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THE EFFECTIVENESS OF SUCCESSMAKER FOR TITLE I
STUDENTS IN GRADES THREE AND FOUR

by
Lynn Marcus

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
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Approved by

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For my family and friends who have supported me
from the beginning until the end.

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Chapter 1

Introduction

Focus of the Study

Implementing technology programs in school districts have been quite difficult for teachers. They seem cautious of programs that claim to improve student achievement in a matter of weeks. Their main concern was whether the research and data proved such a program worked. Due to the amount of time teachers and students put into such programs, teachers and administrators wanted reassurance that these programs were working by observing students' increased skill level. One such program that contains research proving increased test scores is a program entitled SuccessMaker. SuccessMaker is a computer program that students utilize to help reinforce mathematics and reading skills. Even though SuccessMaker was implemented throughout the entire district of Clementon, the targeted group of this study was the Title I students.

Title I students, who were working below their grade level, struggle to academically keep up with the rest of the class. It was the expectation that SuccessMaker help improve these students' skill level and standardized test scores. To enable these students to increase their skill level even more, an extended school year program was offered during the summer to only Title I students. These students attended the summer program and completed mathematics SuccessMaker everyday for 19 days.

The focus of the study was to gather mathematics SuccessMaker data from the end of the school year in June 2004 and then again after the completion of the extended school year summer program. The data from the Title I students in grades three and four was used for three purposes. The first purpose was to determine if these students increased their skill level after attending the program. Then the data was used to compare the skill levels of students who did attend the program against those that did not attend. Finally, scores amongst these two groups were used to see if those that attended the summer program started at a higher skill level than those that did not attend the program, when school started in September 2004.

Purpose of the Study

With No Child Left Behind, Title I became an important program in Clementon Elementary School. For the first time, an extended school year summer program was developed through Title I funds. This program was only offered to those students who had qualified for the Title I basic skills program during the school year. Mathematics SuccessMaker was one of the courses each of the students had to complete daily. Given that these students were already working below grade level on the program, it was anticipated that they could use this extra time in the summer to not only increase their skill level, but help close the achievement gap.

The purpose of this study was to determine three results. First, the study wanted to find out if the Mathematics SuccessMaker program was effective in increasing skill levels during the extended school year summer program for Title I students in grades three and four. Then, compare the skill levels of students who did attend the summer program. Finally, determine if those students who attended the summer program started

at a higher skill level, when school started in September 2004, as compared to those that did not attend.

Definitions

SuccessMaker: SuccessMaker is a computer program that offers a combination of management system, assessment, and curriculum resources to provide administrators, teachers, and students with tools to improve academic performance.

Skill level: Skill level is the grade equivalent of academic performance. For example, a skill level of 3.7 states the student is performing at a grade three, seventh month skill level.

Limitations of the Study

The first limitation was that teachers had limited professional development with this program. Therefore, they may have had limited capabilities for student support or have had difficulties understanding how to gather and analyze data from the program. Some of the students may not have used the technology in the way it was intended for and may have pretended to play. This may have led to the students not spending enough time on the program as prescribed by Pearson Digital Learning. Due to a high transient rate in Clementon, 22.4%, there may have been a few students who transferred in or out of the district during the time the study was being conducted. Some students may have exited or entered the Title I program at different times during the year. Also, there was always the potential that the computer lab was down and teachers were unable to take their classes to complete sessions of the program. Finally, the Clementon School District only had one school, therefore this study was confined to this school, and the findings were not generalized to other school districts.

Setting of the Study

The most current information about the Clementon School District was obtained from the 2002–2003 school report cards. The Clementon School District had only one school, Clementon Elementary School. This school building housed grades Pre-K–eighth grades, preschool disabilities class, the board of education offices, including the superintendent, and the community education office.

As of October 2003, there were 598 students enrolled in Clementon. Of these students 95.8% spoke English, 3.2% spoke Spanish, 0.2% spoke Bengali, 0.3% spoke French, 0.3% spoke Romanian, and 0.2% spoke Philippino. The student mobility rate has been rising in the past three years from 19.8% to 22.4% of students who entered and left during the school year.

As of the 2004–2005 school year, the district had fifty-five certified personnel including classroom teachers, special education teachers, special area teachers, guidance counselor, speech therapist, world language teacher, occupational therapist, child study team members, and computer literacy teacher. The district also had 12 instructional aids. The percentage of administrators and faculty possessing a bachelor's degree was 80.6% and a master's degree was 19.4%.

Clementon Elementary School offered many activities. This included four full-day kindergarten classes, one half-day preschool program, Title I Afterschool program, National Junior Honor Society, concert and jazz band, cheerleading, basketball, student council, French and Spanish instruction, D.A.R.E. program, community education programs, and student awareness programs.

In 2000, the total population in Clementon was 4,986 with a median household income of \$42,207. Over the past 20 years, the community has passed every school budget. The most recent budget passed by only two votes.

Significance of the Study

The significance of this study was to determine if mathematics SuccessMaker increased the skill levels of the Title I students in grades three and four during the extended school year summer program. Also, the information from SuccessMaker was used to compare the skill levels of SuccessMaker students who did attend the summer program against those that did not attend. Finally, scores amongst these two groups were used to see if those that attended the summer program started at a higher skill level in SuccessMaker than those that did not attend the program.

Relationship of the Study to the ISLLC Standards

The main standard that was the focus of this study was Standard 2, a school administrator was an educational leader who promoted the success of all students by advocating, nurturing and sustaining a school culture and instructional program conducive to student learning and staff professional growth. Within this standard, the administrator believed in, valued, and was committed to a safe and supportive learning environment, which was one of the purposes of having SuccessMaker. This software was secure in that students did not have to worry if they did not know the answer. The administrator facilitated and engaged in activities ensuring that if there were barriers to student learning then they were identified with this software and addressed.

SuccessMaker technology was employed in teaching and learning and the program was

designed to meet student needs. It supported what the student answered and provided reinforcement when needed.

Another standard that this project focused on was Standard 3, a school administrator was an educational leader who promoted the success of all students by ensuring management of the organization, operations and resources for a safe, efficient, and effective learning environment. The administrator had knowledge understanding of the use of technology. Also, the administrator believed in, valued and was committed to management decisions for the enhancement of teaching and learning.

The final standard was Standard 5; a school administrator was an educational leader who promoted the success of all students by acting with integrity. The administrator had knowledge understanding of the diverse school community.

Organization of the Study

The remainder of this study was organized as follows: Chapter 2, Review of Literature, will focus on the research found in journals, Chapter 3, the Design of the Study, will focus on research instruments, sampling, data collection approach and analysis, Chapter 4, the Presentation of Data, will focus on what information was found and what it meant, and Chapter 5, Conclusions, Implications, and Further study such as comparing the data with those students that are not in the Title I program.

Chapter 2

Review of Literature

Since the Elementary and Secondary Education Act of 1965, there were two goals of Title I, which included the improvement of schooling in high-poverty contexts and to advance the equality of education. By using the funds for Title I, the federal government's most important role was to "lessen the achievement gap by providing financial assistance to schools to improve the education of disadvantaged children" (LeTendre, Wurtzel, & Bouckris, 1999, p. 270). In order to obtain funding to support such a program, schools needed at least 60 percent of its population receiving free or reduced lunches. Once the program was funded, it was designed to assist students who were considered low performing or at-risk.

Traditionally, Title I was a pullout program that assisted students who qualified and were considered at-risk. These students would go to another classroom, with a designated Title I teacher, and work on individual skills that the students needed.

There are several benefits to having a pullout program to help students increase their performance. At the time of this study, Title I was aimed to those students who may not have responded to traditional instruction. This program offered the opportunity for teachers to be more "creative, personalized, and flexible" in a small group setting or one-on-one (O'Rourke, 2001). These teachers had the ability to do something different that may not be applicable in the regular classroom, such as throwing a ball around to yell out answers.

Even though small groupings and individual attention can provide students the chance to master skills, which raised their interest in learning and their confidence, the Title I teachers were able to build relationships (O'Rourke, 2001). O'Rourke (2001) states, "positive relationships with teachers may be the single most important attribute of success for low-performing students" (p. 38).

The main drawback to such a pullout program, continuously seen in research, is the feeling that students, who are being pulled out for extra instruction, are missing regular lessons and being singled out (O'Rourke, 2001). This may be a concern for many teachers in districts however; these are the students who were not making gains by way of conventional instruction. Some of these students are so far behind, or lack basic skills, that they cannot keep up or participate in the lessons anyway.

In order for such a program to work successfully, "collaboration between the classroom teacher and other instructors are important, but so are the basic acquisition of skills students need for proficiency" (O'Rourke, 2001, p. 38). Having a Title I teacher in school districts offers the opportunity for teachers to work in partnership to help these students. Regular classroom teachers may not be aware of all the possible alternative approaches to help these students succeed. This was especially true when teachers are overwhelmed with large class sizes and are frequently unable to devote the time, energy, and patience needed for those few students who are truly struggling (O'Rourke, 2001).

With the No Child Left Behind Act, schools have been judged not only on their average standardized test scores, but also on their ability to improve achievement among all groups of students. The new Title I call for stronger accountability mandates, including testing in grades 3 through 8 and holding schools and districts responsible for

the achievement outcomes of minority students, low-income students, and English-language learners. Further, it specifies, scientifically based research as the means by which schools must improve excellence and equality in student outcomes. However, too many of our children, especially those of color or from low-income households lack fundamental academic skills (Haycock & Jerald, 2002). By fourth grade nearly two out of three African Americans and one in two Hispanic fourth graders perform below the basic level in mathematics, compared with only one in five whites (Haycock & Jerald, 2002).

There are other entities that a principal cannot control when it comes to high stakes testing, such as poverty. Our large achievement gap has been a concern to educators for a long time. “Strong research evidence suggests that the achievement gap is already large when children enter kindergarten, that the gap increases as students go through school, and that summer learning differences may play an important role” (Borman, 2003, p. 49). Nevertheless, there are many reasons why we have been so unsuccessful at closing this gap. Besides high-poverty school districts being funded at woefully low levels, many poor and minority children enter school already behind, and some live in circumstances that are hardly conducive to learning (Haycock & Jerald, 2002).

“The growth in the achievement gaps may also be explained by differences in parenting practices, differing attitudes toward school among students, and other factors over which schools have relatively little control” (Borman, 2003, p. 49). According to Borman, Brown, & Hewes (as cited by Borman, 2003), recent national data tell us that the achievement gaps between students attending high-poverty schools and students attending more affluent schools exist even as U.S. students begin kindergarten. This has indicated that closing the gap must begin with a strong educational foundation of high-

quality preschool and full-day kindergarten programs. It has been researched, according to Barnett (as cited by Borman, 2003, p. 49) that “preschool interventions can help close the achievement gaps and can have important long-term impacts on students through middle school, high school, and even into adulthood.”

“But rather than acknowledging that some children are starting behind, and giving them the extras they need to catch up, we take the kids who have less to begin with and give them less in school, too” (Haycock & Jerald, 2002, p. 20). They are taught disproportionately by inexperienced and poorly prepared teachers, even though there is research that supports assigning the strongest teachers to the students who need them most (Haycock & Jerald, 2002). “Yet poor and minority students are twice as likely to be assigned to classrooms with inexperienced or otherwise ineffective teachers” (Haycock & Jerald, 2002, p. 20).

Haycock and Jerald (2002) found that there is no one best way to close this gap. In spite of this, schools have been making the attempt by extending instruction before school, after-school, on weekends, or during summers while other schools are creating more time within the regular school day by doubling-even tripling-the instructional time given to low-performing students in literacy and mathematics.

With \$7.7 billion being used for Title I and the amount of students who are in the program, many educators question its’ effectiveness and wonder if the program has proven itself. “Compelling research evidence suggests that Title I has met the needs of disadvantaged students (Borman, 2003, p. 49). Grissmer, Flanagan, & Williamson, 1998; Smith & O’Day (as cited by Borman, 2003, p.49) state “long-term trend data from the National Assessment of Educational Progress (NAEP) indicated tremendous progress in

the 1970s and 1980s in closing the persistent achievement gaps separating low-income and more advantaged students, and African American and white students.” “Also, during this period, the gaps between African American and white students, for instance, shrank by about two grade levels” (Borman, 2003, p. 49). “Supporting this contention stated by Borman & D’Agostino (as cited by Borman, 2003, p. 49), a “comprehensive meta-analysis of the results from 17 federal evaluations and more than 40 million Title I students’ test scores from 1966 through 1993 indicated that the 1970s and early 1980s were also the periods of the greatest improvements in Title I students’ mathematics and reading achievement outcomes.” According to the National Assessment of Educational Progress (NAEP), the 35-year-old Title I program is showing measurable signs that it has helped students. The latest data provided by NAEP shows that “nine-year-olds attending the nation’s most impoverished school improved their reading scores between 1992–1998 by eight points, or almost one grade level” (Education USA, 1999, p. 1). Likewise, they declared that nine-year-olds with the worst NAEP mathematics scores, those most likely to be receiving Title I services, had improved their scores by about eight points between 1990 and 1996 (Education USA, 1999; Robelen, 1999). This represents about one grade level of growth. Education USA (1999) stated that Education Department attributed the higher scores to Title I services and policy.

Regardless of how some educators feel, a “meta-analysis suggests that the students served by Title I clearly would have been worse off academically without the program. Second, National Assessment of Educational Progress data show such tremendous national progress demonstrates that educational inequality can be overcome in a relatively short period of time when new policies and funding sources are targeted toward

improving education and other services for disadvantaged students” (Borman, 2003, p. 49). As indicated by Reynolds, Temple, Robertson, & Mann (as cited by Borman, 2003, p. 49), “promising research shows that this Title I program can make important differences in students’ short-and long-term outcomes including a 25 percent reduction in the high school dropout rate.”

“Given the central purpose of Title I to close the achievement gap-and the clear emphasis on research-proven strategies within the No Child Left Behind Act, how should policymakers, administrators, and teachers use Title I monies to respond to the ongoing challenge of attaining educational equality in U.S. schools” (Borman, 2003, p. 49)? With the achievement gap becoming more of an issue, summer school has been an increasingly popular solution. According to AFT president Sandra Feldman (as cited by Glass & Gursky, 2001, p. 7), “one great use of funding in Title I is to extend the school day and year in low-performing schools in districts that have high concentrations of poverty, so that the academic gains that our schools are already producing for poor children are accelerated and sustained.”

The topic of providing summer or extended day programs to low achieving students has been up for debate for decades. When school calendars were established, the main reason for no summer school, was due largely to the 85 percent of American families depended on farming while the remaining three-months allowed farm children to help out with planting and harvesting (Borman, 2001). “Today, when only 3 percent of Americans are involved in farming and our technology-based economy demands increasingly specialized knowledge and skills, both the logic and the adequacy of the nine-month school calendar are increasingly being questioned” (Borman, 2001, p. 26).

The reason for such a debate evolves around research regarding students' academic regression in the areas of reading and mathematics. Over the long summer break, all students tend to forget some of the material that they learned while school was in session. According to Cooper et al. 1996 (as cited by Cooper, Charlton, Valentine, & Muhlenbruck; Borman & Boulay), it was found that over the summer break the typical student loses a little more than a month's worth of skill or knowledge in mathematics and reading/language arts combined over the summer. According to Karl L. Alexander (as cited by Viadero, 2003), he said the cutback of summer programs is troubling, because studies show that students' academic achievement suffers over those idle months. His own research with urban elementary school pupils shows that, on average in mathematics, they lose the "grade-level equivalent of 2.6 months of learning over the summer break" (Viadero, 2003). According to Walbesser, 1972; Heyns, 1978; Ascher, 1988 (as cited by Borman, 2001, p. 26), their earlier reviews concluded that summer programs had only modest effects on students achievement. Cooper et al. 2000 (as cited by Borman, 2001, p. 26), found a more recent compilation of evidence from 93 summer school research reports suggesting that the vast majority of programs had positive effects on student achievement. The aforementioned authors found that the average summer school students, who attended, outperformed about 60 percent of similar students without summer programs (Borman, 2001). Borman (2001) found it surprising that the areas showing the largest losses were mathematics computation and spelling, skills that require repeated practice. Much of this is related to the fact that poor children tend to have fewer books and out-of-school learning opportunities during the summer (Borman, 2001; Glass & Gursky, 2001).

“Like Title I, students who attended a summer school program have already performed below grade level and have struggled to succeed using conventional instruction. If students attend a summer program due to academic performance, the program should have efficient use of time, effective activities, engaging curriculum, and a “laser-like” focus on the skills necessary that will help them to succeed” (Christie, 2003, p. 485). Another study conducted by Cooper et al. 2000 (as cited by Borman, 2001), found that the most effective summer programs:

“Involve parents, remain small in size, undergo careful scrutiny; contain substantial academic components related to reading and mathematics; and coordinate summer school experiences with those that occur during the school year (p. 29).”

The majority of research today supports some form of summer programs. However, there were only a few articles criticizing summer school. Stenvall (2001) is not an advocate to summer school because she feels “we have summer schools comprising only students who have been diagnosed as failures, documented as failures, and confirmed (by egregious amounts of testing) to be failures” (p. 36). She feels that we have “summer prison, where youngsters have committed the crime of failure and are sentenced to a cell of like offenders to do their time” (Stenvall, 2001, p. 36). Similarly, Galus and Ross (2003) feels if the material has not been learned by these students in 20 weeks of school, it will not be likely he or she will learn it during the four to five week summer course (Galus and Ross). He feels summer schools lack expectations and accountability (Galus and Ross, 2003). Despite the negativity towards summer school, there are numerous amounts of positive research supporting such a program.

In Borman's opinion, he believes if the goal of a summer program is to narrow achievement gaps and improve educational equality, then it would be more productive to focus on reading instruction for disadvantaged children (2001). However, if the goal were to prevent significant learning losses, a focus on mathematics instruction would be logical (Borman, 2001). Regardless, there is still a lot of research that favors implementing a summer program.

According to Alexander and Entwisle, 1996 (as cited in Borman, 2001, p. 26) a "long-term study showed that summer learning losses by poor children accumulate over the elementary-school years and their achievement scores fall farther and farther behind the scores of their more advantaged peers as they progress through school." As a result of this and other research from Heyns, 1978 (as cited by Borman, 2001, p. 26) "it has become a well-established fact that what happens during the summer has tremendous implications for understanding and addressing the persistent achievement gaps that separate poor and minority students from their middle-class peers." As stated by Entwisle & Alexander (as cited by Borman, 2003, p. 49), "perhaps most important, data from a long-term study of students in Baltimore suggest that the widening of the gap between poor and middle-class students is not explained by differences in school-year learning rates, but by marked summer learning differences." Over the long summer break, all students tend to forget some of the material that they learned while school was in session. Cooper, Nye, Charlton, Lindsay, & Greathouse (as cited by Borman, 2003, p. 49), "estimated that during the summer break the typical child loses a little more than one month's worth of skill or knowledge in mathematics and reading/language arts combined." According to Harris Cooper (as cited by Glass & Gursky, 2001, p. 7), at the

University of Missouri reviewed “existing research studies on summer remedial programs and found that students in summer school outperform students who don’t attend.”

Extending our school day and year could be the answer to help our low-performing students achieve.

“As a result, over the summer, poor students tend to slip even farther behind their more advantaged peers” (Borman, 2003, p. 49). According to Entwisle and Alexander’s study (as cited by Borman, 2003, p. 49), simply adding the gap that existed at the beginning of elementary school to the gaps that are created during the school breaks would account for virtually the entire achievement gap between middle-class and disadvantaged students at the end of high school.”

In order to lesson the summer learning regression and help prevent the widening of the achievement gap, poor and minority students need more opportunities to extend their learning through the summer months (Borman, 2003). Cooper, Charlton, Valentine, and Muhlenbruck (as cited by Borman, 2003, p. 49), conducted a narrative review and meta-analysis of 93 evaluations of the effects of summer school on student achievement outcomes and concluded that summer school programs for either remediation or acceleration have a positive impact on the knowledge and skills of participants. Cooper, Nye, Charlton, Lindsay, & Greathouse (as cited by Borman, 2003, p. 49), further reported that “summer remedial programs, typically designed for Title I students, have as much effect on achievement as programs with similar goals conducted over the course of an entire school year.”

According to Chubb and Loveless (2002), there are many barriers to student achievement in mathematics, especially due to poverty. “Research shows that the

damaging effects of poverty have prevented large numbers of children from succeeding in school, resulting in a disparity between the performance of children from low-income and those from high-income families” (LeTendre, Wurtzel, & Bouckris, 1999, p. 270). Whether or not there is a large population of children from low-income families in high-poverty areas, schools are able to support improvements in teaching and learning and offer services to help disadvantaged children succeed in school. Using resources to help schools develop comprehensive strategies to improve instruction will benefit students in all academic areas (LeTendre, Wurtzel, & Bouckris, 1999). Due to the law requiring Title I services to be linked to content and standards, programs such as SuccessMaker, already offer the ability to measure students’ progress toward these standards. “With about half of the 7 million Title I participants who are currently receiving mathematics assistance, Title I services must help these children master challenging mathematics content, including the foundations of algebra and geometry, by the end of the eighth grade” (LeTendre, Wurtzel, & Bouckris, 1999, p. 270).

One way that districts are tackling low-achieving students is through the use of computers. Mergendoller (2000) stated that in 1983, computers used for instruction were a rarity in American schools. Becker (as cited by Mergendoller, 2000), acknowledged a national survey revealing there were just 250,000 instructional computers in the nation’s schools—one for every 168 students. As of 1999, according to Anderson and Ronkvist (as cited by Mergendoller, 2000), the total number of instructional computers has risen to 8,600,000 and a recent national survey indicates that the average American school has one such computer for every six students. As computer technology becomes an important and fundamental presence in American schools, “the next hurdle, however, is the most

critical: adapting educational technology to support and extend student learning”

(Mergendoller, 2000, p. 9).

Now more than ever, schools have tried to find research based curriculums and programs to help increase student achievement. A more common tool used was computer technology to help improve student skills in mathematics and reading. However, the thought of having a computer teach basic academic skills, leads educators to think of computerized “drill and practice” (Trotter, 1998).

Ted Hasselbring has identified three broad steps that are necessary to mastering basic skills – developing the skill initially, becoming fluent at it, and being able to apply it across different activities and content areas. Drill-and-practice, he says, addresses only the second step – fluency (Trotter, 1998). Unfortunately, Hasselbring says teachers do not always understand that and they assume that drill and practice will teach students skills even though it was designed to develop fluency (Trotter, 1998). According to Hasselbring, developing fluency is the only reason to use the drill-and-practice program (Trotter, 1998). A few conclusions that can be drawn from research on education technology are that children are able to learn basic skills from computerized drill-and-practice, at least in mathematics (Trotter, 1998).

Despite the differences of opinion about doing drill-and-practice activities using computer software, educators have said technology in general will benefit students who lack basic skills. Carol A. Shilinsky, who is currently the principal of the Accelerated Learning Laboratory School, emphasizes that “technology is only one aspect of the school’s approach to education” (Trotter, 1998, p. 25). There are advantages of education technology including, the ability to motivate students, encourage them to work in teams,

and take them a step beyond the lessons and materials they got in class (Trotter, 1998).
“Computers will make no personal judgments, a fact that can help children who are afraid of making a mistake in front of their teachers or classmates” (Trotter, 1998, p. 25).

Of course, educators are aware that technology single-handedly will not provide positive impacts on student learning. Baker, Herman, and Gearhart (as cited by Mergendoller, 2000 p. 5) wrote: “Technology alone cannot improve teaching and learning...technology use must be grounded firmly in curriculum goals, incorporated in sound instructional process, and deeply integrated with subject-matter content.”

Mergendoller (2000) believes the computer has the potential to increase students’ academic achievement, but that potential depends on how it is used. Becker and Hativa (as cited by Mergendoller, 2000, p. 5) found “early assumptions that Integrated Learning Systems (ILS) would automatically enable all students to quickly master basic skills were proven false when educators realized that it was the quality of ILS software, the context of ILS instruction, and the links established between classroom instruction and ILS practice that were important predictors of student success.”

“The inconsistent results presented by these and other studies suggest that it is not educational technology that produces learning, but how it is used in the teaching/learning process and how it is able to extend and enhance student learning, only if it is used in an instructionally compelling manner” (Mergendoller, 2000, p. 5). Mergendoller (2000) suggested the need to evaluate classroom technology use by examining student work and comparing such work to similar efforts produced without technological tools. This can help determine whether technology use is improving student learning. Mergendoller (2000, p. 9) felt:

“We need to shift our sights from computer technology to learning technology. Our thinking should begin with the type of learning we want our students to achieve and conclude with resolutions of how this learning can be technologically supported and extended. We must be both serious and skeptical in assessing whether technological tools can help us reach student learning goals more effectively.”

With all of the research that has been done in regards to computer software and student achievement, Clementon Elementary School decided it was time to use technology to help build student achievement. In keeping with No Child Left Behind, it was Clementon Elementary School’s goal to help not only the Title I students, but the whole district. After previewing several computer-based technology programs, Clementon found Pearson Digital Learning. This company, with over 40 years in the education business, already implemented technology software in over 95 districts and 585 schools in New Jersey, to help achieve learning gains and manage student information (Kwiatkowski, 2004). Their products offer comprehensive solutions demonstrated to help students, parents, teachers, and administrators maximize performance district-wide (Kwiatkowski, 2004). Due to the compelling research from other school districts and Pearson, it was decided the district implemented SuccessMaker in all kindergarten through eighth grade classes.

According to Pearson Digital Learning (2004), SuccessMaker provides a research-based, balanced mathematics program for PreK–8 to use in combination with any adopted mathematics texts by cultivating early mathematics abilities, building conceptual understanding, offering spiraling standards-based curriculum, improving strategic

competence and adaptive reasoning by complex problem solving, helps students transition to first-year algebra, and supports multiple means of assessment.

The SuccessMaker mathematics courses that are offered by Pearson help children develop mathematics skills and strategies in progressively more difficult contexts going from fundamental mathematics concepts to complex problem solving. The program, *Math Concepts and Skills* develops essential mathematics abilities aligned to major state and national testing programs (Pearson Digital Learning, 2004). Adaptive individualized instruction and assessment builds NCTM content with number and operations, measurement, geometry, algebra, and probability and statistics. With an emphasis on computations, applications, and problem solving, the course enables students to typically master more than 90 percent of 1,600 standards-based learning objectives presented (Pearson Digital Learning, 2004).

According to Pearson Digital Learning (2004), researchers from Pearson Education Technologies have analyzed student performance data from thousands of students to establish the average time students need to make gains in *Math Concepts and Skills*. It has been researched that an average of one year's growth can be made with only 25 hours of instruction with second through early fourth grade students needing more time and middle school students needing a little less (Pearson Digital Learning, 2004).

Pearson Digital Learning (2004) had provided many success stories about SuccessMaker on their website that are in relation to this site. Ball's Buff Elementary School conducted an evaluation of this program over one school year. It was found that median scores improved at all the grade levels it was implemented. The findings showed they improved as a group, which included minority students. Hempfield School district

conducted a similar study however; they only focused on *Math Concepts and Skills*. It was found that students who were higher-achieving increased more than the average-achieving students and the average-achieving students increased more than the scores of low-achieving students.

Even though the NAEP, in 2000, indicated nearly one-third fourth-graders performed at or above grade level, we still need to meet the needs of our lowest-performing students who may not have been proficient (O'Rourke, 2001). "Certainly all children can learn and achieve, but students in the at-risk population will rarely outperform students who are supported, encouraged, and coached at home" so it is our responsibility to assist them (O'Rourke, 2001, p. 38).

Chapter 3

The Design of the Study

Description of Research Design

Title I students, who were working below their grade level, struggle to keep up with the rest of the class. It was the expectation of Clementon Elementary School that SuccessMaker help improve these students' skill levels and standardized test scores. To enable these students to increase their skill level even more, an extended school year program was offered during the summer to only Title I students. These students attended the summer program and completed mathematics SuccessMaker everyday for 19 days.

The focus of the study was to gather mathematics SuccessMaker data from the end of the school year in June 2004 and then again after the completion of the extended school year summer program. The data from the Title I students in grades three and four was used for three purposes. The first purpose was to determine if these students increased their skill level after attending the program. Then the data was used to compare the skill levels of students who did attend the program against those that did not attend. Finally, scores amongst these two groups were used to see if those that attended the summer program started at a higher skill level than those that did not attend the program, when school started in September 2004.

Focus of Research Instruments

The program SuccessMaker came complete with reports that can be printed out and analyzed on a daily basis. The report that was used during this project was the

Cumulative Performance Report, the main report used by the administration and teachers to analyze data.

The purpose of the Cumulative Performance Report for *Math Concepts and Skills* presents information about the progress of groups of students as well as the progress of individual students in the group (Pearson Digital Learning, 2004). The information from this report included several pieces of information, however for this project the only section that was used was the current course level. The current course level is an indicator of where a student is working in the course (Pearson Digital Learning, 2004). For example, if the course level states a 3.40, then that meant the student was working at a third grade, fourth month level.

For the purpose of this project this information will be used to analyze the data:

Table 1

Course and Grade Levels

Grade	Course Level
1	1.00 – 1.99
2	2.00 – 2.99
3	3.00 – 3.99
4	4.00 – 4.99
5	5.00 – 5.99
6	6.00 – 6.99

Sample and Sampling Technique

The students chosen for this study consisted of Title I students in grades three, four, and five. Title I students are chosen based on Terra Nova or NJASK scores, report card grades, and teacher recommendation. The students who were considered Title I at the end of the school year were offered the opportunity to attend our extended school year summer program. Of the students in the Title I program at the end of the year there were eight third graders, eight fourth graders, and nine fifth graders that attended the summer program.

Data Collections Approach

The data for this project were obtained from the SuccessMaker software. This included the Cumulative Performance Report for *Math Concepts and Skills*. The data was first gathered at the end of the school year on the Title I students that were going to attend the summer program. During the summer the Title I students worked on *Math Concepts and Skills* daily, for the length of the summer program. The summer program lasted 19 days. The Cumulative Performance Reports for *Math Concepts and Skills* were analyzed after the last session of the summer program. The skill levels were then compared to see if the Title I students increased their skill level due to attending the summer program. Then the results were compared with Title I students that did not attend the program. Finally, the data was used to determine if those students that attended the summer program began at a higher level than those students that did not attend the program.

Data Analysis Plan

The mathematics data from the Title I students in grades three and four was used for several purposes. The first purpose was to determine if the Title I students increased their

skill level after attending the extended school year summer program. This was completed by taking the Title I students skill levels from their last session on SuccessMaker and comparing it to their skill level at the end of the summer program. Next, the data from the end of the summer program was used to compare the skill levels of Title I students who did attend the program against the Title I students that did not attend. Then the scores amongst these two groups were used to see if those that attended the summer program started at a higher skill level in *Math Concepts and Skills* than those that did not attend the program when school started in September 2004.

Chapter 4

Presentation of Findings

Findings

During the 2003-2004 school year Clementon Elementary School decided to offer an extended school year summer program to the Title I students in grades one to eight. Of the students going into grade 3, 100% of the Title I students participated in the summer program while grade 4 had 57% of the Title I students attend. These students completed SuccessMaker's *Math Concepts and Skills* for 19 days. After completing the program, all of the data was collected and analyzed to determine if these students increased their grade level performance.

The first data collected determined the grade level performance of both grade levels and the Title I students going into grades 3 and 4 at the end of the 2003-2004 school year. By the end of the school year in June 2004, students going into grade 3 should have had at least a skill level of 3.00 to be considered on grade level. The information collected showed grade 3, as a whole, averaged a 3.03 grade level performance on *Math Concepts and Skills* by the end of the school year. That meant the third grade class averaged .03 months above grade level on this program. Of the third grade, the Title I students averaged a 2.74 grade level performance. This meant the Title I students going into grade 3 averaged .26 months below grade level. After attending the summer program, the Title I students going into third grade averaged a 3.50 grade level performance. This result averaged a gain of .76 months since the end of the school year and .50 months of growth from the 3.00 grade level performance for third grade. When comparing the results

against the entire third grade, the Title I students had an average of .47 month gain on *Math Concepts and Skills*.

By June 2004, students going into grade 4 should have had at least a skill level of 4.00 to be considered on grade level. The information collected showed grade 4, as a whole, averaged a 3.57 grade level performance on *Math Concepts and Skills* by the end of the school year. That meant the fourth grade class averaged .43 months below grade level on this program. Of the fourth grade, the Title I students averaged a 3.51 grade level performance. This meant the Title I students going into grade 4 averaged .49 months below grade level. After attending the summer program, the Title I students going into fourth grade averaged a 4.25 grade level performance. This result averaged a gain of .76 months since the end of the school year and .25 months of growth from the 4.00 grade level performance for fourth grade. When comparing the results against the entire fourth grade, the Title I students had an average of .68 month gain on *Math Concepts and Skills*.

Analysis

The data was then used to compare the grade level performance of students who did attend the program against those that did not attend. In reference to the third grade, there was 100% participation for the summer program. However, only 57% of the Title I students in fourth grade attended the summer program. The fourth grade Title I students that did attend the program ended in June with an average of 3.51. Those Title I students that did not attend the program averaged a 3.33 grade level performance at the end of June. After completing the summer program, the Title I students averaged a 4.25 grade level performance. This was .92 months above those Title I students that did not attend the summer program.

Finally, the data was used to determine if the Title I students that attended the summer program started at a higher grade level than those that did not attend the program in the beginning of the school year in September 2004. Based on the data collected, the fourth grade Title I students, on average, began at a higher level than those that did not attend the summer program. The summer group averaged a 4.25 at the beginning of the school year whereas the other students only averaged 3.33.

The evidence gathered that supported the project had an impact were the results from the SuccessMaker software. The results from the program showed where the students ended at the conclusion of the school year and were easily compared to their grade level performance after completing the summer program. The data also proved the students that attended the summer program increased their skill level in Math Concepts and Skills. Finally, analysis proved whether or not the summer students began school in September 2004 at a higher level than those students that did not attend the summer program.

Table 2

Title I Students Grade Level Performance

Grade	Pre-Intervention	Post-Intervention
3	2.74	3.50
4	3.51	4.25

Chapter 5

Conclusion, Implications, and Further Study

Conclusion

The purposes of this research paper was to determine if the Title I students increased their skill level after attending the summer program. By the end of the school year in 2004, the third grade data collected from *Math Concepts and Skills SuccessMaker* software determined the class as a whole performed above grade level while the Title I students performed below grade level. Nevertheless, the Title I students who participated in the summer program all increased their scores and performed above grade level by the beginning of school 2004. In reference to the fourth grade, their entire class and the Title I students both performed below grade level by the end of the school year in 2004. However, after attending the summer program, the Title I students performed above grade level when they began school in September 2004.

The data collected from SuccessMaker was also used to compare the skill levels of students who did attend the summer program against those that did not attend. The results concluded that due to 100% of the Title I student's participation in the summer program, the data could not be compared. However, only 57% of the Title I students in fourth grade attended the summer program. While both groups completed the school year in 2004 performing below grade level, the Title I students who participated in the summer program increased their scores and were above grade level.

Implications

After using SuccessMaker and analyzing the data, SuccessMaker had been an effective program for Title I students in grades three and four, in the area of Mathematics, when used during the summer program.

Leadership Growth

The standards affected the leadership growth in that every decision or vision made as an administrator followed at least one of the standards. The Core Curriculum Content Standards and the ISSLC standards were similar in that one should have used these as guides to aide with decisions and expectations. As with the CCCS, the ISSLC standards were used daily to help become a more effective school administrator as an educational leader. Future administrators should be constantly referring to the ISSLC standards to stay on track with the day-to-day operations of a school district.

The main standard that was the focus of this study was Standard 2 which stated a school administrator was an educational leader who promoted the success of all students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth. Within this standard, the administrator believed in, valued, and was committed to a safe and supportive learning environment, which was one of the purposes of having SuccessMaker. This software was secure in that students did not have to worry if they did not know the answer. The computer would continue with questions and still reward them for trying. The administrator facilitated and engaged in activities ensuring that if there were barriers to student learning then they were identified with this software and addressed. SuccessMaker technology was employed in teaching and learning and the program was

designed to meet student needs. It supported what the student answered and provided reinforcement when needed.

Another standard that this project focused on was Standard 3, a school administrator was an educational leader who promoted the success of all students by ensuring management of the organization, operations and resources for a safe, efficient, and effective learning environment. The administrator had knowledge understanding of the use of technology. The school administrator was the main person who introduced this program to the Clementon School District. Due to his knowledge about the program, the district was able to transition from an older software to a newer one. Also, the administrator believed in, valued and is committed to management decisions for the enhancement of teaching and learning. It was the administrator's job to ensure all staff were following the computer lab schedule and making sure to take their classes to participate on the software.

The final standard was Standard 5; a school administrator was an educational leader who promoted the success of all students by acting with integrity. The administrator had knowledge understanding of the diverse school community. The administrator knew the diversity in the school district. The software was very versatile in that it can accommodate even our non-English speaking students.

Organizational Change

The project was implemented for the first time during the summer of 2004. Based on the data gathered from the program, it will be repeated for the summer of 2005. The amount of days and the duration of the program will stay the same. The district is,

however, anticipating more students to attend the summer program so students can continue to move ahead with the SuccessMaker program.

Another change that took place was with the Title I pre and post-testing assessments for the Title I program. During the 2003-2004 school year, students had to take a paper and pencil pre and post-test once they became eligible for the program. However, during the 2004-2005 school year, the SuccessMaker data had been used to determine a pre and post-test score for the Title I students who are participating in the Title I Afterschool Program.

Further Study

Further study is necessary to continue to track the same Title I students throughout the school year to conclude if they maintained their rate of success and also determine if they continued to outperform those students who did not attend the summer program. It would have been interesting to compare the information found against those students who are not in the Title I program.

When the software program was used on a regular basis, the students who are new to the district have to start the program on a lower level and have to catch up. It is possible to eliminate this group of students and only focus on students who have consistently used the program throughout the entire school year.

Finally, if the same students attend the summer program again in the summer of 2005, will their scores continue to increase and be even further ahead of those students that do not attend the summer program? How can the school district help parents understand the importance of the summer program?

References

- Borman, G. D. (2003). How can Title I improve achievement? *Educational Leadership*, 60, 49-53.
- Borman, G.D. & Boulay, M. (2004). *Summer learning: Research, Policies, and Programs*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Christie, K. (2003). Making use of summer time. *Phi Delta Kappan*, 84, 485-487.
- Chubb, J.E.; Loveless, T. (2002). *Bridging the achievement gap*. Washington, DC: The Brookings Institution.
- Galus, Pam & Ross, Michael. (2003). Is summer school worthwhile? *NEA Today*, 21, 21.
- Glass, R.S. & Gursky, D. (2001). Summer school is cool. *American Teacher*, 86, 7-8.
- Haycock, K. & Jerald, C. (2002). Closing the achievement gap. *Principal*, 82, 20 – 23.
- Kwiatkowski, L. (2004). *Our continuing commitment to education in New Jersey*. Retrieved September 12, 2004, from <http://www.pearsondigital.com>
- LeTendre, M. J., Wurtzel, J., & Bouckris, R. (1999). Title I and mathematics instruction; Making the marriage work. *Teaching Children Mathematics*, 5, 270-273.
- Mergendoller, J. R. (2000). Technology and learning; A critical Reassessment. *Principal*, 79, 5-9.
- National assessment: Title I showing signs of success. (1999, March). *Education USA*, 41, 1-2.
- O'Rourke, L. (2001). The politics of abandonment. *Educational Horizons*, 80, 38-30.
- Pearson Digital Learning. (n.d.). Research-based instructional approaches for mathematics. Retrieved September 16, 2004, from www.PearsonDigital.com

Robelen, E.W. (1999). Title I study finds 'promising' student gains. *Education Week*, 18, 20-21.

Stenvall, Marilyn J. (2001). Is summer school the answer or the problem? *Education Week*. 20, 36.

Trotter, A. (1998). Beyond drill-and-practice. *Education Week*, 18, 25 – 27.

Viadero, D. (2003). Some students get a leg up in summer school. *Education Week*, 22, 5.

