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Reading Takes You Places: A Study of a Web-based Summer Reading Program

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This study looks at the effects of a Web-based summer reading program on the reading behaviors and attitudes of high school students. The school librarian and five English teachers based the program content and Web site on reading and Web design research. The study investigates whether the technology-based program had positive effects on student reading, and, if so, which elements of the program emerge as beneficial. The study takes place in a high school of 2,000 students, grades nine through twelve. A purposive random sample of 288 students and 11 teachers ensured representation of students from each of the three homogeneously grouped tracks: high-, average-, and low-achieving students. Data were collected through student surveys and teacher interviews. Findings show that students showed satisfaction with the online summer reading program, although low-achieving students and boys reported lower rates of satisfaction. Most students did not take advantage of the interactive technical aspects of the Web site. The mixed responses of teachers point to the need to establish the purpose of summer reading as a foundational concept for building and revising summer reading programs.

Does Summer Reading Matter?

The "summer effect" on student achievement is well-researched: "The long summer vacation breaks the rhythm of instruction, leads to forgetting, and requires a significant amount of review when students return to school in the fall" (Cooper 2003, 2). Research findings have consistently reported that: (1) student learning declines or remains the same during the summer months; and (2) the magnitude of the change differs by socio-economic status (Malach and Rutter 2003).

A meta-analysis of thirty-nine studies examined the effects of summer vacation on standardized test scores (Cooper et al. 1996). Findings indicate that summer learning loss equaled at least one month of instruction as measured by grade-level equivalents on standardized test scores. Family income emerged as the best predictor of loss in reading comprehension and word recognition. On some measures, many children from middle class and affluent families showed gains in reading achievement over the summer, but all

income levels showed lower reading comprehension scores. Disadvantaged children showed the greatest losses, with a loss of three months of grade-level equivalency during the summer months each year, compared with an average of one month loss by middle-income children when reading and math performance are combined.

Alexander and Entwisle (1996) reported that the achievement gap between rich and poor children, as measured by test scores, increases throughout the elementary years. The difference between high- and low-income children's reading scores on the California Achievement Test, as a percent of the standard deviation of scores, grew from 68 percent in first grade, to 98 percent in third grade, to 114 percent in eighth grade. The "faucet theory" (Entwisle, Alexander, and Olson 2000) suggests that opportunities to learn and access educational resources are turned on during the school year for all students. As a result, learning gains made during the school year are remarkably similar for students from different social and economic backgrounds (Entwisle, Alexander and Olson 1997; Heyns 1978; Murnane 1975). However, when school is not in session during the summer, and the faucet is turned off, there are inequalities in educational opportunities and outcomes (Alexander, Entwisle, and Olson 2001; Cooper et al. 1996). Children with special educational needs (Sargent and Fidler 1987), or those who speak a language other than English at home, may experience a greater negative effect from an extended period without practice.

What Does the Research Say about Effective Summer Reading Practices?

Heyns (1978) studied the effects of summer reading for sixth and seventh graders for two years and concluded:

1. The number of books read in summer is consistently related to academic gains.
2. Children in every income group who read six or more books in summer gained more in reading achievement than children who did not.
3. The use of the public library during the summer is more predictive of vocabulary gains than attending summer school.
4. The major factors determining whether a child reads over the summer were: whether the child used the public library; the child's sex (girls read more than boys); socioeconomic status; and the distance from home to a library.
5. "More than any other public institution, including the schools, the public library contributed to the intellectual growth of children during the summer. Moreover, unlike summer school programs, the library was used by over half the children and attracted children from diverse backgrounds" (Heyns 1978, 77).

Reading research that studies the effects of free voluntary reading (FVR) informs this study, as summer reading is a type of FVR called extensive reading, whereby students read independently and there is minimal accountability. Research findings that compare results from reading comprehension test scores of students who participated in in-school free reading with scores of students who participated in traditional approaches, such as direct instruction and assigned reading, are shown in table 1.

These results are categorized as those free reading programs that had a positive effect, a negative effect, or no effect. "Two findings clearly emerge from this data: First, in-school free reading programs are consistently effective. In 51 of 54 comparisons (94 percent), readers do a well as or better than students who were engaged in traditional programs." (Krashen 2004, 2) In the cases of no difference, free reading emerges as just as good as traditional instruction, which confirms that free reading results in literacy growth. Secondly, studies that last longer show more positive results (Krashen 2004).

Free reading has been shown to have a strong positive effect on second language learners (Elley and Mangubhai 1983; Elley 1991; Elley 1998; Mason and Krashen 1997). FVR has been shown to result in more reading and better writing (Anderson, Wilson, and Fielding 1988; Postlethwaite and Ross 1992; Kim 2004a). Free reading studies in both second and foreign language confirm that those who read more do better on a variety of language acquisition tests (Stokes, Krashen, and Kartchner 1998; Lee, Krashen, and Gribbons 1996; Salyer 1987; Janopoulous 1986; Kaplan and Palhinde 1981; Gradman and Hanania 1991; Constantino et al. 1997).

Other FVR benefits address aliteracy, or the lack of motivation to read. The work of Csikszentmihalyi (1991) defines flow as the state of deep but effortless involvement in an activity. Reading "is currently perhaps the most often mentioned flow activity in the world" (Csikszentmihalyi 1991, 117), indicating that free voluntary reading is enjoyable. Lastly, studies support the finding that those who read more, know more (Ravitch and Finn 1987; West and Stanovich 1991; Filback and Krashen 2002).

The Context for the Study

Williams (2002) found, "High school tradition ... dictates the reading of canonical literature during the school year. In an increasingly multicultural world, is the literary canon broadening to include nonwhite cultures? Surely ... multicultural literature is being added to summer reading choices. My study contradicts that assumption" (2). She also found that the number of listed titles by "dead white males" is just short of double the number of titles by nonwhite authors, alive or dead. While about one-third of titles were published from 1990 to 2000, young adult (YA) titles comprised 18 percent of all list titles even though studies on student reading interests show that adolescents consistently choose YA or contemporary adult novels over traditional titles (Williams 2002). Among the fifty-seven lists studied, two did not list titles, merely giving a reading assignment; the remaining fifty-five lists contained anywhere from three to three hundred titles, usually organized by grade level (Williams 2002). Annotations appear on twenty-seven lists, mostly one-liners or short summaries (Williams 2002). Only authors and titles appear on twenty-two lists, and four lists cited titles only (Williams 2002). Despite the visual culture embraced by Generation Y students, many reading lists do not contain colorful graphics. Commonly, summer reading lists do not even reflect student input for title choices. Williams (2002) found that the lists she studied ranged from 43 percent to 92 percent fiction. This is a common school practice that disenfranchises boys as readers, as their preference is usually nonfiction (Gurian 2001). Only two school districts in Williams' survey thought outside the box by not providing lists at all; students could decide what they wanted to read.

Barnstable High School (BHS) summer reading lists closely resembled Williams' profile with one exception: BHS did urge students to borrow books from their public libraries, although there was significant collaboration or coordination of reading initiatives between the high school and public libraries. The English department published grade-level reading lists that emphasized the classics. Each of the lists contained about twenty titles with short annotations. Students were required to read at least three books from the list, write about each book read, and submit their writings to their new English teachers, who graded their written work. Teachers did not believe the assigned projects ensured that students were really reading the books, and many students did not hand in the three required projects. Some teachers were not happy with starting the new school year with a graded requirement. In addition, there were divergent conceptions of the purpose of summer reading: some thought it should be rigorous and academic, building on the curriculum and holding students accountable for their reading; others saw it as an opportunity to motivate students to read by encouraging them to read for enjoyment after a school year filled with mandated reading.

The English department chair charged the school librarian and five English teachers to revise the summer reading lists. The committee decided to shift their thinking to conceptualizing a summer reading program and agreed-upon, research-based guidelines:

6. People who say they read more read better (Krashen 2004), therefore the primary purpose of the program is to encourage students to read more.
7. In order to encourage students to read more, the primary purpose of summer reading is reading for fun rather than for academic purposes.
8. The program offers students choice because choice is an important element in reading engagement (Schraw et al. 1998). This includes the choice to pursue personal reading interests**.** To this end, the school librarian administered a survey to students to collect their recommendations for book titles. Staff recommendations are collected through e-mail.
9. Student projects accommodate multiple intelligences (Gardner 1993) and thinking styles (Sternberg 1997) as well as options for written work.
10. Because " ... results suggest that schools can encourage children to read more by also requiring them to complete a short writing activity based on their summer reading activities ... ." and that "students who fulfilled teacher requirements by writing about their summer book ... are predicted to read more books than their classmates who did not complete these activities," (Kim 2004b, 185) reading responses include writing activities.
11. Reading response projects reflect activities students enjoy in their leisure time are grounded in reading response described as the aesthetic stance in transactional theory (Rosenblatt 1978).
12. The summer reading program is Web-based because "virtually all Net Gen students were using computers by the time they were 16 to 18 years of age ... Among children ages 8 to 18, 96 percent have gone online. Seventy-four percent have access at home, and 61 percent use the Internet on a typical day." (Jones 2002)
13. In a study that altered text instructions in an assignment to a graphic layout, there were fewer refusals to do the assignment and post-test score increased (Prensky 2001). Because the net generation is not only attracted to image-rich

environments, but is more comfortable with them, the Web site is visually attractive with lots of colorful graphics.

The results of the committee's work is a summer reading Web site that is available at http://www.barnstable.k12.ma.us/bhs/Library/SummerReadingProgram.htm. (Because this is a working Web site, there may be changes not noted in this article.) The theme of the program is "Reading Takes You Places." There are twelve book lists; some are genre-centered but modified for broader appeal; for example, science fiction includes time travel and fantasy. "Take the Fast Lane: Quick Reads" includes mostly YA titles. "Sprint to Campus: Books for the College-Bound" contains modern as well as traditional classics. "Run with a Winner: Best Sellers" includes titles recommended by students in the survey administered by the school librarian. "Visit Someone Else's World" includes books about strong adolescent protagonists who overcome extraordinary challenges and includes multicultural themes. "Traveling Together: Relationships" includes stories about friendships, romance, and family. "Sailing through Stormy Days: Books That Make You Laugh" addresses a concern of English teachers about the gravity of curricular readings. "Tour the Real World: nonfiction" includes biography, memoir, essay anthology, and so on. "Student and Staff Pix" contains books recommended on the student survey and by members of staff. Each recommended title in this list, as well as in all the other lists, was tagged with the icon shown on the right**.** Because the school has a Brazilian population of students whose first language is Portuguese, titles by Brazilian authors are included in as many lists as possible to encourage these students to read in Portuguese as well as English, as their primary language plays a significant role in their intellectual growth (Cummins 1981).

The reading lists are designed to mimic commercial Web pages, such as amazon.com, with an annotated featured title and image at the top of each page. A link to NoveList directs students to find "more books like this one." Another feature, Get Books, leads students to links to the catalogs of the school library and regional public library collaborative network. There are also links to Borders and Barnes & Noble Web sites where students can purchase books.

The last section of the website is called "Reading Reponses." Students choose activities from 40 Novel Ideas that mimic what they like to do in their daily lives, such as talking on the phone and surfing the Web. Other choices include blogging, an exercise called "How to Judge a Book by its Cover," and joining summer reading in the college they are considering.

An analysis of the Web site after its development determined the extent of innovative content and design. A typology, shown in figure 1, describes these elements (Pavlik 2006).

The BHS summer reading Web site retained some traditional content (Type I) and media design (Type III). Most elements of the program, however, represented adaptation of repurposed content that was unique to a digital environment (Type II) and original content unique to an interactive digital environment (Type IV). This typology is used in the analysis of data about student use of the features of the Web site.

The Study

This study examines the effects of a Web-based summer reading program on adolescents' reading behaviors and attitudes. What can we learn about student reading? Who benefits from it, and how do they benefit? The site for the study was BHS, located in Hyannis, Massachusetts, sixty miles east of Boston. The population of the town is 40,949. The median household income is $46,811, higher than the national median of $41,994 (U. S. Census Bureau 2000). BHS serves 2,000 students; 92 percent of the population is white. The largest minorities include African Americans (almost 3 percent) and Hispanic/Latinos (almost 2 percent). The school's mission statement encourages " ... traditional and innovative methods to engage the different learning styles of our students. We will prepare graduates to take responsibility for their own learning" (Barnstable High School Program of Studies 2004, 3). The school is administered by a principal, an assistant principal, and five housemasters, who oversee the daily operations of five self-contained houses. There are three ability groupings of students within each house: College Prep 1 (CP1), low achievers who tend to be reluctant readers with low reading and standardized test scores; CP2, generally average achievers; and Honors students. The BHS library strives to be an integral part of teaching and learning, and its mission is to play an active role in instruction through strong collaborations between the school librarian and classroom teachers.

Methodology

A purposive random sample of 288 students from each of the three ability groups and eleven English teachers ensured representation of students and teachers. The researchers surveyed students and interviewed teachers. Close-ended questions gathered such information as age, gender, and class level. Half of the questions were open-ended to encourage students' direct and honest response about their reading behaviors and attitudes. Survey items focused on respondents' book selection behaviors, reading achievements, attitudes toward an online reading program, and number of books they read. A total of 550 questionnaires were distributed; 288 were returned, for a return rate of 52 percent. Five questionnaires were not useable, resulting in 283 valid questionnaires. Eleven interviews with English teachers explored their views about summer reading and their perceptions of the effectiveness of the online summer reading program. Each interview was twenty to thirty minutes and was tape recorded and transcribed verbatim.

Findings and Discussion

Survey Participants Profile

Of 283 participants, 53 percent were male, and 47 percent were female. CP1 students comprise 15 percent; 47 percent are CP2 students; and 38 percent are Honors students (see figure 2). These percentages correspond to the ratio of each of these groups to the student population. Ninth graders comprise 29 percent; tenth graders, 37 percent; eleventh graders, 21 percent; and twelfth graders, 13 percent.

Summer Reading Participation

Ten percent of students reported they did not participate in the program. In total, 14 percent of the male respondents and 4 percent of the female respondents did not participate (figures 3 and 4). Of the twenty-seven students who reported non-participation, 78 percent were male and 22 percent were female. CP1s accounted for 52 percent; 48 percent were CP2s, and none were Honors. Non-participants by grade level were: six ninth graders, eight tenth graders, eight eleventh graders, and five twelfth graders. Grade eleven and twelve students had a higher rate of non-participation (14 percent each), compared with grades nine (7 percent) and ten (8 percent).

The reasons for students' non-participation were unclear. Most said that they simply did not like reading or did not comment at all; two (or fewer than 1 percent of all students) expressed that they did not have computers and Internet access. Some trends, however, emerged from the analysis of data. First, access (or no access) to computer and the Internet was not perceived as a major barrier to this online reading program. Of the twenty-five respondents who reported that they did not have computer access at home, two of them (0.6 percent of all respondents) did not participate in the reading program because of access, but the rest (8 percent of all respondents) did. While computer access does not seem to explain students' decision of non-participation, it is possible that students did not report that they did not have computer access at home. It is evident that most students who reported no access at home managed to participate through other means, such as going to the public library. Second, reading level (CP1, CP2, and Honors), rather than grade level, seems to be a better indicator of students reading behavior: the higher the reading level, the higher participation rate. This can be explained, in part, by students' individual preferences and career goals. Students who read better are usually avid readers and by nature are more willing and motivated to participate in a reading activity. Students who read better tend to be college-bound and more willing to spend time engaged in activities such as summer reading. Third, male students in general have a comparatively higher non-participating rate than girls (14 percent to 4 percent). This seems to be consistent with studies that acknowledge the significance of the gender gap in reading activities**.**

Amount of Books Read

Students reported a total of 922 books read in summer, with a mean of 3.26 books per student. Gender and reading level differences emerge again. On average, female students read more books than male students (3.79 books to 2.77 books). CP1 students read the least, with an average of 1.2 books per student, when compared with 3.1 books for CP2 students and 4.2 books for Honors students. Grade level is not significant in terms of the number of books read. The ratio across the four grades is 3.85 to 3.27 to 3.3 to 4.47 books. The higher rate in grade twelve is explained by exceptions: three twelfth-grade students reported a comparatively large number of books read: ten, twenty, and twenty-two books respectively, increasing the mean of the twelfth grade. When excluding these three students, the mean drops to 3.13 books per student, which is similar to the rest of the grades. On average, girls continued to read more than boys throughout the four grades (figure 5).

Online Book Lists

One of the main features of this program is multiple, non-grade-specific reading lists. Almost half (46 percent) reported there were adequate choices. Thirteen percent thought there were too many choices, while 24 percent thought there were not enough choices. Seventeen percent did not answer this question. On average, students appreciated the variety of books because "Different people like different books." Students who requested "more choices" preferred more specific categories such as "boy/girl books," or "sports books." Students who wanted fewer choices commented that too many choices confused them and that "it was hard to choose [from such an amount of books] and find [the book]." Slightly more girls than boys gave positive feedback--adequate choices: 53 percent to 46 percent.

Honors and CP2 students in general were positive about the book list choices. Nearly half of the Honors students and half of the CP2 students reported the book list choices were adequate. However, only 18 percent of the CP1 students thought so. CP1 students seemed to be particularly unhappy with online lists: More than one third (36 percent) reported there were not enough book choices (figure 6). This indicates that the book lists did not meet the reading interests of the CP1 students.

When asked how they liked the non-grade-specific lists, 66 percent expressed satisfaction. A similar pattern appeared across all three levels: 50 percent of CP1 students, 60 percent of CP2 students, and 68 percent of Honors students. Satisfaction rates from girls (62 percept) and boys (57 percent) did not show a significant difference. Four percent of students indicated they prefer grade-specific lists; 6 percent of students did not mind whether or not the lists were grade-specific; 25 percent did not answer this question, and 5 percent gave unclear or invalid answers. No CP1 students preferred the grade-specific lists, and only 3 percent of CP2 students and six percent of Honors students preferred the old list.

Access to the online reading lists depended on computer and Internet access. Print lists were available in the school library and town bookstores, and students could visit public libraries to access lists. Thirteen percent of students did not answer the question about their access to computers during the summer; 79 percent reported access. Nine percent (two CP1, fourteen CP2, and seven Honors students) reported that access to a computer and the Internet was a problem because they "needed a ride to the public library [to use the Internet]" and they preferred "a print version of the lists." No significant gender difference was found regarding computer access.

Reading Interests and Book Selection Behaviors

Respondents reported a total of 922 books read in the past summer. They reported 630 titles used for reading projects. Thirty-two of the titles were not included in the analysis because of illegible handwriting, incomplete or incorrect titles, or respondents' inability to recall titles. Five hundred and ninety eight books were then classified into three categories--realistic and historical fiction (70 percent); fantasy and science fiction (16 percent); and nonfiction (12 percent). The significant differences between realistic and historical fiction and the other two categories may be explained partly by students' reading preferences or by lists themselves, which contain more realistic and historical fiction. Among the twelve book lists, only one was devoted to nonfiction, and another list

to fantasy and science fiction. The books they had read but not used for projects (290 books) also may affect the findings if students chose different types of books for non-project reading. Students may simply prefer fiction to nonfiction in their leisure or summer reading.

Some interesting findings are noted here. Nonfiction books appear to be more appealing to male students. Nearly two thirds of the nonfiction titles reported are reported by male students. On average, 13 percent of female students and 25 percent of male students report reading at least one nonfiction book. Second, reading ability, again, seems to be a more influential factor. While only one CP1 (male) student, or 4 percent, reports reading one nonfiction title, 22 percent (27 out of 121) of CP2 students and 33 percent (35 out of 107) of Honors students did so. CP2 and Honors students apparently read more nonfiction books. It is possible that CP1 students have difficulty reading nonfiction books because they are the ones labeled as "low-achieving" that encountered difficulty on standardized tests, which contain short, out-of-context, and information-loaded passages. It also is possible that CP1 students prefer fiction for other reasons. Fiction may better meet their reading needs and interests. Fiction has identifiable characters and well-structured development of events, and it is likely that class readings and remedial instruction in class focus on fiction. Nonfiction may be perceived as boring to students with poor vocabulary and word recognition.

Students reported the two most important factors affecting book selection were "self reading interest" and "recommendation by friend/family/teacher." No gender difference was found, but reading level emerged as a factor. While "self reading interest" was the top concern for most CP2 and Honors students, CP1 students mostly preferred "recommendation by friend/family/teacher," followed by "self reading interest."

The three book lists students used most to browse are "Run with a Winner: Best Sellers," "Take the Fast Lane: Quick Reads," and "Student and Staff Pix." No significant gender difference was found except for ranking order: most boys' top choice was Quick Reads; the top choice of girls was Best Sellers. No difference was found across CP1, CP2, and Honors.

Obtaining Books

Students browsed the lists, but only 9 percent used the "Get Books" feature. (There was a similar pattern across the three levels--11 percent of CP1, 8 percent of CP2, and 9 percent of Honors students.) The most common methods for obtaining books were purchasing the books from a local bookstore (40 percent), borrowing the books from a public library (38 percent), or having the books already at home (36 percent). Fifteen percent of the respondents borrowed books from the school library, 13 percent from a friend or a relative, and 7 percent purchased books online. No obvious gender or grade-level difference was found.

While the BHS library provided multiple copies for many titles, public libraries and friends were more convenient providers of books. (The school library is not open during the summer.) For students who borrowed books from the school library, they preferred browsing the bookshelves and talking to the librarian. Using the online catalog was not

among one of their top choices. They may not have known how to use the catalog, or they may have preferred that someone else find the books for them, as in a local bookstore or public library. Only eighteen students used the links to online sources to obtain books. Their preference for browsing, and lack of ready access to a credit card, may be factors that boost their use of a local store over a virtual one. Finally, it was evident that students' book selection was shaped by existing, available books when they chose to read books that they owned already.

Reading Activities

Another important feature of this Web-based reading program is the provision of more than forty project choices that contain a variety of language-, art-, and computer-based activities. Some examples include "write an epilogue and/or prologue to the book, describing events that could have taken place before and after the plot of the book," "describe what you think happened to the main character after the book ended," and "blogging."

Although students generally liked the book choices, the satisfaction rate of the project choices (38 percent) was not high compared with the dissatisfaction rate (28 percent). Eight percent gave mixed responses, such as "it was interesting, but some were boring," and "some were good, but some were really weird." Twenty-two percent did not comment. There is a similar dissatisfaction rate across the three levels, but the reasons for their discontent are different: While CP1 students complained about the amount of project choices ("too many to choose") and about the time they had to spend ("too time-consuming"), the complaints from CP2 and Honors students focused more on the projects themselves: "They are boring," "they are way too easy," and "they are no better than the traditional book reports." Interestingly, none of the respondents, not even those who were unhappy with the "easy" projects, reported using the alternatives: reading books from the colleges they were considering, or joining summer reading at other universities, or blogging. What is revealed here is that different strategies may be necessary for different students in determining their project choices. CP1 students seemed to need more specific guidance and step-by-tep instructions about what the projects are and how to finish them in a timely fashion. CP2 and Honors students, however, may need assistance to be more discerning in their decision-making and to think about what is best for them.

Reading Experiences

On average, students agreed that a Web-based summer reading program enriched their reading experiences. More than half enjoyed the freedom to browse and select among a variety of book lists. Students reported some of their most rewarding achievements from the program. They read more books than they had read last summer. Because of the variety of book choices, students were more likely to find what was of interest to them, and so read more than in previous years. Students reported that they learned a variety of things, such as "vocabulary," speed, and how to "critically analyze a book." What is most encouraging is that students commented that they read and write with more confidence. Some supportive statements included "I read faster," and "I read books with better vocabulary and writing composition than in past years." The most encouraging statement was made by a CP1 student, who said, "I feel I can read anything now."

Students identified benefits such as learning how to solve or deal with challenges, "gaining self-esteem," "reading disability," "friends that smoke and drink," "time management," "think stuff through before acting," "not to give up even when time is hard," and "be respectful." The books they read seemed to provide them with new insights to understand and cope with challenges, or to better understand some issues. Students also said that they learned "something about their community and family." One student commented that he learned to "stay close with family members no matter what happened," and another student said that he got to know some of his mom's interests because of the books they shared.

A key benefit reported by CP2 and Honors students (but not CP1 students) was gaining new knowledge from the "stuff" or "facts" in the books, such as "Civil War history," "globalization," "different cultures," different literary genres, and new authors. Although CP1 students expressed the same appreciation for learning life lessons from books, they did not acknowledge the value of the information in books they had read. Perhaps the books they chose tended to be less information-loaded, but more inspirational. Perhaps they did not know how to extract information from books because of their limited reading ability; or perhaps they did not see this element as an achievement.

Many students commented that this summer reading experience was different and fun because of the variety of books and project choices. Some students felt more enthusiastic about summer reading because the books they chose to read were highly interesting to them. One student commented, "I couldn't put the book down ... the book was really exciting." Students liked "sharing what they learned with friends." They talked about the books they read and collaborated with each other for some projects, such as interviewing and book cover making. They also acknowledged that they learned to find better Web sites. Interestingly, the example they referred to was the high school's summer reading Web site.

Responses from Teachers

Teachers had mixed responses about the benefits of the program. Generally, they agreed that students "seemed" to read more this past summer, given the amount of reading projects they turned in. They found the completion rates of projects were better than in previous years. Several teachers believed the variety of choices contributed to this change. "Overall," Teacher A commented, "I think more kids read because there was a little more freedom ... I have a student read a whole author. They found something by him that they enjoyed, so they picked up something else by him. That aspect for me was triumphant." However, teachers also pointed out the possibilities of repetition and cheating--students might have read the books before, and students could do some projects, such as redesigning the book cover, without reading the books. "I think one of the issues with having so many activities is there were some you could definitely tell had read the book, and there were some that you couldn't ... but I'm looking for a way to hold students accountable for reading," Teacher J commented. Quite a few teachers expressed the same concern: "Students can just go to a bookstore or a library to pull out a book, look at its book cover, and then redesign one." The projects students turned in might not be a valid indicator of students' reading interests or the amount of books they actually read.

Teachers' concerns are not unfounded: comparatively higher project completion rate can be deceiving, given the grading structure. Project assessment focused on completion rather than quality. Students who turned in three projects received one hundred points; two projects yielded seventy points; and one project yielded fifty points. Some teachers complained that this was problematic. Teacher D commented:

> That kind of grading [by the amount of projects turned in, but not by the quality of the projects] has been really disrespectful to the student because the student is upset--"I spent days on my three projects and I really want you to pay attention to it." ... I've seen things that are spectacular, "A" quality work, but I've also seen things that are embarrassing. It's been really hard for me to grade it appropriately. I don't think it's fair that you give one student full credit when that child has not worked as hard as the other person ... and I can see some students really did not do their work. They just found the easiest projects to do.

Teachers also identified a practical problem related to their professional role as English teachers whose major duties are to teach students to read and write better. They are trained to assess students' reading and writing performance. "Many kids chose the artistic option," Teacher T commented, "I think art is wonderful, but I'm an English teacher, and I want something more geared toward writing ... How do I check that they've read something if I have to evaluate some expressions [art works] that I have no background at all? It's what you know and what you don't know as a teacher."

Would this program, in the long run, benefit more students than the traditional one? The responses were diverse. Some teachers were suspicious and insisted there be more guidelines. They believed that reading should be a learning-oriented matter, and that students should be reading "appropriate" books in order to learn. The variety of choices this Web-based reading program provided, in their view, could cause great confusion and did not really change students' reading behaviors or reading achievements. They had a few impressive projects produced by some motivated readers. "They will probably just do well in any reading-related thing," Teacher D commented. On average they did not see any drastic leap or drop. The program was, to them, simply "different." Honors students were still avid readers, CP1 students still did not read, and CP2 students still "just did the job."

Some teachers, however, held the belief that students should be given choices to read any materials that interest them. They did not mind that students read something they had read before, because readers might have different reactions reading the same book at different times. They did not mind if students were reading books below their reading level because "reading on one's own" builds confidence in developing their own reading skills. These teachers believed that the freedom this new Web-based reading program gave students would, in the long run, if not immediately, encourage students, especially unmotivated students, to be more creative and independent in thinking and learning.

Implications for Further Research and Best Practice

Emerging from these findings is a snapshot of students' reading behaviors and their perceptions of the benefits, or accomplishments, associated directly or indirectly with summer reading. The findings point to more differentiation in summer reading to meet the diverse needs of students, particularly with regard to ability levels. One of the most challenging findings is the weak effect of the program on reading attitudes and behaviors of low-achieving (CP1) students who are more likely be disadvantaged, drop out of school, and score poorly in state standardized tests. They had the lowest participating rate and the lowest satisfaction rate about the book choices, they read the least, they rarely read nonfiction books, and the reading achievements they identified differed from those of other groups. Low-achieving students have a different world of reading interests and behaviors. Further research is needed to explore the types of books that engage low-ability students and the reasons for their reading preferences. Directly relevant to this issue is that of nonfiction reading. Nonfiction books appear to attract more male students. It is, however, not certain that reading preferences influence one's reading achievement. Further research in this area may foster new understandings of literacy education.

A surprising finding of the study is the low use of the interactive technological features of the online summer reading program indicated in the typology of traditional and new media design (figure 1). Students did not take advantage of the online catalogs of school library and regional network of public libraries. Nor did they use virtual bookstores, preferring to visit local town stores. They also did not take advantage of blogging as a reading response activity. These elements that represented content unique to a digital environment and design that enabled interactivity were not used by "digital natives" who are accustomed to Web sites with these features. Students did, however, take advantage of browsing the lists in a digital environment that offered easy navigation among the lists. This raises the question of how interactivity of a digital environment can provide motivation, mentoring, and social interaction between teacher and student, and among students and their peers, as part of the design of an online summer reading program.

The benefits or achievements of summer reading differed as perceived by students and teachers. Some teachers, based on students' performance as expressed in the reading response projects, did not see students benefit from this new summer reading program. The issue of purpose is one factor. The divergent views of academic and recreational reading persists. Traditional views of summer reading, including concerns about the quality of books read and the importance of grading and accountability, seem to emanate from deeply held convictions about learning and assessment that are rooted in schooling. Less traditional views embrace the reading research that targets motivation as key to reading. It is interesting to note that students identified life lessons or gained new insights into personal challenges through reading, and that reading was fun. Their responses indicate that reading is more than an intellectual experience; it is a private and personal experience. Evaluation of these personal aspects can be difficult and subjective. Most of the time teachers only have access to students' reading outputs, in this instance the project they submitted. These projects, however, do not reflect the latent effects of reading; for example, how individuals might benefit from reading in different ways. This points to the need to provide materials and structures that help students grow, not only cognitively, but psychologically, emotionally, and socially, through their reading experiences.

Findings indicate that summer reading is an important component of school library services and should be more fully explored and evaluated. What is the purpose of a summer reading program from the school librarian's perspective? How do these findings inform practice? Should school libraries provide services through the summer months? Can these services be provided in an interactive, digital environment instead of, or in addition to, face-to-face support for reading that can be achieved through summer reading clubs and camps? How can school libraries collaborate with public libraries, which, along with bookstores, are a major source of books for summer reading?

The strong rationale identified in reading research literature must stimulate intensive and rigorous research in library literature to address summer reading as it relates to school and public libraries. Research also is needed to determine the potential for Web-based summer reading programs. This research can inform practice to develop multiple models of summer reading programs that address the social, psychological, and emotional, as well as intellectual, needs of a diverse population of young learners.

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Table 1: Results of Reading Comprehension Tests: In-School Free Reading Compared to Traditional Approaches

Duration	Positive	No Difference	Negative
Less than 7 months	8	14	3
7 months-1 year	9	10	0
More than 1 year	8	2	0

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	Repurposed Content utilizing a traditional media design or model.	**Original Content based on a traditional media design or model.**
Traditional Media Design	**Type I:** The least expensive and risky. Content previously developed, tested and proven to have an audience and formatted for the web ▪ Summer reading introduction, requirements ▪ Reading lists, annotations	**Type III:** Creation, distribution or protection of original content, whether text or multimedia, but adhering to a traditional media design ▪ Reading Responses: 40 Novel Ideas; How to Judge a Book by its Cover
Designed for New	**Type II:** Content repurposed	**Type IV:** Original content

Media	adapted to features unique to online or digital media environment. ▪ Links to school library catalog ▪ Link to online regional public library catalog ▪ Reading Responses: 40 Novel Ideas; How to Judge a Book by its Cover ▪ Featured title ▪ NoveList	features designs and capabilities unique to a digital, interactive media system ▪ Reading responses: Blogs; university summer reading programs ▪ Amazon.com, Barnes & Noble, Borders ▪ Ask-a-librarian email

Figure 1: Typology of Traditional and New Media Design

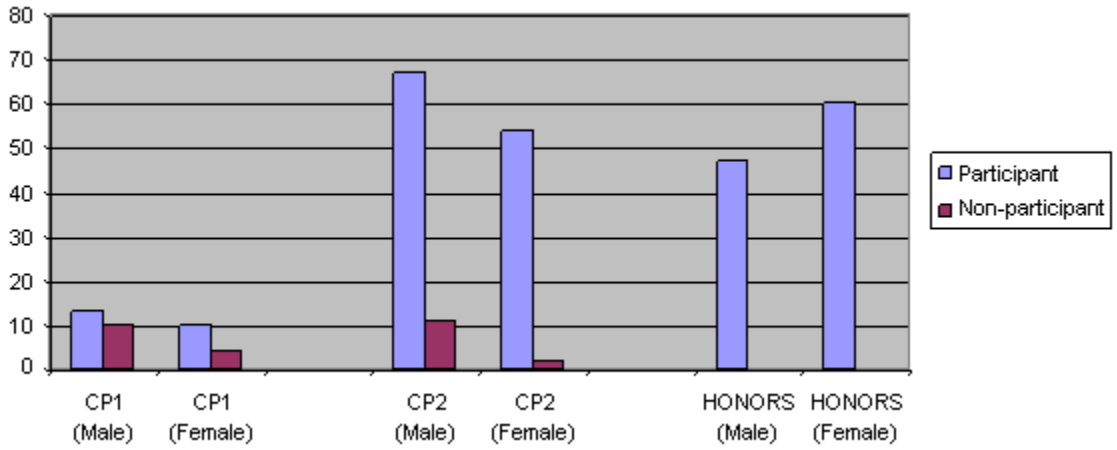

Figure 2: Participants and Non-Participants

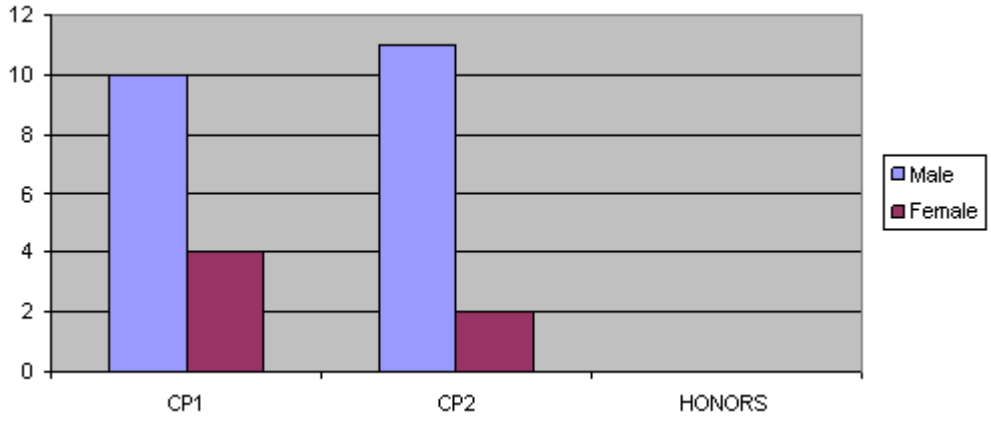

Figure 3: Profile of Non-Participants by Ability Level

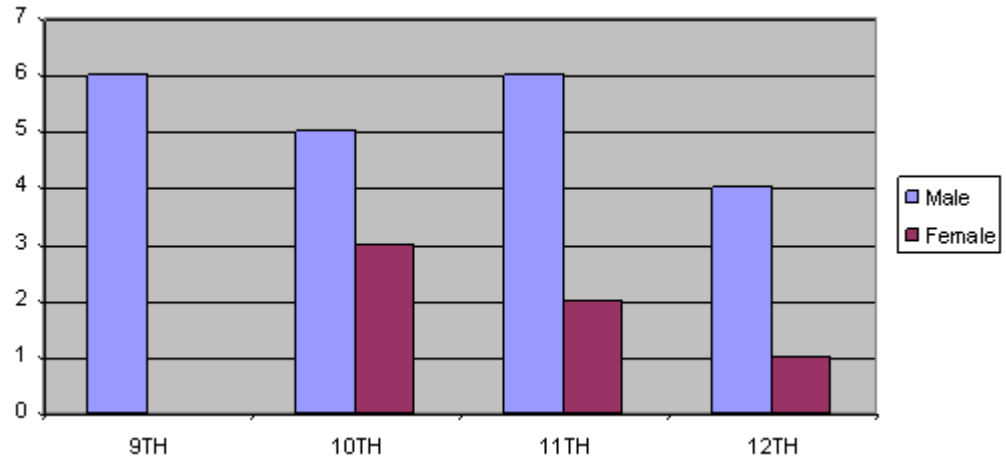

Figure 4: Profile of Non-Participants by Grade Level

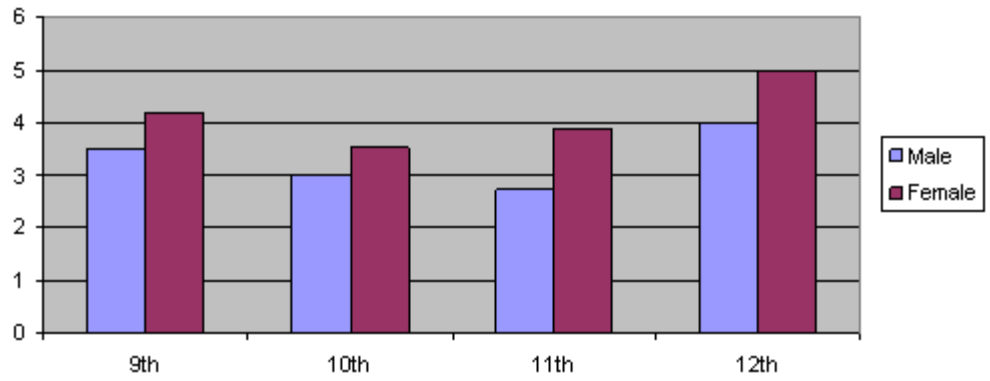

Figure 5: Books Read per Student by Grade and Gender

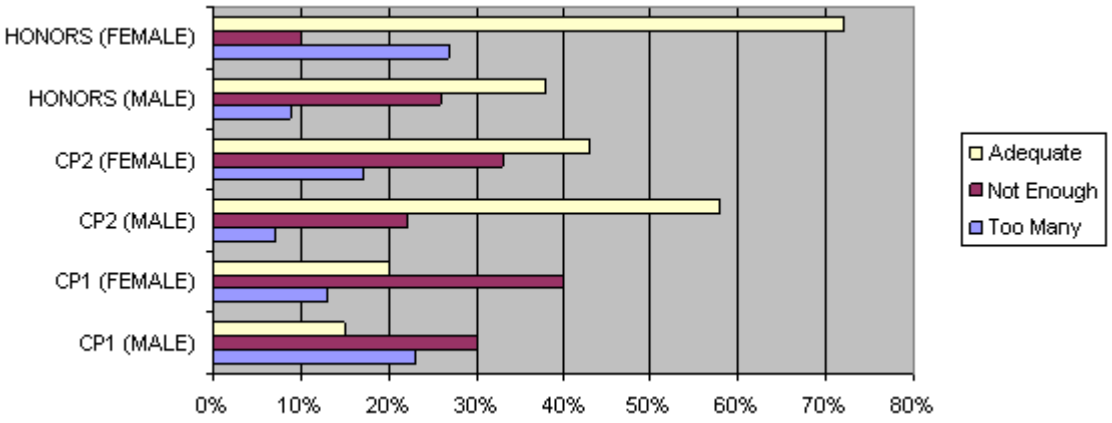

Figure 6: Student Satisfaction with Book Lists