How Does the Assessment Information Gained From the Literacy Software Program Raz Kids Compare to the DRA Assessment Information?

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How Does the Assessment Information Gained From the Literacy Software Program Raz Kids Compare to the DRA Assessment Information?

by

Jennifer M. Mackmin

January 2010

A thesis submitted to the
Department of Education and Human Development of the
State University of New York College at Brockport
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Master of Science in Education
How Does the Assessment Information Gained From the Literacy Software Program
Raz Kids Compare to the DRA Assessment Information?

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Jennifer M. Mackmin
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Chapter 1

Technology has taken an essential role in our society as both a mode of communication and a way to receive information. With how much our society has begun to depend on technology, it is almost impossible to imagine a world without these vital tools. While things such as cell phones, computers and palm pilots have not always been around many people today would not be able to complete their daily tasks without them. Since technology has assumed such an immense role, it is not surprising that school districts are now turning to these technologies and looking for programs that will help students keep up with these new demands. Every year school districts are dedicating more resources and time into integrating these technologies into the classroom, especially in the area of literacy.

One such program is the online program called Raz Kids (www.raz-kids.com), which is currently being used in many school districts all over the United States. This program uses leveled text to help students improve their reading skills as they advance along a predetermined program. This program starts students off at the lowest level of reading and after each reading the students take a quiz. Once the students have reached the desired number of total quiz points at that level, they are then advanced to the next level in sequential order. In this program students also have the option of reading the text or listening to the text, so that is a factor that can greatly affect the outcome of the quizzes.

In the classroom teachers are always striving to use activities that help students progress in their understanding and help inform future instruction, but do
these programs truly accomplish this goal? Many literacy programs are being required in classrooms without knowing whether using them benefits students overall literacy development. Consistent assessment of students’ literacy development is also an essential part of a successful classroom. Teachers must always be assessing student progress to decide what instruction would most benefit the student and further their reading development. With technology taking a more prominent role in literacy instruction, how does this affect the classroom teachers’ ability to assess student progress? The novelty of these programs leads to hesitation by some teachers in using the data because they are not sure how the data compares or complements their more traditional assessment data.

Many school districts believe that these programs help improve students’ literacy skills and provide students with exposure to some of the new literacy demands they will face as our world becomes more technologically based. To determine what types of data these programs yield as well as their implications within the classroom it is necessary to compare the information to an established measure of literacy skills, such as the Developmental Reading Assessment (Beavers, 2006). This study looked at two critical questions concerning the use of Raz Kids:

1) How do students’ reading levels assigned by the computer program Raz Kids compare to their reading levels according to the DRA reading assessment?
2) How does the assessment information gained from the DRA assessment compare to students' level/performance on the Raz Kids reading assessment?

Investigating these questions helped to determine whether Raz Kids is a tool for students to be using in the classroom and what type of data teachers could gather from this program to inform their future instruction of that student. I answered these questions by comparing the data gathered by the DRA assessment with the computer generated data from the Raz Kids programs. I looked for consistency between the two assessments and seeing what type of data I was able to gather from each. I also took into account the attitude that the classroom teacher and students have about each program through observations of the students and an interview with the classroom teacher. Students need to be prepared for the literacy demands they will be facing inside and outside of the classroom and this research was helpful in finding out whether computer literacy programs are helping them meet this demand or not.

Definitions:

**Assessment data** refers to any numeric or observational information that teachers can gather about a student's performance on a specific task.

**Developmental Reading Assessment (DRA)** refers to the leveled program published by Pearson that can be used by teachers and districts to monitor student progress (Beavers, 2006).
**Raz Kids** refers to the computer literacy program that can be subscribed to by districts or individual that provides leveled reading texts for students to read and take multiple choice tests on to monitor their comprehension (www.raz-kids.com).
Chapter 2

When examining the role of technology in literacy learning it is important to look at research that has been done in many different areas. These areas include research done on creating multiliteracy instruction, how technology affects motivation of students and authentic assessment methods. In this chapter I will review several research articles in each area and how they inform my current study about this particular literacy program. Raz Kids is a new computer program, but many prior research studies have looked at other literacy technologies through these lenses. Although no prior research I have found is about this particular program, the basic premise and results of these research articles support my current work.

Research Supporting Multiliteracy Instruction

In schools today it is becoming prevalent that most administrators and teachers believe that it is important to give students a balanced literacy experience that introduces them to literacy through varied activities. With technology becoming more prevalent in society students need to become multiliterate, which means they need to be able to communicate effectively using these varying modes of communication (Borssheim, Merritt & Reed, 2008). "Balanced literacy" instruction has become a major focus for school districts and school districts are beginning to move away from the more traditional basal readers used in the past in favor of programs that provide individualized support. Balanced literacy instruction involves exposing students to various literacy experiences every day, ranging from the teacher directly modeling literacy behaviors to independent exploration of literacy materials.
Badger (2007) reviewed a book written by Center in which the author states that a variety of literacy experiences is essential for students to develop vocabulary skills, knowledge of content areas, appreciation of various text structures, development of thinking and reasoning skills and increased comprehension through use of various strategies. This book also talks about how all students do not learn in similar ways, so providing various methods of literacy instruction is a way to reach all learners in the classroom.

Borssheim, Merritt & Reed (2008) wrote an article about how students need to leave our classrooms becoming proficient in mutiliteracies to be successful both in the classroom and in their everyday lives. This claim was based on the realization that as we continue to become a society driven by technology, students must be prepared to understand and use these different forms of communication. Computers, cell phones, e-mailing and internet sources are just a few examples of things that students may come into contact with in their everyday experiences that they must be able to effectively use. The authors then speak about integration of these technologies into the classroom and while it can be complicated to integrate all of these different aspects of literacy, teachers need to make a conscious effort to make sure they are incorporating these into daily learning. While this can take time away from more traditional instruction, the authors argue that adding these other types of literacy add depth to students’ understanding and is well worth the time and effort.

Similarly, Larson (2008) also speaks about the power of going beyond traditional books and exposing students to both reading and writing using new
technologies to extend their literacy skills. The researcher suggests using reading materials available online such as newspapers and journals as well as communicating with peers using e-mails and discussion boards. This gives students opportunities to process information in various ways and gain their learning from multiple sources of information. The authors argue that this new way of looking at literacy helps students have experiences that are very relevant to situations they will be faced with throughout their lives. The authors conclude by saying that teachers need to find ways to meaningfully integrate technology into their curriculum, not just view these new methods as things for students to use during their own free time.

"Students today are faced with the information explosion. In order to prepare our elementary school students for the future. It is not sufficient to just teach them subject-specific knowledge, but to integrate technology into curricula and help them understand and use that technology"(Chong, 2008, p. 628). This idea led Chong to conduct a study of elementary students and assess their technology technological literacy using surveys. Each student was asked to fill out a survey based on his or her own thoughts about how proficient he or she was at using technology as well as how he or she felt about technology. Based on the results of this survey the researcher noticed that gender and attitude relating to technology affected the reported confidence in technology skills. While males and females had similar results for confidence learning from technology, females has significantly better attitudes towards technology, confidence in their internet skills and computer use concepts. This study also showed that students who had a positive attitude towards technology
showed a much higher competence using and learning about technology than peers who had negative thoughts about technology.

Plair (2008) wrote an article concerning how professional development has not been reevaluated to include technology integration in the classroom. She talks about how very little professional development time is spent on these technological advances that can be used in the classroom, even though more have become available for teachers and students to use. This article also states that professional development for new technologies needs to take place over various sessions and give educators multiple opportunities to interact with the technology and evaluate the potential uses in their classroom. One session is often not enough for teachers to understand the implications and be comfortable using the technology themselves, let alone teaching their students how to use it proficiently. When teachers try to implement this technology without proper training it can be challenging and not as beneficial for student learning. Many teachers implement required technology with very little thought and often do it because it is required, not because they feel it will be a positive experience for their students. A change in professional development may help decrease this feeling and help teachers who are reluctant users of technologies see their significance in the classroom.

Research on the Effect Technology has on Student Motivation

As teachers it is obvious that when students are motivated and interested in what they learn they are more likely to retain the new information and make connections with their already existing schema. In this section I am going to be
reviewing literature that looks at how the use of new technologies impact student motivation and desire to learn. For example Gegner, Mackay & Mayer (2008) found that the use of technology based sources and aids helped increase student motivation to read and process scientific articles related to their current curriculum topic. In this study they had two different groups, one group that read a scientific article on the computer without any additional supports and another group who read the article using technology aids that were available such as background text and animations including the authors’ insights and answers. The results of this study showed that overall comprehension was significantly higher in the group utilizing technology aids and they seemed to have a higher motivation throughout the learning engagement compared to the control group. Researchers even reported seeing an overall increase in interest in the science material when using technology, noting many students would like to investigate other topics in a similar manner.

It has also been shown that an increase in using technologies, such as mobile laptop units, help increase student motivation on literacy tasks (Barone & Wright, 2008). This article speaks about a fourth grade teacher who implemented the use of laptops in his classroom to aid students in their literacy tasks. While he still used more traditional instruction, much of the independent work that students completed was done using technology. This classroom teacher sees genuine improvement in students overall motivation to complete tasks when presented them in various ways, including using technologies. “My job as a teacher is to prepare my students for their future. I started this journey 10 years ago when I began exposing my students to as
much technology as possible." (Barone, 2008, p298), is how this teacher talked about his feelings about implementing technology throughout his career. One interesting point brought up in this article was the notion that just experiencing a computer program casually does not mean that students are technologically literate with that particular program. Technology needs to be implemented in meaningful ways throughout various experience for students to feel comfortable using individual programs independently.

Often creating an environment where technology is beneficial for all students can be challenging, especially when there is only one teacher in the classroom. When students are learning how to use a particular program, it can be difficult for one teacher to address all of the questions that students unfamiliar with the program may have. One solution proposed was to create an environment of peer tutoring, where students work together in pairs or groups to interact and learn about new programs (Park, Sim & Roh, 2007). This method increases motivation for students and create an environment where students are highly engaged in their learning. This method also provides an opportunity for teachers to place students in pairs or groups where one student who has experience with the technology can be the expert who guides and supports the other students as they are exploring the technology. In this type of environment, students have the opportunity to engage in the activity and it is motivating for both the expert student and the students learning the technology. This cooperative learning creates a classroom environment where students can have
freedom to explore during literacy activities and work with others to improve their work.

Many literacy programs either use games to relay important literacy content or allow older students to develop and create games on their own. Gaming has become one way to increase students' interest and engage students who feel they can not learn and have given up on school (Clark & Ernst, 2009). Gaming is a way to captivate student interest and encourage students to continue learning and exploring new information on their own. The visual appeal and competitive nature of games can hold students' attention for long periods of time and often make learning fun and enjoyable for the student. Since students learn in many different ways, gaming is one method teachers can use to help struggling students achieve a desire to learn. In addition, with technology becoming such a big part of our society, many jobs and careers involve gaming or developing this type of software. For creative students, this may give them another option to consider for their future and motivate them to finish and excel in their schooling. Gaming presents so many options in the classroom and teachers have unlimited ways to use this new technology to support their students' learning.

With many students having technology available outside of the classroom, this is the method that many students use to engage in their out of school literacy activities (Ladbrook, 2008). Many students are using their technological devices, such as computers and cell phones, to communicate with others and read online material that is interesting to them. They also use these devices to investigate their inquiries
and do research on topics that may or may not relate to their learning in school.

Motivational theory shows that students are more motivated when teachers help students make connections between their learning in that classroom and their out of school literacy activities. When students see these connections they are more motivated in the classroom and realize the value of classroom activities in their long term success. With students having many experiences with technologies outside of the classroom, it has become essential that teachers can understand these technologies and help students make these important connections. This article argues that many teacher are not navigating this divide between home experiences and classroom experiences, and that could be having a negative effect on student motivation. This article concluded that teachers need to become more proficient with the technologies and integrate them into the classroom meaningfully and help show students that there are implications for classroom learning in their everyday life.

*Research on Assessment Methods*

Another important aspect of every classroom is continuous literacy assessment and the ability of the teacher to determine what the most important skill is for each student to develop next. With technology becoming an important part of classroom instruction, it is important to consider how this affects the ability of the teacher to assess student progress and make determinations for future instruction. On major question is whether these technological literacy programs provide teachers with
the necessary information needed to help students continuously grow and develop their literacy skills. According Alvermann, Swafford & Montero (2004), assessment should always be an authentic way to see how students are grasping material, not just a way to get a score for a student. Assessment is only valuable when the teacher can look at the data and determine what areas are strengths and weaknesses for that student. Teachers can gain assessment information from all literacy activities in which students engage it does not have to always be a standardized measure. Many times observations of students yield the more information than giving a standardized measure and receiving a score. Collecting data from a variety of sources also gives the teacher a more dynamic picture of the student and how he or she performs on literacy activities in a variety of settings.

Assessing the quality and diversity of materials is also an important part of being a teacher, and is another concern of using literacy computer programs. Especially in the content areas, it is essential that the teachers look at things such as the reading level, accuracy of content, vocabulary and comprehension skills required for texts they use with students (Alverman, 2004). This helps to ensure that learning is optimized by using texts that are at an appropriate level for students and are challenging for them but not frustrating. Teachers can use pre-existing leveling, readability formulas and their own observations of their students and the text to determine whether or not they should use that particular material with the student. This type of assessment is essential for student learning and helps to ensure that students are making progress and learning necessary skills that will help them
develop in their overall literacy ability. Literacy programs often use their own criteria for choosing the level and content of their literacy activities that may or may not match what the teacher thinks would benefit the student the most.

Another method of assessment that has become more popular in recent years is creating student portfolios, either using hard copies of student work or using technology to create electronic portfolios (Stansberry & Kymes, 2007). Portfolios have been shown to present a dynamic representation of student work and can be an evolving body of work that shows the progress the student has make throughout the school year. Portfolio items can be chosen by either the teacher or students and should be reviewed, updated and edited throughout the year with dynamic examples of that students work in varying contexts. This gives both the teacher and the student the opportunity to look at and evaluate their work and determine strengths and weaknesses, which makes the assessment process a more collaborative process. Also, with new technology available electronic portfolios are making it easier for students to work together and share ideas with other students, even in other states and countries. Maintaining portfolios can also be a motivating factor for students in addition to the assessment aspect. The portfolios can be a driving force in student work and encourage them to be creative thinkers. This new way of assessing student progress is an authentic and meaningful way to monitor student progress and involve everyone in the process.

"Even educators who still advocate the use of grades will admit that, for many purposes, there are better, more thorough methods of measuring and recording
student achievement” (Spandel, 2005, p. 357). This book takes the stance that assessing students’ literacy ability, especially writing, should be a dynamic process that involves much more than assigning a grade to each piece of work. This book stresses conferencing with students and working with them individually or in small groups to support their writing and guide the thought process in a more organized way. Peer conferencing is also an important assessment tool where students can work together to evaluate each others papers and provide feedback on areas that could be improved. Assigning a grade and making corrections on papers or reading has been show to be ineffective in helping students develop their literacy skills in the long term, so it is important to look for more effective methods such as conferencing. Teachers also need to be conscious of the type of comments they make to students and really think about whether or not they will benefit their overall ability or just help them with one particular thing on that paper. Assessment will always be an evolving process in schools and as we learn more about how students learn our evaluation process will have to change and adapt to accurately reflect our students understanding and ability.

Summary

These research studies show why it is important to examine the new technologies that exist and how they impact our work in the classroom. These three areas of research have showed what things do and do not benefit students, and we need to ensure that the programs we use match up with what we know are best practices for our students. Many teachers use required technology without thinking
about the value and applications for long term learning, and I hope this study encourages more examination of literacy technologies and their impact in our society.
**Chapter 3**

My study was designed to investigate how assessment results seen on literacy computer software compare to some more traditional methods of assessing students’ literacy development. In this chapter, I will discuss the methods I used to investigate my research questions. My questions are:

3) How does students reading level assigned by the computer program Raz Kids compare to their reading level according to the DRA reading assessment?

4) How does the assessment information gained from the DRA assessment compare to students’ level/performance on the Raz Kids reading assessment?

**Demographics:**

This study took place in a suburban elementary school in Western New York, with a school population of about 700 students. The average class size in this school is about 18 students per classroom. This particular school has students in grades kindergarten to fifth grade, of varying abilities and academic levels. According to the school report card, this school is making annual yearly progress in all areas and is in good standing according to the state. This school is composed of primarily of Caucasian students, but does have a small percentage of African American, Asian and Latino students. Less than 10% of the school population is eligible for free or reduced lunch, so the socioeconomic status of the area is mostly middle-upper class working families (www.nystart.com).
This school district is comprised of four local towns, which are experiencing an increase in numbers due to continuing housing projects. There are two colleges in the immediate area, one community college and one private college. The occupations in this area vary, but the most common are educational, business, administrative and construction jobs. Health care is also a major influence in this area, as there are several hospitals of varying size within the immediate area. This is also a major educational focus in the area, since both colleges listed above are known for their nursing programs. The median household income in this area is around $50,000 annually. This is also an area that has several hotels, restaurants and other business due to its close location to tourist attractions (www.epodunk.com).

Participants:

The participants in this study were ten second grade students, all between the ages of seven and eight. These participants were selected randomly from a second grade class of eighteen students. Students were randomly selected from the students for whom parental consent was obtained (Appendix 1). This particular classroom was chosen due to the convenience of the location and use of both the DRA and Raz Kids computer software as part of regular classroom practices. Every student in this classroom has had several experiences with each tool, so inexperience with the assessment should not affect student performance. Students in this particular classroom use this program as part of their reading workshop on a weekly basis and can also use the program during other free times during the day. All students are required to work with the program as part of the classroom routine during reading.
workshop, but the amount of use varies during other times where students have free choice. All data collected was coded to protect the participant’s privacy and the participants were referred to as students A-J when I record and analyze the data. This information will have no influence over their grades or standing in the classroom, and the participants will be informed of this prior to beginning the study.

Data Collection:

Before data collection began, I sent home the parental informed consent form to all students’ parents/guardians in the class and asked that they be returned to the classroom teacher within a week. After the week passed, I then randomly selected the ten participants from the parental consent forms returned by turning the forms over and then selecting ten at random.

Participants chosen for this study engaged in two activities during each session of the research. The first activity was having a DRA administered to determine each student’s current reading level and ability. The DRA assessment tool consists of a reading passage that students read while I make a written record of their oral reading using the standard coding system provided with this assessment. After the reading, I then determine the number of miscues recorded during the reading and use the scale provided to determine a percentage and whether the story was at the student’s independent, instructional or frustrational level. If the story was at the independent or instructional level I then administer the second part of the assessment, which is an oral retelling of the story. During this time I underlined the events of the story that the child mentioned in their retelling and make observations such as
whether the student relays the events in appropriate sequence. I then used the rubric provided in the assessment packet to determine their overall comprehension level. Based on the accuracy percentage and score on the comprehension rubric, I determined whether the student is able to read and comprehend texts at that level. I will also be looking at what strategies the students use as they read and interact with the text.

After using the DRA assessment tool, I then had students use the Raz Kids literacy program for a minimum of twenty minutes. This computer program allows students to read and listen to texts online and then take a multiple choice test after the story is completed. Students must complete these quizzes with an accuracy of 80% to move on to the next level of books. The program continually keeps track of students’ progress and moves them up levels once they meet the criteria on the quizzes. During these sessions I took detailed field notes about the students’ interactions with the computer software. After the session, I printed out the score report that provided me with each student’s current reading level (from A-Z) according to Raz Kids and their comprehension level based on the number of questions the students answered correctly on the multiple choice quiz (www.raz-kids.com).

As part of this study, I also conducted an interview (Appendix 2) with the classroom teacher to determine what she views as the implications for applying results obtained from RAZ Kids to her classroom practices. I was wondering how teachers are currently informing their instruction based on the computer program, and if it is seen as a source of information for the teacher. This interview included
questions that addressed her current uses of information given by Raz Kids and her feelings and comfort level with using this technology in her classroom. This teacher was also be referred to by a pseudonym when I scribed her responses so that she did not have to worry about answering honestly about an instructional practice used by her district.

Data Analysis:

The first thing I considered when looking at the data I collected is how the instructional level for each student assigned by Raz Kids compares the instructional level I assessed the students at using the DRA. To do this I used the conversion chart and convert the reading level A-Z assigned by Raz Kids to the equivalent DRA level. Using this chart I was able to come up with an initial comparison at what similarities or difference exist between the two different assessments levels.

After I looked at the level, I will then looked at the comprehension section of each assessment and look at how that compares for each individual student. I analyzed the number of multiple choice questions correctly answered on Raz Kids and evaluate that measure compared to the retelling portion of the DRA task. I then took these results and analyzed then to see if the scores given by Raz Kids is consistent with the level of comprehension I observed during the retelling portion of the DRA. I also looked at the different types of comprehension questions each program uses and how students look as readers when assessed in each way. I was interested in seeing if the students show the same level of comprehension when answering multiple choice questions as they do with the more open retelling of stories.
Finally, I used the interview data from the teacher to address the second question of what types of assessment information can be gained from each of these measures. I used her responses to analyze how classroom teachers are currently using the program to enhance their classroom practices. I was interested in looking at this classroom teachers responses to see if the amount of time she uses the program matches up with the value she perceives the program has for teachers and students.

I then compared the data from these sources and look at whether there is consistency shown between the two tools. My goal was to discover whether Raz Kids will create a similar picture of student reading ability as the DRA, which is a proven and trusted method. I was wondering what kind of assessment data each tool provides and how it can be used by the classroom teacher to plan future instruction for that student. I completed this process twice with each student, with four weeks between administrations. Using all of this information, I then developed some overall conclusions of how Raz Kids assessment data compares to DRA assessment data and how it might be used in the future to supplement other literacy activities. I hope the results of this study will show if the time and money school districts are budgeting for these programs are being invested in programs that will help students develop the critical skills needed to become a literate person.

Limitations:

There are some limitations to this study, including the small sample size. The design of this study is such that only a small group of students can participate, so the results may not easily be generalized to a larger population. Also, because I worked in
one specific classroom I am only looking at the results of the program when used in
the way this district uses this program as part of its curriculum, and more specifically
how this teacher uses it in her classroom. The results may be different when looking
at a district that uses the program differently or students have more/less exposure to
this technology. Also, with the interview I only asked this teachers opinion, which
may not necessarily represent the overall opinion of the staff members who use the
program.
Chapter 4

The purpose of this research was to investigate the implications of using literacy computer software within the elementary classroom. This study was designed to investigate two questions related specifically to the use of the Raz Kids computer program in classrooms. The research questions were:

5) How do students’ reading levels assigned by the computer program Raz Kids compare to their reading levels according to the DRA reading assessment?

6) How does the assessment information gained from the DRA assessment compare to students’ level/performance on the Raz Kids reading assessment?

To investigate these questions I collected two different sets of data using a sample of ten second grade students from a general education classroom. For each set of data I collected several things, beginning with the students’ current instructional DRA level. To determine this, I administered the DRA assessment to all participants and determined each student’s instructional level based on the established standards for the DRA. For a level to be considered instructional a student must have accuracy above 90% and their comprehension must be in the adequate range, which for the particular levels used in this study is anything above 21/28 on the comprehension rubric. After the administration, I recorded both the DRA level that was his or her
current instructional range as well as his or her comprehension score, as these scores relate directly to the research questions in this study.

Within the same school week I returned to the classroom and observed the participants using the computer program Raz Kids and documented what book they were working on during that particular time period. After they had completed their reading and multiple choice quizzes, I went on to the website and printed out their current reading level according to the computer program and their quiz score from that day. The quiz score represents how many questions the student answered correctly over the number of questions on that particular quiz. This computer program does not have a quiz to go with every reading, so if students did not complete a quiz during that session I recorded the score they received on the quiz they took closest to that date. Below are the levels and assessment information gained from each reading assessment:
Table 1: Students’ Levels and Scores from First Administration

<table>
<thead>
<tr>
<th>Student</th>
<th>DRA Level</th>
<th>DRA Comprehension</th>
<th>Raz Kids Level (DRA Equivalency)</th>
<th>Multiple Choice Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>28</td>
<td>22/28</td>
<td>L (24)</td>
<td>14/14</td>
</tr>
<tr>
<td>B</td>
<td>28</td>
<td>27/28</td>
<td>J (18)</td>
<td>8/14</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>23/28</td>
<td>J (18)</td>
<td>4/10</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
<td>25/28</td>
<td>N (28)</td>
<td>12/14</td>
</tr>
<tr>
<td>E</td>
<td>20</td>
<td>26/28</td>
<td>J (18)</td>
<td>10/14</td>
</tr>
<tr>
<td>F</td>
<td>28</td>
<td>26/28</td>
<td>T (38)</td>
<td>12/14</td>
</tr>
<tr>
<td>G</td>
<td>28</td>
<td>22/28</td>
<td>L (24)</td>
<td>14/14</td>
</tr>
<tr>
<td>H</td>
<td>28</td>
<td>26/28</td>
<td>O (28)</td>
<td>8/14</td>
</tr>
<tr>
<td>I</td>
<td>28</td>
<td>27/28</td>
<td>J (18)</td>
<td>4/10</td>
</tr>
<tr>
<td>J</td>
<td>24</td>
<td>24/28</td>
<td>J (18)</td>
<td>10/10</td>
</tr>
</tbody>
</table>

The above table shows how each of the ten students performed on both literacy tasks. Both literacy tasks use different methods of assigning levels, so I used the conversion chart to convert the Raz Kids level into the equivalent DRA score (www.a-zlearning.com). The chart clearly shows that there was only consistency between leveling for one out of ten students, with all the other students having different levels according to each of the literacy tasks. Student H was performing at a DRA level 28 according to both literacy tasks, which shows that my assessments of the student’s reading performance was consistent with what the computer program determined to be his reading level. The consistency in the levels shows that the
computer program was providing the student with reading material that would be consistent with the level I felt would be appropriate for that student’s instruction.

However, there were discrepancies between my assessment of the students’ reading ability and the leveling provided by Raz Kids in nine out of ten cases. The following table shows the discrepancies seen between the two measures for the nine students:

Table 2: Discrepancies in Leveling between the Two Programs

<table>
<thead>
<tr>
<th>Student</th>
<th>DRA Level</th>
<th>Raz Kids Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>A</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>G</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>B</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>I</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>J</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>E</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

Some of the discrepancies, such as Students B, F, I and J, showed that there was a difference of over three DRA levels between the two literacy tasks. In most cases the Raz Kids program showed the students performing at a lower level than the
DRA, but Student F was five levels above what his DRA assessment showed he was currently reading at instructionally. This data means that five out of ten Students were provided with texts from the Raz Kids program that were several levels above or below that the student should be instructed at according the DRA. Students A, C, D, E and G had different levels according to the two assessment tools, but were within one DRA level of what was determined by the DRA assessment. The texts provided by the program for these students may be somewhat easy or difficult for their current level but were generally around their current instructional level according the DRA.

These data show that during this first administration of the DRA and recording of the current Raz Kids levels, there was very little consistency between the two literacy tasks. The leveling for each program showed nine out of ten students at different levels, with some of them looking like very different readers according to their scores. As a teacher looking at this information, especially in the case of Student F, it would be difficult to understand why there would be such a noticeable difference in the levels determined by both programs. When looking at the levels it is also hard to determine whether one program tends to level students higher, as there is no consistency with that element either. Some students perform higher according to the DRA, while others show a higher level according to Raz Kids.

The assessment information from each program also provides an interesting picture of student performance on literacy tasks. On the DRA task the comprehension assessment is done through a retelling either orally or written that the student completes and the teacher uses this information to score the student on a pre-
established rubric provided. On the Raz Kids program comprehension assessment is
done through a series of multiple choice questions that are given to the student at the
end of certain texts. When looking at the comprehension scores that students received,
there is also great variation between the two literacy tasks. The following chart shows
the differences seen between comprehension levels:

Table 3: Difference between the Comprehension Scores between Assessments
(percentages)

<table>
<thead>
<tr>
<th>Student</th>
<th>Comprehension on the DRA</th>
<th>Comprehension on Raz Kids Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>79%</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>96%</td>
<td>57%</td>
</tr>
<tr>
<td>C</td>
<td>82%</td>
<td>40%</td>
</tr>
<tr>
<td>D</td>
<td>89%</td>
<td>86%</td>
</tr>
<tr>
<td>E</td>
<td>93%</td>
<td>71%</td>
</tr>
<tr>
<td>F</td>
<td>93%</td>
<td>86%</td>
</tr>
<tr>
<td>G</td>
<td>79%</td>
<td>100%</td>
</tr>
<tr>
<td>H</td>
<td>93%</td>
<td>57%</td>
</tr>
<tr>
<td>I</td>
<td>96%</td>
<td>40%</td>
</tr>
<tr>
<td>J</td>
<td>86%</td>
<td>100%</td>
</tr>
</tbody>
</table>
The table above show just how drastic some of the differences were between students’ scores. For example, Student A received a 22/28 (79%) on the DRA rubric, which is at the lower end of the comprehension scale but got a 14/14 (100%) on the Raz Kids quiz they took. Student I was given a 27/28 (96%) on comprehension when doing the retelling for the DRA text but only had a 4/10 (40%) on their Raz Kids quiz, even though the level for the Raz Kids quiz was five levels lower. This may indicate that the student may be having trouble recalling specific facts for the multiple choice questions on Raz Kids but is showing a different level of understanding when retelling stories in a broader sense. Most of the participants did show a difference in comprehension between the two measures, with some performing better on the oral/written retelling and some performing better on the multiple choice assessment. Only Students C, D, E and F received similar percentages for both of the comprehension sections of the two literacy tasks. Since these tasks measure comprehension in different ways, it is interesting to see that students perform differently based on how comprehension of a text is measured. With the DRA I was able to write down any observational notes of the students I had as they were retelling that related to comprehension, such as confidence the student retold the story with and number of prompts. With the Raz Kids data the only information I was able to obtain was the score and I was not able to see what questions the student missed to determine if there was any theme or pattern to what they were having difficulty on. I could also not tell if they were confident in their answers or received their score based on guessing the correct multiple choice answer. While I can see the questions on the
test, unless I was sitting next to the student and able to ask them about their thinking I was not able to understand what questions they were struggling with and know what I could work with the student on in the future.

The second set of data for this study was collected four weeks after the initial set of data so that there would be opportunity to see changes in student performance on each measure over time. The second set of data was collected using the same methods as the initial set, but different DRA and Raz Kids texts were used so that the effect of previous experience with the materials was minimized if the student was at the same level. The following chart shows the results from the second set of data collection:

Table 4: Students’ Levels and Scores from the Second Administration

<table>
<thead>
<tr>
<th>Student</th>
<th>DRA Level</th>
<th>DRA Comprehension</th>
<th>Raz Kids Level (DRA Equivalency)</th>
<th>Multiple Choice Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>30</td>
<td>22/28</td>
<td>L (24)</td>
<td>10/14</td>
</tr>
<tr>
<td>B</td>
<td>30</td>
<td>24/28</td>
<td>J (18)</td>
<td>4/10</td>
</tr>
<tr>
<td>C</td>
<td>24</td>
<td>23/28</td>
<td>J (18)</td>
<td>6/10</td>
</tr>
<tr>
<td>D</td>
<td>28</td>
<td>21/28</td>
<td>N (28)</td>
<td>12/14</td>
</tr>
<tr>
<td>E</td>
<td>30</td>
<td>24/28</td>
<td>J (18)</td>
<td>10/10</td>
</tr>
<tr>
<td>F</td>
<td>28</td>
<td>20/28</td>
<td>U (40)</td>
<td>14/14</td>
</tr>
<tr>
<td>G</td>
<td>28</td>
<td>23/28</td>
<td>L (24)</td>
<td>14/14</td>
</tr>
<tr>
<td>H</td>
<td>30</td>
<td>25/28</td>
<td>O (28)</td>
<td>2/14</td>
</tr>
<tr>
<td>I</td>
<td>30</td>
<td>26/28</td>
<td>J (18)</td>
<td>8/10</td>
</tr>
<tr>
<td>J</td>
<td>28</td>
<td>24/28</td>
<td>J (18)</td>
<td>4/10</td>
</tr>
</tbody>
</table>
These assessment results show the same inconsistencies in leveling that the previous set of data presented. Similarly to the first set of data, only one student (Student D) is performing at the same level according to both measures. However, this is not the same student who was shown to be at the same level according to the first set of data collected. The Student H, who was leveled the same by both measures last time, has a one level discrepancy based on this set of data collection. During this data collection 8/10 students showed an increase in their DRA testing results, while only Student F was shown to go up in level according to the Raz Kids software. This is an interesting finding, especially since Student F was one of the two students who did not test higher on the DRA assessment. Since most students went up in DRA level and stayed the same according to Raz Kids, this lead to an even bigger discrepancy between the two levels when comparing students across the two measures. In this case 7/10 students had levels that were different by at least two levels, with the most dramatic being Students E, F and I that had a six level discrepancy between the two measures. This data shows the same trend as the first set of data and illustrates that over time the discrepancies that can be seen between the leveling methods can increase.

This second set of data also revealed many inconsistencies between the comprehension portions of each literacy task. For example, Student E received a 20/28 on the DRA comprehension section, which is the lowest he could have gotten for it to be considered instructional, but got a 14/14 on the Raz Kids quiz later that week that was a higher level. Student H score a 23/28 on the DRA retelling, which is
in the independent level of comprehension on the DRA, but scored a 2/14 on his or her Raz Kids quiz that was actually on a text that was one level below the DRA task. During this administration there were also variations in whether students performed better on the DRA retelling or the Raz Kids multiple choice quiz. Students B, H and J performed better on the DRA retelling, while Students A, D, F and J scored a higher percentage on the Raz Kids quiz. Since the DRA and Raz Kids levels were different for 9 out of 10 students, it is difficult to tell whether it is the type of questions that influenced the difference in the level of comprehension or if the level of texts is creating the discrepancy between the comprehension levels.

Table 5: DRA Levels/ Comprehension Scores across Both Administrations

<table>
<thead>
<tr>
<th>Student</th>
<th>DRA Level 1</th>
<th>DRA Level 2</th>
<th>DRA Comprehension 1</th>
<th>DRA Comprehension 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>28</td>
<td>30</td>
<td>22/28</td>
<td>22/28</td>
</tr>
<tr>
<td>B</td>
<td>28</td>
<td>30</td>
<td>27/28</td>
<td>24/28</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>24</td>
<td>23/28</td>
<td>23/28</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
<td>28</td>
<td>25/28</td>
<td>21/28</td>
</tr>
<tr>
<td>E</td>
<td>20</td>
<td>30</td>
<td>26/28</td>
<td>24/28</td>
</tr>
<tr>
<td>F</td>
<td>28</td>
<td>28</td>
<td>24/28</td>
<td>20/28</td>
</tr>
<tr>
<td>G</td>
<td>28</td>
<td>28</td>
<td>22/28</td>
<td>23/28</td>
</tr>
<tr>
<td>H</td>
<td>28</td>
<td>30</td>
<td>26/28</td>
<td>25/28</td>
</tr>
<tr>
<td>I</td>
<td>28</td>
<td>30</td>
<td>27/28</td>
<td>26/28</td>
</tr>
<tr>
<td>J</td>
<td>24</td>
<td>28</td>
<td>24/28</td>
<td>24/28</td>
</tr>
</tbody>
</table>
**Table 6: Raz Kids Levels and Scores across Both Administrations**

<table>
<thead>
<tr>
<th>Student</th>
<th>Raz Kids Level 1 (DRA Equivalency)</th>
<th>Raz Kids Level 2 (DRA Equivalency)</th>
<th>Multiple Choice Score 1</th>
<th>Multiple Choice Score 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>L (24)</td>
<td>L (24)</td>
<td>14/14</td>
<td>10/14</td>
</tr>
<tr>
<td>B</td>
<td>J (18)</td>
<td>J (18)</td>
<td>8/14</td>
<td>4/10</td>
</tr>
<tr>
<td>C</td>
<td>J (18)</td>
<td>J (18)</td>
<td>4/10</td>
<td>6/10</td>
</tr>
<tr>
<td>D</td>
<td>N (28)</td>
<td>N (28)</td>
<td>12/14</td>
<td>12/14</td>
</tr>
<tr>
<td>E</td>
<td>J (18)</td>
<td>J (18)</td>
<td>10/14</td>
<td>10/10</td>
</tr>
<tr>
<td>F</td>
<td>T (38)</td>
<td>U (40)</td>
<td>12/14</td>
<td>14/14</td>
</tr>
<tr>
<td>G</td>
<td>L (24)</td>
<td>L (24)</td>
<td>14/14</td>
<td>14/14</td>
</tr>
<tr>
<td>H</td>
<td>O (28)</td>
<td>O (28)</td>
<td>8/14</td>
<td>2/14</td>
</tr>
<tr>
<td>I</td>
<td>J (18)</td>
<td>J (18)</td>
<td>4/10</td>
<td>8/10</td>
</tr>
<tr>
<td>J</td>
<td>J (18)</td>
<td>J (18)</td>
<td>10/10</td>
<td>4/10</td>
</tr>
</tbody>
</table>

Looking at both charts from the two data collection points also provides some interesting comparisons of student performance across the four week period. When looking at the two sets of DRA scores, you see general consistency between the participant scores, with most of the students gaining one level over the four week period. The comprehension levels also are relatively consistent, but show a general decrease in scores between the two sessions. As a teacher I would be able to look at the individual areas of the comprehension rubric and plan where I may need to go with future instruction to help support each individual student. Looking at the data there were no drastically different scores that would make me wonder about the student and why he or she performed drastically different between data collections.
In contrast, when looking at the Raz Kids data from the two data collection points there are some inconsistencies in performance that would make me wonder how best I could support individual student’s literacy development. For example, Student J received a 10/10 on his or her first quiz but only received a 4/10 when he or she took the quiz during the second data collection. Since the student did not change levels during this time and read the same type of text each time this discrepancy would be concerning for me as a teacher and I would wonder why the comprehension would decrease by 60% when the student had four weeks to continue working on texts at that level. Raz Kids does not provide any additional information for the teacher besides the score, without having the student go back and retake the quiz or talk about what happened I would never know why the inconsistencies occurred. This trend was seen with several of the students, who had very different percentages on the quizzes despite being on the same level for the additional four weeks. Also, according to Raz Kids only one out of ten students was able to gain enough quiz points to move to the next level, which is surprising with the number of weeks in between the data collections. Over the four weeks it would be expected to see at least some of the students increase their level of reading performance, and this was seen on the DRA assessment.

I collected observational notes during both the DRA session and the time the students were using the Raz Kids computer program. One of the most consistent observations I made when the students were using Raz Kids is that the students were visibly engaged with the program and excited to be selecting and reading the texts
independently. I noticed that there was a lot of social interaction between the students when using the program and they were excited to share what they were doing with their classmates. Many of the students were using Laptops and were turning them towards other students and asking them to look at the story they were reading. I also observed students talking about stories they were reading and encouraging other students to read those stories as well. This class had a firefighter visit the previous week, so I heard many students encourage their peers to look at the story about firefighters that was available on Raz Kids. I also observed student A asking student F how many “star” points he had and telling him that she had almost earned enough star points to go to the next level. This seemed to be highly motivating and I saw student A working towards getting those points the entire session.

When I asked the students what they like about the program they shared that they liked using the computer to do their reading and enjoyed having the choice of different types of books to read. Many of the students also liked that there is a great variety of books on Raz Kids. One student even said that he searches for topics that interest him and it is much easier to find books he likes on Raz Kids versus in the classroom or library. Student B even said that she like Raz Kids because she was “able to read a story without having to hold a regular book”. When I was asking Student H about the program she said that she liked that you can always “check back and see if you remember things right”. Since the program stays at the same level until the students advance, they can go back to the same text quickly and without having to search for it.
I also noticed that 7 of the 10 students selected non-fiction texts while I was recoding the titles of the books they chose to read while using Raz Kids. One student shared that he chose a book about ocean animals because he does not have many choices of that kind of books in the classroom. Students also shared that they liked the feature of the program where they could listen or read each text on their own. I asked every student whether they preferred to read the books on their own or have the computer read them, all of them said that they do both and like to listen to the computer read to them at times.

The last observation I made was that most students seemed to enjoy taking the quiz. When I asked one student what she liked about the quizzes on the program she shared that it was a way to see what they remembered about the book and the format made it seem like a game show. With video and computer games becoming more popular, having this format for the quizzes engages students and gives them immediate feedback on their comprehension. This program also gives the opportunity to take quizzes multiple times, and I noticed that many students do go back when they do not score well on a particular quiz and try it again.

Part of the DRA assessment is for the administrator to take any observational notes they see fit throughout the reading and comprehension portions that may give insights into students reading ability. During the DRA sessions I noticed that while most students were very willing to read the text and talk to me about what they read, I did not see the level of engagement I saw with the Raz Kids program. I think the
solitary nature of the task where they work one on one with the administrator creates a dynamic that does not generate as much additional interaction beyond the task.

While the observations I made during the Raz Kids were mainly behavioral, the observations I made during the DRA administrations mainly concerned the students’ use of strategies, fluency and general confidence when reading. For example, I noted on several students’ assessment sheet what strategies they were using when they came to difficulty during the reading or retelling. There is also a section on the DRA where you can check off what observable behaviors that the students show while reading. This data easily allowed me to see individual students’ progress over time and would help me to know exactly what skills and strategies would be most beneficial for them to learn next, while none of this information is available when students use the Raz Kids program.

When looking at the two sources of assessment information, I noticed that as a teacher Raz Kids yields much less useful data that could be used for future instruction than the DRA does. Raz Kids does not provide any indication of accuracy or what types of questions the student is missing or getting correct when taking the quiz at the end. However, the DRA assessment gives the teacher an accuracy score, a sense of which strategies are being used, and the retelling provides an opportunity to get a broader view of how students are interacting with and comprehending a story. The DRA provides more authentic assessment information and also allows the teacher to use his or her expertise to differentiate and prompt throughout as needed. For example, Student H’s Raz Kids data does not provide much information and could be
confusing to me if I were trying to plan instruction. All I know about the student’s two assessments from Raz Kids is that she stayed on level O throughout the four week period and that her comprehension dropped from 8/14 to 2/10 across the sessions. Raz kids does not allow me to see what questions the student misses or know if they had a difficult time reading the content of the second passage, so as a teacher I would have a hard time trying to determine why the comprehension level had dropped. Student H’s DRA assessments shows that she increased one DRA level and her comprehension stayed consistent across the two sessions. However, in contrast to Raz Kids I can also tell that her accuracy was 99% and 100% respectively and that word recognition at this level is not a problem for this student. I can also tell from the DRA rubric that between the two sessions I rated the student made some progress in literal comprehension on texts between the two sessions and was able to give me more details during the retelling of the second DRA. I can also see that I rated fluency two points lower on the second rubric versus the first one, so the students’ fluency decreased at the higher level. This is the only area that dropped between the two session, with all the others staying consistent or increasing. This data gives me the information I need to know what the student needs to work on, and I would begin by addressing the most significant current need, which would be fluency.

Another example is Student F, whose Raz Kids data shows that his level stayed consistent between the two sessions and that his comprehension was 100% on both occasions. With this information I would not know where the student’s instruction needs to go next because I have no indication of any area he may be
struggling with. This student’s DRA levels also remained consistent over the two sessions but the students showed a noteworthy difference in comprehension score on the rubric. Even though he had above 97% accuracy on both level 28 texts, he dropped four comprehension points on the rubric during the second assessment.

When comparing the two assessments, I noticed that he had a more difficult time retelling the second text and did not include as much important vocabulary from the text as the first time. This indicated to me that the text used for the second assessment may have not have included concepts and topics the student has as much schema for.

With this student I may start my instruction by using non-fiction texts to increase the accuracy of retelling with more difficult and unfamiliar material. In both these examples I was able to gain much more insight into the students’ current strengths and weaknesses as reader through the DRA versus the Raz Kids assessment. I think this in mainly due to the ability of the teacher to make observations during the DRA assessment, while Raz Kids does not allow for this type of observation. They way the DRA breaks down their sections on the rubric is also a benefit in helping teacher identify instructional needs that is not provided by the Raz Kids software.

The last source of data I used in this study was a teacher interview to see how the classroom teacher involved in this study views both literacy activities and how she felt the assessment information helps her plan future instruction. When I asked her about the kind of data she can gather from each source she shared that she felt she could gather more quality data from the DRA literacy task. The teacher mentioned that you can get accuracy, rate, comprehension level and the retelling ability of
students using the DRA. In addition you can also determine if the student is understanding the main ideas and important vocabulary from texts, if the student can retell stories in a logical order and what type of connections the student is making to their reading.

In contrast with the DRA, she said that the information you can obtain from Raz Kids is strictly numerical, such as the level the students are on, the percentage of correct answers and how many times students have worked with a particular text. These are the only things that a teacher can gain from the Raz Kids program, as students have no interaction with the teacher during the process and they have to rely on the data that is stored for each student to monitor progress.

When it comes to planning instruction she says she does not rely on Raz Kids data at all, as she finds the data she collects using tools such as the DRA to be more reliable and useful to her planning. When asked about how she uses Raz Kids to help plan instruction and monitor student progress, she said that her district does not encourage teachers to use this data to make instructional decisions. The district also does not have any requirement about how often teachers have to use the program with their students and individual teachers do not have to use it at all if they do not want to.

Although she does not rely on the Raz Kids data, she does see many benefits for its use in her classroom. She mentioned that the class lists are very easy to set up and it is a comfortable program for her to use. Raz Kids is a program that is very clear and is straightforward to navigate when she does want to go on and check student progress throughout the year. The reports that it supplies on each student quickly
allow her to see what each student accomplished while using the program and how they are doing on the quizzes at their current level. At one point in the year she even said she changed some levels when she noticed students were struggling, and she liked that she still had the ultimate control as the teacher as to what level they work on. Student engagement was also a major benefit she saw of the program, and she said it was often a favorite choice of students during their free time because they did not have time to work with the program consistently during regular instruction. The motivation of choosing their own texts to read and the social interaction the program fostered were wonderful benefits that got students excited about reading. These factors make her view the program as beneficial to students, even though she does not feel it helps her as the classroom teacher.

All of the data analysis provides some very interesting comparisons between the DRA and Raz Kids program. While they both are literacy programs that provide reading levels and comprehension scores, the data shows they do this in very different ways. Leveling is never an exact process because there are so many factors that affect the difficulty level of a particular text for a student. This is also true for comprehension, which can be tested in so many ways. The above data shows that the DRA appears to be a more reliable source of data, both programs have advantages and disadvantages.
Chapter 5

This research study was designed to look at two specific questions concerning the use of the new literacy program named Raz Kids, which is becoming commonly used within elementary school. The questions that this study was designed to address are:

7) How do students’ reading levels assigned by the computer program Raz Kids compare to their reading levels according to the DRA reading assessment?

8) How does the assessment information gained from the DRA assessment compare to students’ level/performance on the Raz Kids reading assessment?

The data collection methods used in this study were very valuable in gaining insight into these questions and provided data that can be useful to future educators. Collecting numerical scores and observational data for each literacy task provided a great method of comparing this new technology to the more traditional method of literacy assessment, the DRA. The teacher interview I conducted was also a terrific way to gain information regarding how an experienced teacher utilizes this new technology in their classroom.

In regard to the first research question addressed by this study, I found that in many cases the leveling was not consistent between the two methods of leveling. As seen by the charts in the previous chapter, there were marked inconsistencies between how I leveled the students using the DRA and how the computer program leveled the
students based on the multiple choice quiz results. While leveling is not an exact science, with schema and prior knowledge having a dramatic effect, I was still surprised at how much of a difference was present between the two leveling methods. Some students were at completely different point in their reading development according to the two measures, which I thought could be a concern as a classroom teacher. I saw instances where the computer program was either giving texts that were considerably too easy or hard for the students, which does not give the student the optimal benefit they may get if given appropriate leveled texts.

I believe there are two reasons that this occurred, the first being that each student needs to score enough quiz points to move to the next reading level. If students do not use the program consistently, it results in not progressing through the levels at the pace that may be appropriate. I also found that if the student does use the program a lot it can have the opposite effect, and the student can manage to guess on the multiple choice quizzes enough to get the quiz points to advance by listening to the story, not reading it themselves. To combat these two factors, teachers need to be active in using this program and monitoring the levels the students are assigned by Raz Kids to make sure they are appropriate. The teacher does have the ability to adjust the level of texts the students can choose from, and I believe this is a vital component of making this program effective for all students.

From the interview I conducted with the teacher I found that she considers this program supplemental and does not regularly monitor each student’s progress. The DRA proved to be more consistent between the two collection points, but I
believe this is because much more attention is given to this measure of literacy development than Raz Kids and is monitored more closely by the classroom teacher. Based on the teacher’s comments during the interview, it was clear that she believes that the administration and teachers in the building do not believe Raz Kids is reliable as a method of collecting data and only use it as supplemental material.

After looking at the data collected for this study, I can see why teachers would be hesitant to use the data collected from Raz Kids when assessing students and discussing student progress with parents. The data collected from Raz Kids was very often inconsistent between the two administrations, for both leveling and comprehension scores. The print out from Raz Kids does not give teachers enough information to be able to determine why such dramatic differences occur or analyze students’ performance beyond the numerical scores. Without a more detailed analysis of how students perform on Raz Kids tasks from the program itself, teachers do not have enough information to use this as a reliable source of information. A study conducted by Alvermann, Swafford & Montero (2004) states that assessment should always be an authentic way to see how students are grasping material, not just a way to get a score for a student. Assessment is only valuable when the teacher can look at the data collected by the assessment and make plans for future instruction of that student based on current strengths and weaknesses. The conclusions of this article would support my finding that Raz Kids does not provide enough data to be considered and used as an assessment tool in the classroom.
This study also provided some interesting data concerning research question number two, and showed that the information gained by each assessment is quite different. Each literacy assessment provides some numerical data to help teachers monitor student progress, but each tool looks at different aspects of literacy. One main difference is that Raz Kids tests comprehension based on multiple choice questions, which are mainly literal and come straight from the reading. The DRA tests comprehension very differently, and uses a retelling section and several other questions to test different levels of comprehension. Through the DRA teachers can monitor literal comprehension, inferential ability, sequencing, connections, questioning and many other things. With the DRA teachers also have the ability to gain insight into students thinking when they do make an error and find out why they may be struggling with a particular area of comprehension and how to support the student in developing that skill.

The DRA also provides an accuracy percentage to show how accurately a student reads on a specific level, which is something that Raz Kids program can not provide. A teacher can not determine how accurately students read, or even if they read the text on their own. While the accuracy score alone is not essential, the recording of miscues can give teachers insight into how to support students in the future. Raz Kids does give the opportunity for students to listen to the story, so even if teachers have the students read to them as they work on the computer the results may not be accurate if they have listened to that story previously. During the teacher interview she shared that she does not use the data from Raz Kids in any way while
planning her future instruction or assessing students for things such as report cards. The main reason she cited for not using the information is that she feels that Raz Kids is unreliable and she does not know enough about the program and how it determines the students' level/scores to use it as part of her instruction. Alvermann, Swafford & Montero (2004) write about the authenticity of assessment and not just using tools to gain scores, but to really learn more about each student's literacy development. I believe that this is an important thing for school districts to consider as they continue to implement new technologies in their schools and whether they should be counted as part of the student's overall performance evaluation. Teachers want to make sure that they are collecting data in authentic ways, and as new technologies keep developing we need to evaluate the authenticity of each and how to use it in the classroom.

One of the main points the classroom teacher made in the interview is that the whole reason she finds Raz Kids beneficial is that it is highly motivating for students and gets them excited about reading. Her view is that even if the leveling is wrong, the fact that the students are engaged in a literacy activity makes this program a beneficial part of her classroom routine. I also observed this during the Raz Kids sessions, where I noted several times in my observation notes that students were highly engaged and having conversations regarding the texts they were reading with Raz Kids. It was great to see students showing other students their Laptops and being excited to share what they were reading. Even though there were two teachers in the room during the session, there was very little classroom management that had to go on during this time because students were so focused on their task. As I was talking
with students and asking them what they like about the program, the most common answer was that they loved to choose their own texts, especially since there was a high proportion of non-fiction texts available. This finding is consistent with Barone & Wright (2008), that found that the use of mobile laptop units and other technologies can help increase student motivation and engage students in activities that they might not otherwise be interested in.

Providing students with choice is one of the biggest advantages I found of the Raz Kids program, and is highly motivating for students. Going onto Raz Kids is just like having an entire library at the click of a computer mouse, and very often provides more options than any classroom library would be able to. In my observations I noticed that this was a major motivational factor for the children that helped engage them in their reading. For example, one student went over to his friend in the class and said “This book is awesome, you should read the book on dinosaurs!” I mentioned this to the classroom teacher and she shared that these two students often would play with the toy dinosaurs in the classroom. Raz Kids provides an easy way for students to find and read books that capture their individual interests, without having to go outside the classroom. Also, since Raz Kids does provide students with the option of listening to the books they choose, it opens up even more choices for the students. Since students can sometimes choose a book from the Raz Kids library, if it is above their level they do not have to worry that they will not be able to read it. Gegner, Mackay & Mayer (2008) found that the use of technology based sources and aids helped increase student motivation to read and process articles related to their
current curriculum topics. As we saw with the dinosaur example above, the student choice provided by Raz Kids allows students to explore their interests of both current curriculum topics and outside interests. This article supports my finding in this study that one of the most beneficial aspects of Raz Kids is that the new technology is motivating for students and allows them to explore their interests without apprehension or fear.

This study suggests that the true benefit of these new literacy technologies may lie in the ability of these programs to capture students' interests and provide a different method of literacy instruction. Especially with the increase in video games and computer use, it has become more difficult to find ways to engage students in new learning and these programs may be one method that could benefit many students. Having programs such as Raz Kids appears to be a great option for students who may prefer to have this method to engage in literacy activities. As a classroom teacher one of the main objectives is to have students engage in the learning process, so if this is the way they choose to do it then it can only be beneficial to their learning. However, this study also shows that we need to be cautious about how we use the data to inform our instruction and judge student progress. While it does seem like a great motivational tool, the results from this study show how inconsistent it can be. Teachers should always rely on their own observational data of the student and their expertise when determining student needs, not results from literacy software.

Future research needs to be done on these new technologies and how they impact student learning. The sample size of this study is so small that it would be
essential to extend this study to a larger population to see trends across geographic regions. Research should also be done about how socio-economic status may affect a study like this. If students do not have the background knowledge in technology that these students had, will this program be as motivational? The socio-economic status of a school district may also affect the access the students have to these programs and the effects could be different. Also, this study only looked at one program out of hundreds that exist for school districts to consider. Much more research needs to be done on individual programs and their effect of student learning to find out which is most effective for specific age groups. With how rapidly our society is changing technologically, this area of research is going to become vital as we consider how our classrooms will be continuously changing as new developments unfold.
Bibliography


Appendix 1

Consent for Student Observation and Collection of Assessment Data

The purpose of this study is to explore the implications that new technologies have on literacy instruction, specifically the computer program Raz Kids. If you agree to allow your child to participate in this study he or she will be observed during the time periods Raz Kids is used in the classroom and be administered a Developmental Reading Assessment to determine his or her reading level at the time of the observations. This process will be repeated twice, approximately 4 to 6 weeks apart.

In order for you child to participate in the study, your informed consent is required. If you would like for your child to participate in the study, and you agree with all of the following statements, please sign this form in the space provided at the end of this document. If you change your mind at any point during this process your child may withdraw from the study at anytime without penalty and the data collected to that point will not be used in research study.

I understand that:

1) Participation is this study is voluntary, and consent can be withdrawn at anytime. Students have the right to refuse to participate in observations or answer any questions asked.

2) Students will never be identified by name or any other identifying characteristics besides age and gender. If my child is chosen she or he will be assigned participant ID, such as “Student A”, which will be is the way she or he will be referred to during data collection and the report of any data results.

3) There are no anticipated risks for participating in the study. Most of the research will be taking place during normal classroom practices. The time students will be missing classroom instruction will be minimal, approximately 15-30 minutes to administer a Developmental Reading Assessment. All assessments and observations will occur within the classroom and the documentation will be recorded by writing observations and computer print outs from the computer program Raz Kids.

4) This process will be taking place at two points in the school year, approximately 4 to 6 weeks a part.

5) This data will be used in the completion of a thesis project written by the primary researcher, approved and reviewed by an advisor at SUNY Brockport.

6) Any data collected will be kept securely in a file by the researcher and the data will be shredded and destroyed upon approval of the thesis project.

I understand the above information and agree that my child can participate in this research project. I am 18 years old or older. All of my questions have been answered to my satisfaction and I know that I can contact the researcher with any further questions during the study at 716-940-2334.

If you have any questions, you may contact:

Primary Researcher:
Jennifer Mackmin
716-940-2334
jmac0802@brockport.edu

Thesis Advisor:
Dr. Sue Novinger
585-395-5935
snovinge@brockport.edu

Signature of Parent and/or Guardian: ____________________________

Child’s Name: ____________________________ Date: _________________
Appendix 2

Interview Questions:

1) What kinds of assessment data can you obtain by looking at a student’s DRA results?

2) What kinds of assessment data can you gain by considering student’s level on the Raz Kids program?

3) How do you think these two measures of reading ability compare?

4) Which program do you feel provides the kind of assessment information that is most beneficial to your future teaching?

5) How comfortable do you feel with the Raz Kids program? Why do/don’t you feel comfortable with the program?

6) Do you think the results from this program could help you plan future instruction? How?