for reading. As a result of reading more often it is expected students typically become stronger readers.

Children choose their own books to read in AR rather than having one assigned to them, which makes reading enjoyable as they can choose books that are interesting to them (As cited in Renaissance Learning, 2006). Teachers and librarians help student choose books at an appropriate reading level that are challenging without being frustrating, ensuring that the student can pass the quiz and experience success. Teachers determine student's reading level in one of three ways (Scott, 1999);

- via STAR Reading test,
- via a grade equivalent score from a standardized test, or
- by using their best professional judgment based on their knowledge of the student.

Passing the quiz is an indication that the student understood what was read. Teacher help students to set goals and direct ongoing reading practice based on the quiz results. If the student does not do well on the quiz, the teacher helps the student by means of the following (Topping and Paul, 1998);

- Choosing another book that is more appropriate.
- Asking more probing questions to the student as the student reads the book and before taking a quiz.
- Pairing the student with another student or even have the book read to the student.

STAR READING

STAR Reading is a computerized reading assessment that uses computer-adaptive technology. Questions in STAR Reading continually adjust to the student's responses. If the student's response is correct, the difficulty level is increased. If the student misses a question, the difficulty level is reduced. The test uses multiple-choice questions and takes approximately 10 minutes (As cited in School Renaissance Institute, 2000).

STAR Data provides teachers and administrators with important information on the student's reading level and math level. STAR Data can lead teachers to begin early intervention for students reading below grade level. STAR Testing is conducted on a regular testing schedule with clear campus expectations on testing procedures, who, where, and when students test. There must be clear communication with the computer teachers on testing procedures. STAR Data is shared and discussed by meetings lead by administrators with grade level teachers from all content areas in staff meetings and grade level meetings. Without the necessary reading interventions, students struggling are unlikely to succeed in any facet of education (As cited in School Renaissance Institute, 2000).

IMPORTANT TERMS

There are key terms associated with AR program needed to interpret the AR data. In this section, these terms will be defined briefly with clarifying examples with the first two, ATOS and ZPD are more important for the implementation of AR, while the rest are more important for statistical purposes (Mathis, 1996; Vollandts et al., 1999; Melton et al., 2004).

Advantage -TASA Open Standard (ATOS)

ATOS is a readability formula that estimates the reading difficulty levels of books and other texts. ATOS uses four factors to determine the readability of a text;

- Average sentence length,
- Average word length,
- Vocabulary grade level,
- The number of words in a book.

Book levels are reported using the ATOS readability formula and represent the difficulty of the text. For example, an ATOS book level of 4.5 means that the text could likely be read by a student whose reading skills are at the level of a typical fourth grader during the fifth month of school.

Zone of Proximal Development (ZPD)

Zone of proximal development (ZPD) is a range of readability levels from which a student should select books to read. It is a range that is neither too hard nor too easy, within which students can experience optimal growth. In independent literature-based reading, ZPD is the range of books that will challenge a student without causing frustration or loss of motivation. Student will receive a ZPD range after taking a STAR Reading test, or teachers can use their best professional judgment to determine a ZPD. It's important for children to read with a high degree of comprehension and within their ZPDs (Francis, 2009:6). Students' individual ZPDs are reported on the

- STAR Reading Diagnostic report,
- Parent report,

- Reading Range report,
- Summary reports.

Scaled Score (SS)

Scaled score (SS) is useful for comparing student performance over time and across grades. Thus, all norm-referenced scores are derived from the scaled score. A scaled score is calculated based on the difficulty of questions and the number of correct responses. STAR Reading scaled scores range from 0 to 400.

Percentile Rank (PR)

Percentile rank (PR) is a norm-referenced score that provides a measure of a student's reading ability compared to other students in the same grade nationally. The percentile rank score, which ranges from 1 to 99, indicates the percentage of other students nationally who obtained scores equal to or lower than the score of a particular student, e.g. a student with a percentile rank score of 85 performed as well as or better than 85 percent of other students in the same grade. Percentile rank range (PR Range) indicates the statistical variability in a student's percentile rank score, e.g. a student with a percentile rank range of 32–59 is likely to score within that range if the STAR Reading test is taken again within a short time, e.g. four to six weeks.

Normal Curve Equivalent (NCE)

Normal curve equivalent (NCE) is a norm-referenced score that is similar to percentile rank, but is based on an equal interval scale, which means the difference between any two successive scores on the NCE scale has the same meaning throughout the scale. NCE scores range from 1 to 99 and are mostly used for research. NCEs are useful in making comparisons between different achievement tests and for statistical computations, e.g. determining an average score for a group of students.

Grade Equivalent (GE)

Grade equivalent (GE) is a norm-referenced score that represents how a student's test performance compares with other students nationally. For example, a fifth-grade student with a GE score of 7.6 performed as well as a typical seventh-grader after the sixth month of the school year. This score doesn't necessarily mean that the student is capable of reading seventh-grade material; it only indicates that the student's reading skills are well above average for the fifth grade.

Grade Placement (GP)

Grade placement (GP) is a numeric representation of a student's grade level, based on the specific month in which a student takes a STAR Reading test. STAR Reading considers the standard school year to run from September through June and assigns increment values of 0.0 through 0.9 to these months. The software automatically assigns grade placements using a student's grade level and the month in which a STAR Reading test was taken. GP is important because PR and NCE values are based not only on the Scaled Score but also on the grade placement of the student at the time of the test.

Instructional Reading Level (IRL)

Instructional reading level (IRL) is a criterion-referenced score that indicates the highest reading level at which a student is at least 80 percent proficient at recognizing words and understanding material with instructional assistance, e.g. a seventh-grade student with a score of 8.0 reads eighth-grade words with 80 percent accuracy or better. There are four types of IRL scores;

- Pre-Primer (PP),
- Primer (P),
- Grades 1.0 through 12.9,
- Post-High School (PHS).

Estimated Oral Reading Fluency (Est. ORF)

Estimated oral reading fluency (Est. ORF) is an estimate of a student's ability to read words quickly and accurately in order to comprehend text efficiently. Students with oral reading fluency demonstrate accurate decoding, automatic word recognition, and appropriate use of the rhythmic aspects of language, e.g., intonation, phrasing, pitch, and emphasis. Est. ORF is reported in correct words per minute, and is based on a known relationship between STAR Reading performance and oral reading fluency.

READING LEVELS/INTEREST LEVELS

Students bring the AR books that have been approved by the ELA teacher to class. In addition to the AR books available school library, a small selection of additional books should be available in each class for students who forget their books. Use of public library should be encouraged in the absence of a school or classroom library that has AR books. The computer lab is kept open with a monitor so the teachers can send students to the computer lab during the AR period to take a quiz. Also, arbookfind.com website can be visited and using the advanced search tool therein and conducting an advanced search, book lists can be generated, which contain titles based on the criteria entered such as book level, topic, interest level, fiction/nonfiction, etc. This way, students can find the books that are interesting to them (As cited in Parent's Guide to AR Book Finder, 2007). Just because a student can read the words in a book doesn't mean the content is appropriate. The interest level of the material must be considered. Interest level is based on content, a book's themes and ideas, and indicates for which age group a book is appropriate. Usually, there are three recommended interest level categories that correspond to the following grade levels (Johnson and Howard, 2003);

- K-3
- 4-8
- 9-12

In many cases, a book's interest level coordinates with its book level, e.g. Hank the Cowdog has a book level of 4.5 and its content is suitable for fourth-graders. Many books, however, have a low book level but are appropriate for upper grades and vice versa, e.g. Ernest Hemingway's *The Sun Also Rises* has a book level of 4.4 because its sentences are short and its vocabulary is simple; the interest level, however, is UG for Upper Grades. In contrast, *Arthur Throws a Tantrum* has a book level of 4.9 because it contains fairly long words and sentences, but it is intended for students in the lower grades. Books that have contrasting book level and interest level may be suitable for students that are beyond or far behind their peers in reading abilities (As cited in Parent's Guide to AR Book Finder, 2007).

QUIZZES

Children earn points, or a portion of a book's points, depending on how well they do on the Reading Practice Quiz, e.g. a student who takes a 5-question quiz on a book worth 1 point will earn 1 point for 5 correct answers equaling to 100 % success, 0.8 point for 4 correct answers equaling to 80%, etc. A student needs to pass a quiz with a score of 60% or

higher to earn points. Every book that has an AR reading practice quiz is given a point value. AR points are computed based on the difficulty of the book (ATOS readability level) and the length of the book (number of words), e.g. the Berenstain Bears books, which are about 1,000 words long and have an average ATOS book level of 3.5, are 0.5-point books; Hank the Cowdog, which is about 23,000 words long and has an average ATOS book level of 4.5, is a 3-point book; The Sun Also Rises, about 70,000 words long and at an ATOS book level of 4.4, is a 10-point book (As cited in The Design of Accelerated Reader Assessments, 2006).

Reading Practice Quizzes

Reading practice quizzes are the most common type of assessment in AR. The purpose of these quizzes is to determine whether the student has read a book, to measure his literal comprehension of the book, and to provide immediate feedback.

Each reading practice quiz consists of 5, 10, or 20 multiple choice questions depending on book level and length, which are available in English, Spanish, and also recorded voice formats.

Recorded Voice Quizzes

Recorded voice quizzes are designed for beginning readers and students learning English. They are professionally recorded by a narrator who reads the quiz questions and answer choices as they appear on screen.

Vocabulary Practice Quizzes

Vocabulary practice quizzes measure a student's command of vocabulary words encountered while reading. They are designed to reinforce vocabulary acquisition, assist with individualizing vocabulary instruction, and generate student's interest in words through authentic, in-context literature experiences. Quizzes include 5, 10, or 15 words from a particular book as well as review words from previously read books.

Literacy Skills Quizzes

Literacy skills quizzes are designed to give the student's teacher information on specific reading skills. Questions are randomly generated from a 36- or 60-item bank resulting in 12 or 24 quiz questions. Due to item-bank technology, Literacy Skills Quizzes can be taken up to three times. Quiz questions are based on 24 specific, higher-order reading comprehension skills from state standards, basal reading series, and standardized tests.

READER LEVELS

Students get points based on their reading practice quiz scores and based on the ATOS level of the books and their length in number of words, which determine the level of the book in points. Depending on the accumulated points student readers are divided into the following categories (As cited in Parent's Guide to Accelerated Reader, 2007);

Ready Reader

A student becomes a ready reader when he/she accumulates 5 points through any combination of reading styles that are Read To, Read With, or Read Independently.

Independent Reader

Independent reader reads independently and passes reading practice quizzes for 3 books that have 1.2 book level or higher and accumulates 10 points from these 3 books; other points may be for Read To and Read With.

Super Reader

Super reader reads independently and passes reading practice quizzes for 3 books that have 2.0 book level or higher and are worth 1 point or more each.

Advanced Reader

Advanced reader reads independently and passes reading practice quizzes for 3 books that have 3.0 book level or higher and are worth 2 point or more each.

Star Reader

Star reader reads independently and passes reading practice quizzes for 3 books that have 4.0 book level or higher and are worth 4 point or more each.

Classic Reader

Classic reader reads independently and passes reading practice quizzes for 3 books that have 6.0 book level or higher and are worth 7 point or more each.

Honors Reader

Honors reader reads, passes reading practice quizzes, and accumulates 100 points for books from a list of challenging, teacher selected literature.

GOAL SETTING

Teachers set student reading goals within the AR program based on the class level and campus level incentives. Students' progresses are monitored and as they reach their goals, they are rewarded.

Teachers should be recognized for student and class progress and performance in AR.

The Goal-Setting Chart provides guidelines for the approximate number of AR points children should be able to earn depending on how much time they read and their reading level.

Monitoring AR points earned by children and comparing them to the guideline values listed on the Goal-Setting Chart enables student's teacher to determine how well the student is using the time provided for reading practice (Nunnery et al., 2006).

Average Percent Correct

The most important goal for all students is to average 85% or higher on Reading Practice Quizzes. Meeting this goal has significant impact on students' reading growth.

Averages of 90% and higher are associated with even greater gains. If a student struggles to maintain the minimum average, then a new strategy has to be decided that will lead to success.

REPORTS

Principals review and evaluate the STAR reports every six weeks and note student weaknesses and improvements. Principals monitor student progress usually using the Diagnostic Report and adjust intervention programs and reading goals accordingly.

Diagnostic reports include codes that help interpreting the quiz scores as follows;

Table 1: Interpretation of Diagnostic Report Codes

Diagnostic Report Codes	Meaning of the Codes	Probable Underlying Cause
%	Average percent correct is below 85%	Either student is reading too fast or the book is too hard
A	No quizzes have been taken	Either student is not reading or is not present at all
B	Low average percent correct (70%-79%)	Either student is reading too fast or the book is too hard
C	Very low average percent correct (<70%)	Either the student is guessing or the book is too hard
D	Low points	Either student is not reading enough or is not passing quizzes
E	Low percent correct but high points	Student is probably pushing too hard for points
F	Very low percent correct but high points	Student is either guessing or cheating

A TOPS Report prints automatically after a student takes a quiz to give feedback on student’s understanding of the book and shows cumulative data for the marking period and school year.

The TOPS Report is sent home with the student.

The parent should review the report, sign it, and send it back to school with the child. The parent can access the child’s AR information in AR website.

After gaining access to the program via the password provided by the school, parents can view their child’s progress toward goals, points, and books read.

AR OR DEAR PERIOD

Establishing a separate reading period such as AR or DEAR (Drop Everything and Read) is very important for the success of AR program.

Ideally students read mid-day rather than first thing in the morning, e.g. during homeroom time and a minimum of 30 minutes, since 20 minutes of reading during disruptive homeroom time does not yield enough AR success.

While students are reading, the teacher checks status of class using student reading log and diagnostic report (McGlenn and Parish, 2002).

Students are monitored by the classroom teacher during AR period to ensure reading is taking place.

Teachers engage with students by asking students quick questions about reading material, have students read aloud briefly, etc. AR coordinator should be free to supervise program during the designated AR period.

Computer lab should be opened, monitored, and available for testing. ELA teachers should rotate classrooms to monitor students in their ELA class.

All teachers will help with the AR Period and check students’ AR Bookmarks. This simply is initialing whether the student has read the pages they wrote down.

This period should not be used as a study hall, thus students must be reading only and not doing other homework or projects.

Time	Program
7:20	Earliest time students can be dropped off
07:30 – 08:00	Breakfast. Students wait in the cafeteria.
08:00 – 08:50	1st Period
08:50 – 08:55	Break
08:55 – 09:40	2nd Period
09:40 – 09:45	Break
09:45 – 10:30	3rd Period
10:30 – 10:35	Break
10:35 – 11:05	AR Reading Period
11:05 – 11:10	Break
11:10 – 11:55	4th Period
11:55 – 12:30	Lunch
12:30 – 12:35	Break
12:35 – 01:20	5th Period
01:20 – 01:25	Break
01:25 – 02:10	6th Period
02:10 – 02:15	Break
02:15 – 03:00	7th Period
3:00 – 3:20	Time slot to pick up students who do not stay for Beyond the Bell Program
3:00 – 3:10	Break
3:10 – 3:50	1st Period for Beyond the Bell Program
3:50 – 4:00	Break/ Time slot to pick up students who do not stay for Beyond the Bell Program 2nd period
4:00 – 4:50	2nd Period for Beyond the Bell Program

Figure 1: Sample Bell Schedule Including AR or DEAR Reading Period

DUTIES OF SCHOOL PERSONNEL

Principal

School principal sets the tone for AR program. He/she appoints a school wide A/R coordinator, approves a flexible library schedule ensuring easy access to books, reviews STAR reports each six weeks, reviews Diagnostic Reports weekly, uses grade level meetings to discuss problems/concerns, reviews classroom achievement with teachers, celebrates successes, pays attention to struggling students and plans for interventions where necessary, visits classrooms and reviews read logs, provides motivation and support to teachers and students, sets school wide goals, and works to create a culture of readers in their school (As cited in Getting Results with Accelerated Reader, 2007).

Library Coordinator

Library coordinator maintains and develops book collection to support the curriculum with assistance from the central office, teachers and volunteers. He/she catalogues and color codes the library, opens library so that students have easy, regular access, works with K-3 and ELA teachers to schedule regular library visits, allows students to check out more than 1 book at a time if appropriate, allows students to return to the library daily as books are read and tests are taken, creates and helps facilitate student centered incentive programs, understands the use and implementation of AR and STAR testing, reviews AR and STAR reports, works to create a culture of readers in their school (Rosenheck et al., 1996).

Teacher

Teacher schedules daily monitored practice time for students. He/she uses STAR test data and the ZPD to establish student reading plans, sets individualized reading goals with students, regularly takes status of the class, checks student reading logs for appropriate ZPD and for pages read, does skill checks, provides instruction of reading

skills/strategies, uses grade appropriate books and reads aloud to class, provides incentives for students, works to create a culture of readers in their classroom (Francis, 2009:39).

Student

Students have shared responsibility with their parents. Students must know their usernames and passwords for AR. They must know their ZPD range and they select books accordingly. Students take AR quizzes, maintain reading logs and have them available during status check of the class (As cited in Parent's Guide to Accelerated Reader, 2007). They bring reading logs to library, discuss their reading interests with the librarian, suggest new books to be added to the library collection, work with teacher on individual goals, understands individual goals and how to achieve them and finally read whenever and wherever.

CONCLUSIONS

In conclusion, in this study one of the leading software systems that is very compatible with an ongoing educational system is reviewed. Accelerated Reader program is such a program that entails many different sides into the action. Computer department and computer labs involving computer teachers and students of the respective courses and computer lab and IT personnel; English and social studies departments involving teachers and students of reading, English Language&Arts (ELA) and to some extent other social studies and social science courses; library, librarian and library personnel; administrators in general and extensively all parents are involved in this process all working together so that the students would read more and can read better and more. Being one of the four core subject areas that is mathematics, reading, science and social studies and most of the time being one of the two core subject areas that is reading and mathematics and usually being considered more important than the math; reading is the most essential subject to be dealt with at early grade levels and successful incorporation of the Accelerated Reader program into the curriculum and into the educational process helps achieving that goal.

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